



APPENDIX II: PROGRAM AREA SUMMARY TABLES

GFNMS MANAGEMENT PLAN

- A. Education and Outreach**
- B. Conservation Science**
- C. Resource Protection**
- D. Administration**

OVERVIEW OF STRATEGIES:

Appendix IIA: Education and Outreach

Education and Outreach Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY ED-1: Educate K-8 students about the sanctuary through visitor center, classroom, and field activities.	Activity 1.1 Update K-8 visitor center programs to align with state and national science standards. Expand to include pre- and post-visit activities, lending kits, and presentations.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.	<u>GFNMS FMP</u> Education, STRATEGY ED-5, STRATEGY ED-9, STRATEGY ED-10, STRATEGY ED-12
STRATEGY ED-2: Educate high school students and teachers about the sanctuary through classroom and field activities.	Activity 2.1 Expand Coastal Ecosystem Education Program to a four-tiered program including curriculum, student monitoring, stewardship projects and teacher professional development.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.	<u>GFNMS FMP</u> Education, STRATEGY ED-4, STRATEGY ED-11, STRATEGY ED-12; Water Quality, STRATEGY WQ-2; Introduced Species, STRATEGY IS-3, STRATEGY IS-9
STRATEGY ED-3: Educate diverse inner city children about the sanctuary through summer camp experiences.	Activity 3.1 Expand Sanctuary Explorers Camp to reach a broader audience.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers. <u>Objective 4</u> To target diverse audiences including various multicultural, socio-economic, age, and gender groups.	<u>GFNMS FMP</u> Education, STRATEGY ED-5
STRATEGY ED-4: Educate teachers about the resources and programs of the sanctuary by providing professional development programs.	Activity 4.1 As a component of the Coastal Ecosystem Education Program, develop a set of professional development programs.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers. <u>Objective 4</u> To target diverse audiences including various multicultural, socio-economic, age, and gender groups.	<u>GFNMS FMP</u> Conservation Science, STRATEGY CS-3
STRATEGY ED-5: Provide stewardship opportunities for high school students.	Activity 5.1 Develop GFNMS high school internship program.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.	<u>GFNMS FMP</u> Education, STRATEGY ED-2, STRATEGY ED-7

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Education and Outreach Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY ED-6: Create stewards of the GFNMS by engaging middle and high school students in a large-scale, long-term monitoring project.	Activity 6.1 Participate in LiMPETS (Long-term Monitoring Program & Experimental Training for Students), a collaborative program of the West Coast sanctuaries to work with teachers and students to learn how to collect long-term monitoring data while increasing awareness of the sanctuaries.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.	<u>GFNMS FMP</u> Education, STRATEGY ED-2; Introduced Species, STRATEGY IS-3, STRATEGY IS-9; Water Quality, STRATEGY WQ-2; <u>MBNMS FMP</u> STRATEGY TP-1
STRATEGY ED-7: Expand the reach of GFNMS education and outreach programs by expanding Sanctuary Naturalist Corps program to deploy trained volunteers to educate about the sanctuary at various events and locations.	Activity 7.1 As a part of Sanctuary Naturalist Corps, recruit, train, and manage a diverse team of volunteers to engage in, educate, and outreach about the sanctuary. Activity 7.2 Develop GFNMS naturalist certification program to train volunteers and professional naturalists of the sanctuary and of other organizations to present basic sanctuary information.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers. <u>Objective 4</u> To target diverse audiences including various multicultural, socio-economic, age, and gender groups.	<u>GFNMS FMP</u> Introduced Species, STRATEGY IS-2, STRATEGY IS-3, STRATEGY IS-5 <u>MBNMS FMP</u> Operations and Administrations, STRATEGY OA-2, STRATEGY OA-4; Beach Closures, STRATEGY BC-2; Tidepool Protection, STRATEGY TP-2
STRATEGY ED-8: Increase awareness and knowledge of the sanctuary through a lecture series.	Activity 8.1 Raise the profile of and expand the GFNMS lecture series to target new audiences and increase attendance.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners. <u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.	<u>CBNMS FMP</u> Education, STRATEGY ED-6 <u>MBNMS FMP</u> SIMoN STRATEGY SI-1
STRATEGY ED-9: Increase awareness and build knowledge of the sanctuary through educational programs and exhibits at the visitor center.	Activity 9.1 Maintain educational and engaging exhibits and activities at the GFNMS Coast Guard Station visitor center.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship. <u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.	<u>GFNMS FMP</u> Education, STRATEGY ED-1, STRATEGY ED-11.
STRATEGY ED-10: Increase awareness of the sanctuary and reach a large audience through production and distribution of videos on the sanctuary and its resources.	Activity 10.1 Complete production of a general video and distribute to appropriate audiences.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship.	<u>GFNMS FMP</u> Education, STRATEGY ED-1, STRATEGY ED-7
STRATEGY ED-11: Increase awareness of GFNMS by using effective media and	Activity 11.1 Implement awareness campaign to raise the profile and recognition of the GFNMS.	<u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing	<u>GNFMS FMP</u> Conservation Science, STRATEGY CS-3; Water Quality,

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advertising techniques.	<p>Activity 11.2 Increase reach and success of all sanctuary programs by increasing distribution of GFNMS education and outreach messages through other environmental education groups.</p> <p>Activity 11.3 Increase reach and success of all sanctuary programs by effectively marketing, distributing, and evaluating all sanctuary programs and products.</p>	<p>behavior, and building stewardship.</p> <p><u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.</p> <p><u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.</p> <p><u>Objective 4</u> To target diverse audiences including various multicultural, socio-economic, age, and gender groups.</p>	<p>STRATEGY WQ-2; Wildlife Disturbance, STRATEGY WD-6; Introduced Species, STRATEGY IS-9; Impacts from Vessel Spills, STRATEGY VS-9; <u>MBNMS FMP</u> Operations and Administration, STRATEGY OA-4 <u>CBNMS FMP</u> Education, STRATEGY ED-3</p>
STRATEGY ED-12: Increase audience by building a larger visitor center with increased exhibits, programs, and opportunities to learn about and support GFNMS.	Activity 12.1 Create a new visitor center that showcases the NMSP with exhibits, lecture hall, and classroom/lab facilities, providing a gateway to GFNMS.	<p><u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship.</p> <p><u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.</p> <p><u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.</p> <p><u>Objective 4</u> To target diverse audiences including various multicultural, socio-economic, age, and gender groups.</p>	<p><u>GNFMS FMP</u> Education, STRATEGY ED-2</p>
STRATEGY ED-13: Increase awareness of the sanctuary through interpretive signage and exhibits at strategic locations.	Activity 13.1 Develop a coordinated network of signs and exhibits throughout the sanctuary.	<p><u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship.</p> <p><u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.</p> <p><u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.</p>	<p><u>GFNMS FMP</u> Administration, STRATEGY AD-1; <u>MBNMS FMP</u> Interpretive Facilities, STRATEGY IF-2; <u>CBNMS FMP</u> Education, STRATEGY ED-5</p>
STRATEGY ED-14: Outreach to residents and visitors in inland areas of GFNMS watersheds about their connection with the sanctuary.	Activity 14.1 Develop a traveling exhibit on sanctuary watersheds to bring the sanctuary to inland communities.	<p><u>Objective 1</u> To structure programs to educate along an environmental literacy continuum including developing awareness, building a knowledge base, changing behavior, and building stewardship.</p> <p><u>Objective 2</u> To increase communication and coordination among sanctuary programs and partners.</p> <p><u>Objective 3</u> To develop programs to target content builders, user/impact groups, influencers, and decision makers.</p>	<p><u>GFNMS FMP</u> Education, STRATEGY ED-2 <u>MBNMS FMP</u> Fishing Related Education, STRATEGY FRER-7</p>
STRATEGY WQ-2: Address sources of anthropogenic pathogens and pollutants from recreational and commercial boating activities and marinas.	Activity 2.2 Develop a combined outreach program on BMPs and interpretive enforcement for recreational and commercial user groups in and around Tomales and Bodega Bays.	<p><u>Objective 1</u> To develop a regionally-based, cooperative water quality protection plan to address point and non-point source water quality impacts.</p> <p><u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic</p>	<p><u>GFNMS FMP</u> Water Quality, STRATEGY WQ-1, STRATEGY WQ-2; Vessel Spills, STRATEGY VS-3; Education, STRATEGY ED-7</p>

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		offshore events.	<u>MBNMS FMP</u> Water Quality, STRATEGY WQPP-1, STRATEGY WQPP-2
STRATEGY WQ-9: Educate local decision makers on land-based water quality impacts in the sanctuary.	Activity 9.1 GFNMS will partner with the California Coastal Commission and other agencies and institutions on Nonpoint Education for Municipal Officials (NEMO) to inform decision makers on the link between development/growth and water quality.	<u>Objective 1</u> To develop a regionally-based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-3, STRATEGY WQ-6
STRATEGY WD-2: Through the use of volunteer monitoring programs, observe and record impacts from human activities on marine resources and key habitats such as the rocky intertidal.	Activity 2.1 Develop volunteer-based intertidal monitoring program to evaluate human impacts on the intertidal habitat of the sanctuary and measure recovery rates of closed areas. This program will fall under the Sanctuary Naturalist Corps umbrella.	<u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.	<u>GFNMS FMP</u> Education, STRATEGY ED-7; Introduced Species, STRATEGY IS-3
STRATEGY WD-4: Through interpretive enforcement and law enforcement efforts, address human behavior that may adversely impact wildlife.	Activity 4.1 Under the Sanctuary Naturalist Corps umbrella, develop a coordinated and complementary set of interpretive enforcement efforts to address human behavior and its impacts on sanctuary resources.	<u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.	<u>GFNMS FMP</u> Wildlife Disturbance, STRATEGY WD-1, STRATEGY WD-3; Education, STRATEGY ED-7
STRATEGY WD-5: Develop wildlife viewing guidelines to reduce disturbance to wildlife from human interactions.	Activity 5.1 Conduct an assessment of target audiences to determine messaging, products and avenues for communicating to wildlife viewers about responsible interactions with wildlife.	<u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.	<u>GFNMS FMP</u> Education, STRATEGY ED-7, Conservation Science, STRATEGY CS-2
STRATEGY WD-6: Maximize media venues to augment directed outreach efforts and increase public awareness of wildlife disturbance issues.	Activity 6.1 In conjunction with partners, develop a media communications plan to address wildlife disturbance issues.	<u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.	<u>GFNMS FMP</u> Education, STRATEGY ED-11
STRATEGY IS-5: Develop an outreach and monitoring program to improve early detection of introduced species.	Activity 5.1 Since most introduced species are accidental finds, GFNMS will develop an early detection program to widely disseminate information	<u>Objective 2</u> To create a new program and/or coordinate with existing programs to detect and monitor new introductions.	<u>GFNMS FMP</u> Education, STRATEGY ED-7; Introduced Species, STRATEGY IS-1, STRATEGY IS-2,

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	about introduced species to local citizens and visitors.		STRATEGY IS-3
STRATEGY IS-9: Through outreach efforts, inform targeted audiences and industry about pathways through which introduced species may enter the sanctuary and educate those targeted audiences on prevention methods.	<p>Activity 9.1 Develop a targeted prevention program (other than shipping industry, as ballast water is already being targeted).</p> <p>Activity 9.2 Develop outreach program to target recreational and commercial boaters on BMPs.</p>	<p><u>Objective 3</u> To develop management actions to eradicate and/or control existing and new introductions.</p> <p><u>Objective 4</u> To identify and control current and potential pathways to prevent new introductions.</p>	<p><u>GFNMS FMP</u> Education, STRATEGY ED-6, STRATEGY ED-7, STRATEGY ED-8, STRATEGY ED-9</p> <p><u>GFNMS FMP</u> Education, STRATEGY ED-6, STRATEGY ED-7, STRATEGY ED-8, STRATEGY ED-9; Introduced Species, IS-8</p>
STRATEGY FA-5: Bring public awareness to the value and importance of the historical and cultural significance of maritime communities and their relationship and reliability on healthy sanctuary waters.	Activity 5.1 Develop a maritime heritage and fishing community model.	<u>Objective 2</u> The sanctuary will seek to facilitate the management of fisheries resources within its boundaries in order to protect cultural resources, to protect important natural resources, and to maintain biodiversity and the health and balance of the sanctuary ecosystem.	<p><u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-2</p> <p><u>MBNMS FMP</u> Benthic Habitats, STRATEGY BH-1; Fishing Related Research and Education STRATEGY FRER-4</p>
STRATEGY VS-9: Outreach to mariners to increase stewardship of the sanctuary, including voluntary compliance with VTS and sanctuary regulations.	<p>Activity 9.1 Develop outreach plan based on results of Vessel Activities Profile, Risk Assessment, and Resources at Risk Assessment to increase voluntary compliance with VTS and sanctuary regulations</p> <p>Activity 9.2 Provide information about the sanctuary to maritime industry, fishing and recreational boating communities.</p>	<p><u>Objective 4</u> To develop outreach program for maritime industry, fishing, and recreational boating communities based on risk assessment and long-term monitoring results.</p> <p><u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.</p>	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-3, STRATEGY VS-4, STRATEGY VS-6, STRATEGY VS-11, STRATEGY VS-12; Water Quality, STRATEGY WQ-4</p> <p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-11, STRATEGY VS-12; Water Quality, STRATEGY WQ-5</p>

OVERVIEW OF STRATEGIES:

Appendix IIB: Conservation Science

Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY CS-1: Maintain Beach Watch program to monitor marine life and human activities on sanctuary beaches and provide baseline information to assist sanctuary management decisions.	Activity 1.1 As a part of the Sanctuary Naturalist Corps, maintain Beach Watch volunteer monitoring program to gather baseline information about the resources of the sanctuary and expand the long-term dataset.	<u>Objective 2</u> To conduct studies of species or marine communities to identify resources most at risk or in need of management attention. <u>Objective 4</u> To design research and monitoring projects that are responsive to management concerns and contribute to improved management of the sanctuary. <u>Objective 5</u> To make effective use of research and monitoring results by incorporating them into Education and Resource Protection programs.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-9, STRATEGY VS-6; Introduced Species, STRATEGY IS-1; Impacts from Fishing Activities, STRATEGY FA-1
STRATEGY CS-2: Conduct research to develop permit conditions for white shark viewing and to assess effectiveness of new regulations.	Activity 2.1 Conduct research to determine appropriate permit conditions and effectiveness of new regulations in reducing disturbance to white sharks.	<u>Objective 4</u> To design research and monitoring projects that are responsive to management concerns and contribute to improved management of the sanctuary. <u>Objective 6</u> To encourage information exchange and cooperation among all organizations and agencies undertaking management-related research in the sanctuaries to promote more timely and informed management.	Regulatory changes
	Activity 2.2 Conduct research to assess effectiveness of new eelgrass bed protection zones. Following promulgation of new regulations restricting vessel anchoring in eelgrass beds within Tomales Bay, conduct research to assess health of current and future eelgrass beds to determine appropriate permit conditions and effectiveness of new regulations in reducing disturbance to eelgrass beds.	<u>Objective 1</u> . Develop and implement an eelgrass status study to assess size, density and species richness of current eelgrass beds within and outside of management zones. Study analyses shall be targeted to recommend acceptable number of vessels and anchoring types that maybe allowed in zones. <u>Objective 2</u> . Periodically review effectiveness of regulation, size and location of management zones and special permit conditions and revise as appropriate.	Regulatory changes Wildlife Disturbance STRATEGY WD-3, Introduced Species STRATEGY IS-2, Conservation Science Action STRATEGY CS-4, CS-5, CS-6

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY CS-3: Host a biennial research workshop to facilitate information exchange in the GFNMS.</p>	<p>Activity 3.1 Every other year, the sanctuary will continue to host a conservation science workshop with local researchers and educators to highlight science in and around the sanctuary.</p>	<p><u>Objective 1</u> To assess the sanctuary’s information base to identify gaps in knowledge that can affect our ability to manage the area. <u>Objective 2</u> To conduct studies of species or marine communities to identify resources most at risk or in need of management attention. <u>Objective 3</u> To promote the sanctuaries as a site for management-related marine research by providing financial and logistical support for scientific investigations that address critical marine resource protection issues. <u>Objective 6</u> To encourage information exchange and cooperation among all organizations and agencies undertaking management-related research in the sanctuaries to promote more timely and informed management. <u>Objective 7</u> Educate research community how to post monitoring program descriptions and findings on to GFNMS SIMoN, OceanObs, SEAMAP, CICORE and other appropriate web sites.</p>	
<p>Strategy CS-4 Develop and implement integrated sanctuary ecosystem assessment and monitoring programs</p>	<p>Activity 4.1 Expand Sanctuary Ecosystem Monitoring Surveys-Pelagic Habitat (SEA Surveys, formerly known as Ecosystem Dynamics Study-EDS).</p>	<p><u>Objective 1</u> Conduct long-term monitoring of the macrovertebrates of the sanctuary, seabirds, marine mammals, and sea turtles and their prey species. Monitor the abundance and distribution of species impacted by chronic and acute oil pollution, such as seabirds, marine mammals, and sea turtles, and their trophic relationship and the population dynamics of euphausiid shrimp or krill. <u>Objective 2</u> Investigate the relationship between hydrographic conditions, physical features and the distribution and abundance of marine organisms in the vicinity of the Gulf of the Farallones region and the coastal and pelagic region west of Sonoma County. <u>Objective 3</u> Link local abundance and distribution data sets with associated habitats, oceanographic features, and occurrence and distribution of human activities, such as vessel activities. <u>Objective 4</u> Monitor phytoplankton for detection of harmful algal blooms and inventory and early detection of pelagic and larval introduced species.</p>	<p>Complementary Strategies: <u>Water Quality</u> STRATEGY WQ-2 <u>Introduced Species</u> STRATEGY IS-1, IS-2, <u>Impacts from Vessel Spills</u> VS-3, VS-5, VS-6, <u>Wildlife Disturbance</u> STRATEGY WD-2, WD-3, WD-4, WD-7, <u>Conservation Science</u> Action STRATEGY CS-1, CS-2, CS-3, CS-5, CS-6, <u>Cross-cutting Ecosystem</u> <u>Monitoring Action</u> STRATEGY XEM-1, XEM-2, XEM-3, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
		<p><u>Objective 5 Map survey specific and trend information for identification of areas of ecological significance.</u></p>	
	<p><u>Activity 4.2</u> Expand sanctuary's Rocky Intertidal Monitoring Program. Long-term monitoring of the rocky intertidal habitats is a priority program for the GFNMS. The rocky intertidal habitat of the sanctuary is limited to outer coast and island shorelines.</p>	<p><u>Objective 1</u> Continue monitoring of the rocky intertidal areas of the Farallon Islands and re-establish long-term monitoring of six mainland monitoring sites: Bodega Head, Pinnacle Rock, Estero Americano, Duxbury Reef, Slide Ranch, Bean Hollow and Pigeon Point. The objectives are to: 1) establish non-destructive, permanent sampling transects, quadrats and density plots within the intertidal areas of the GFNMS; 2) determine native and introduced species inventory in the intertidal communities; 3) determine primary and secondary cover in established quadrats; 4) determine percent cover of sessile organisms; 5) to determine density of macroinvertebrates susceptible to oil spill damage; 6) photograph, collect and archive voucher specimens from the intertidal areas for future reference;. Through regular assessment (monitoring) of the condition and health of this sensitive habitat, sanctuary staff can detect acute changes and long-term trends. Monitoring information can also indicate if a management action is effective and having positive results.</p> <p><u>Objective 2</u> Integrate monitoring protocols and data sets with CeNCOOS, West Coast Observations – Sanctuary</p>	<p><u>Complementary Strategies:</u> <u>Introduced Species</u> STRATEGY IS-1, IS-3, IS-5, <u>Wildlife Disturbance</u> STRATEGY WD-2, WD-3, WD-4, <u>Conservation Science Action</u> STRATEGY CS-1, CS-2, CS-3, CS-5, CS-6, <u>Cross-cutting Ecosystem</u> <u>Monitoring Action</u> STRATEGY XEM-1, XEM-2, <u>Northern Management Area Science</u> <u>Action STRATEGIES</u> XNRM-1, XNRM-2, XNRM-4, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
		<p>Ecosystem Assessment Stations, Minerals Management Service, Multi-agency Rocky Intertidal Network (MARINE), Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), and the National Park Service. Provide data sets and integrated analyses to the State’s Marine Life Protection Act, marine protected areas.</p> <p><u>Objective 3</u> Provide species inventory updates and integrate with introduced species detection programs.</p>	
	<p>Activity 4.3 Long-term monitoring of sanctuary physical/oceanographic processes</p>	<p><u>Objective 1</u> Expand West Coast Obs-Sanctuary Ecosystem Assessment Stations (SEA Stations). SEA Stations are nearshore and near-island buoy-instrumentation, customized for particular locations. SEA Stations measure environmental events that affect living resources, measuring processes conducive to distribution, settlement, growth and reproduction. Arrays have been placed at areas of water mass convergence, areas of strong upwelling influence and high productivity, and also near sites of rocky intertidal monitoring. Interannual and shorter-term upwelling and relaxation events have been shown to drive recruitment and movement of certain fish species. It is also likely that these events affect other resources, including keystone species. The GFNMS has three arrays that continuously measure water column temperature, providing information necessary to understand and track water mass movements that affect recruitment of key species to coastal habitats: Bodega Head, Southeast Farallon Island, and Pigeon Point. A fourth array shall be deployed at Double Point.</p> <p><u>Objective 2</u> Establish Cooperative Agreement with Bodega Bay Marine Lab for long term maintenance and periodic</p>	<p>Complementary Strategies: Impacts from Vessel Spills VS-2, VS-6, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-5, CS-6, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, XEM-3, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
		replacement and upgrades to array hardware; data down loading and web posting; data interpretation and integration with biological assemblages and ecological areas of significance.	
STRATEGY CS-5 Complete characterization of sanctuary biological and physical features.	<u>Activity 5.1</u> Complete mapping the sanctuary's major habitat types and bottom substrate,	<u>Objective 1</u> Provide a habitat map with important baseline information for management including relative proportions of sanctuary habitats; the current state of sanctuary resources as a basis against which to measure future change; unique habitats; identify areas of ecological significance;; and extent of damages from anthropogenic stressors.	Complementary Strategies: Water Quality STRATEGY WQ-1, WQ-2, Introduced Species STRATEGY IS-1, 2, 3, 4, 5, Impacts from Vessel Spills VS-2, Wildlife Disturbance STRATEGY WD-2, WD-3, WD-7, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-6, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-5

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
	<p><u>Activity 5.2</u> Identify and map seasonal and year round circulatory patterns for surface and subsurface currents. Relate these circulatory patterns to abundance and distribution of living resources are primary tasks for the GFNMS.</p>	<p><u>Objective 1</u> Produce maps of seasonal and year round circulatory patterns for surface and subsurface currents.</p> <p><u>Objective 2</u> Relate these circulatory patterns to abundance and distribution of living resources are primary tasks for the GFNMS.</p>	<p>Complementary Strategies: Water Quality STRATEGY WQ-1, WQ-2, Introduced Species STRATEGY IS-1, 2, 3, 4, 5, Impacts from Vessel Spills VS-2, Wildlife Disturbance STRATEGY WD-2, WD-3, WD-7, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-6, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-5</p>
	<p><u>Activity 5.3</u> Characterize the soft and hard bottom epifaunal communities.</p>	<p><u>Objective 1</u> Survey the surface biota and sediment characteristics.</p> <p><u>Objective 2</u> Quantifying estimates of abundance and distribution of epifauna, assessment of disturbance effects and marine debris, species list of invertebrates and epifaunal fish, and characterization of any cultural resources.</p>	<p>Complementary Strategies: Water Quality STRATEGY WQ-1, WQ-2, Introduced Species STRATEGY IS-1, 2, 3, 4, 5, Impacts from Vessel Spills VS-2, Wildlife Disturbance STRATEGY WD-2, WD-3, WD-7, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-6, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
	<p><u>Activity 5.4</u> Integrate characterization, mapping and monitoring programs with regional ocean observation programs along the west coast and the sanctuary program's System Wide Monitoring guidelines.</p>	<p><u>Objective 1</u> Produce interactive web pages for mapping and quantification of biological and physical processes.</p> <p><u>Objective 2</u> Produce reports and presentation of interpretation of ecological analyses, provide management with assessment of influences of ecosystem processes and anthropogenic processes on sanctuary resources, and provide management with predictions based on status and trends.</p>	<p>Complementary Strategies: Water Quality STRATEGY WQ-1, WQ-2, Introduced Species STRATEGY IS-1, 2, 3, 4, 5, Impacts from Vessel Spills VS-2, Wildlife Disturbance STRATEGY WD-2, WD-3, WD-7, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-6, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-5</p>
<p>STRATEGY CS-6 Functional integration and infrastructure for SEA Station and Survey programs</p>	<p><u>Activity 6.1</u> Partner with local and regional researchers to achieve consistent data collection methodologies and consistent data base structures for improved data exchange and data integration opportunities.</p>	<p><u>Objective 1</u> Meet with local and regional researchers to develop consistent methodologies.</p> <p><u>Objective 2</u> As necessary, alter methodologies, data base structure and web postings for regional comparative analyses</p>	<p>Complementary Strategies: Water Quality Action STRATEGY WQ-2, 8, Introduced Species Action STRATEGY IS-1, IS-2, Impacts from Vessel Spills VS-2, Wildlife Disturbance Action STRATEGY WD-2, WD-3, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-5, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, XEM-3, XEM-4, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-4, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
	<p><u>Activity 6.2</u> Partner with the National Oceanographic Data Center (NODC) National Coastal Data Development Center (NCDDC) for data and information management support.</p>	<p><u>Objective 1</u> Meet with staff from sanctuary headquarters, West Coast region, NCDDC to address requirements and needs for data rescue, metadata, Federal compliance issues, and data accessibility and delivery.</p> <p><u>Objective 2</u> Expand functionality of the Sanctuary Integrated Monitoring Network (SIMoN) to enhance data input and review, data management, analyses, reporting, archiving and dissemination functions in order to facilitate the transferability of the SIMoN framework to other sanctuaries.</p>	<p>Complementary Strategies: Water Quality Action STRATEGY WQ-2, 8, Introduced Species Action STRATEGY IS-1, IS-2, Impacts from Vessel Spills VS-2, Wildlife Disturbance Action STRATEGY WD-2, WD-3, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-5, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, XEM-3, XEM-4, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-4, XNRM-5</p>
	<p><u>Activity 6.3</u> Develop the 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.</p>	<p><u>Objective 1</u> Establish a regional monitoring coordination team. The regional monitoring team shall consist of the site’s Research Coordinator and possibly additional science staff.</p> <p><u>Objective 2</u> Produce a regional science communication plan to improve coordination, evaluate effectiveness of monitoring programs, develop “state of the sanctuary” reports to help assess the health of the sanctuaries.</p> <p><u>Objective 3</u> Develop a regional ecosystem-based science operating plan in collaboration with other West Coast NMSs and local researchers to meet site, regional and national monitoring needs.</p>	<p>Complementary Strategies: Water Quality Action STRATEGY WQ-2, 8, Introduced Species Action STRATEGY IS-1, IS-2, Impacts from Vessel Spills VS-2, Wildlife Disturbance Action STRATEGY WD-2, WD-3, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-5, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, XEM-3, XEM-4, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-4, XNRM-5</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
	<p><u>Activity 6.4</u> Increase the use of new technologies in order to enhance data collection tasks, expedite data management and data improve availability for outreach and resource management interpretation.</p>	<p><u>Objective 1</u> The sanctuary will automate data collection techniques for near-real time retrieval of uncorrected data. Data collection technologies such as telepresence and remote sensing shall be incorporated into site and regional science programs.</p> <p><u>Objective 2</u> Expedite the availability of findings, by development on-line data entry and data downloading, building a multi-sanctuary database for availability in as close to real-time as possible, to be served through CICORE, SEAMAP, SIMoN and IMaST portals.</p> <p><u>Objective 3</u> Improve data interpretation through use of web based data management and data posting.</p>	<p>Complementary Strategies: Water Quality Action STRATEGY WQ-2, 8, Introduced Species Action STRATEGY IS-1, IS-2, Impacts from Vessel Spills VS-2, Wildlife Disturbance Action STRATEGY WD-2, WD-3, Conservation Science Action STRATEGY CS-1, CS-2, CS-3, CS-4, CS-5, Cross-cutting Ecosystem Monitoring Action STRATEGY XEM-1, XEM-2, XEM-3, XEM-4, Northern Management Area Science Action STRATEGIES XNRM-1, XNRM-2, XNRM-3, XNRM-4, XNRM-5</p>
<p>STRATEGY WQ-8: Develop an annotated bibliography of water quality research and monitoring programs in and adjacent to the sanctuary to evaluate data and determine the overall water quality of the sanctuary's ecosystem.</p>	<p>Activity 8.1 Inventory all short and long-term water quality research and monitoring programs to determine status, data gaps and sanctuary needs.</p>	<p>-</p>	<p><u>GFNMS FMP</u> Water Quality, STRATEGY WQ-1, STRATEGY WQ-5</p> <p><u>MBNMS FMP</u> Water Quality, STRATEGY WQPP-8, STRATEGY WQPP-9</p>
<p>STRATEGY WD-1: Create easily accessible centralized Web-based spatial database to house information pertaining to wildlife disturbance.</p>	<p>Activity 1.1 Develop and maintain a well designed information management and dissemination system.</p>	<p><u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats.</p>	<p><u>GFNMS FMP</u> Introduced Species, STRATEGY IS-1, STRATEGY IS-2, STRATEGY IS-3; Conservation Science, STRATEGY CS- 1; Water Quality, STRATEGY WQ-2, STRATEGY WQ-8; Fishing Activities, STRATEGY FA-1; Vessel Spills, STRATEGY VS-6, STRATEGY VS-12; Education, STRATEGY ED-2; Administration, STRATEGY AD-2</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY WD-2: Through the use of volunteer monitoring programs, observe and record impacts from human activities on marine resources and key habitats such as the rocky intertidal.</p>	<p>Activity 2.1 Develop volunteer-based intertidal monitoring program to evaluate human impacts on the intertidal habitat of the sanctuary and measure recovery rates of closed areas. This program will fall under the Sanctuary Naturalist Corps umbrella.</p>	<p><u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.</p>	<p><u>GFNMS FMP</u> Education, STRATEGY ED-7; Introduced Species, STRATEGY IS-3 <u>MBNMS FMP</u> Tidepool Protection, STRATEGY TP-1, STRATEGY TP-2</p>
<p>STRATEGY WD-3: Coordinate with other agencies, institutions and programs to better understand and address anthropogenic noise, light, and visual impacts on wildlife from vessels and low flying aircraft.</p>	<p>Activity 3.1 In coordination with partners, modify existing monitoring programs to identify types and frequency of impacts on wildlife from motorized and non-motorized aircraft and vessels.</p>	<p><u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats.</p>	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-3; Administration, STRATEGY AD-3 <u>MBNMS FMP</u> Marine Mammal & Seabird Disturbance, STRATEGY MMST-2</p>
	<p>Activity 3.2 Through the use of permit conditions, reporting requirements and/or tracking system, identify wildlife disturbance related research and monitoring programs and collaborate to collect data on wildlife disturbance in the sanctuary.</p>	<p><u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats. <u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.</p>	<p><u>GFNMS FMP</u> Conservation Science, STRATEGY CS-3 <u>MBNMS FMP</u> Marine Mammal & Seabird Disturbance, STRATEGY MMST-2</p>
	<p>Activity 3.3 Evaluate emerging scientific studies delineating the impacts of anthropogenic noise, light and visual disturbance including vessel traffic, seismic surveys for hydrocarbon exploration and other industrial and governmental activities impacting sanctuary resources.</p>	<p><u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats.</p>	<p><u>GFNMS FMP</u> Resource Protection STRATEGY RP-2, STRATEGY RP-3 <u>MBNMS FMP</u> Marine Mammal & Seabird Disturbance STRATEGY MMST-2</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY IS-1: Develop a native and introduced species inventory and database specifically for GFNMS and areas adjacent to the sanctuary.	<p>Activity 1.1 Profile and maintain a database specifically on the extent of introduced species in and adjacent to the GFNMS.</p> <p>Activity 1.2 Develop an easily accessible and queryable database to be used by sanctuary manager, staff, researchers and other agencies and institutions.</p>	<p><u>Objective 1</u> To understand the current extent of introduced species in GFNMS.</p>	<p>GFNMS FMP Ecosystem Protection, STRATEGY FA-1</p> <p>GFNMS FMP Wildlife Disturbance, STRATEGY WD-2</p> <p>MBNMS FMP Introduced Species, STRATEGY IS-3</p>
STRATEGY IS-2: In coordination with existing monitoring programs, develop a program to detect introduced species in estuarine environments of the sanctuary.	<p>Activity 2.1 GFNMS will work with other agencies and institutions to incorporate introduced species identification and monitoring into existing monitoring programs.</p> <p>Activity 2.2 Develop guidelines for new estuarine monitoring programs for introduced species.</p>	<p><u>Objective 2</u> To create a new program and/or coordinate with existing programs to detect and monitor new introductions.</p>	<p>GFNMS FMP Water Quality, STRATEGY WQ-2, STRATEGY WQ-6; Education, STRATEGY ED-4</p> <p>GFNMS FMP Wildlife Disturbance STRATEGY WD-1, Introduced Species, STRATEGY IS-1, STRATEGY IS-6; Fishing Activities STRATEGY FA-1</p> <p>MBNMS FMP Introduced Species STRATEGY IS-3</p>
STRATEGY IS-3: Develop a monitoring program to detect and monitor introduced species in the rocky intertidal areas of the sanctuary.	<p>Activity 3.1 Continue GFNMS' rocky intertidal monitoring program.</p> <p>Activity 3.2 Add onto GFNMS' existing intertidal monitoring program to look for introduced species, and coordinate with other agencies' rocky intertidal monitoring programs.</p>	<p><u>Objective 2</u> To create a new program and/or coordinate with existing programs to detect and monitor new introductions.</p>	<p>GFNMS FMP Education, STRATEGY ED-4</p> <p>MBNMS FMP Introduced Species, STRATEGY IS-4</p>

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY IS-4: Develop a monitoring program to detect and monitor introduced species in the pelagic environment of the sanctuary.	Activity 4.1 SEA Surveys plankton tows and harmful algal bloom assessments will be used to sample for introduced species.	<u>Objective 2</u> To create a new program and/or coordinate with existing programs to detect and monitor new introductions.	GFNMS FMP Ecosystem Protection, STRATEGY FA-1 MBNMS FMP Introduced Species, STRATEGY IS-4
STRATEGY IS-5: Develop an outreach and monitoring program to improve early detection of introduced species.	Activity 5.1 GFNMS will develop an early detection program to widely disseminate information about introduced species to local citizens and visitors	<u>Objective 2</u> To create a new program and/or coordinate with existing programs to detect and monitor new introductions. <u>Objective 3</u> To develop management actions to eradicate and/or control existing and new introductions. <u>Objective 4</u> To identify and control current and potential pathways to prevent new introductions.	GFNMS FMP Education, STRATEGY ED-7; Introduced Species, STRATEGY IS-1, STRATEGY IS-2, STRATEGY IS-3 MBNMS FMP Introduced Species, STRATEGY IS-4
STRATEGY FA-1: Develop a resource characterization of the sanctuary to better understand types and distributions of habitats, species and processes.	Activity 1.1 Modify the SEA Surveys and develop additional research components as necessary to build a baseline characterization and regional monitoring of the sanctuary including habitat, physical and biological characteristics.	<u>Objective 1</u> Based on the best available scientific and socioeconomic information, the sanctuary will: 1) facilitate the evaluation of the status and trends in marine populations (and their causes) in sanctuary waters, and 2) identify and evaluate impacts on sanctuary resources from fishing activities.	GFNMS FMP Introduced Species, STRATEGY IS-2; Ecosystem Protection, STRATEGY FA-3, STRATEGY FA-4, STRATEGY FA-5, STRATEGY EP-1, STRATEGY EP-3; Vessel Spills, STRATEGY VS-8
STRATEGY VS-5: Track distribution and numbers of species of concern and habitats in relation to probable spill trajectories.	Activity 5.1 Refine resources-at-risk model analysis for Gulf of the Farallones. Activity 5.2 Modify the SEA Surveys and develop additional research components as necessary to build a baseline characterization and monitoring of the sanctuary habitats and physical and biological characteristics.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk. <u>Objective 2</u> To develop long-term monitoring programs within GFNMS to identify trends and take proactive measures to reduce risk from vessel spills.	GFNMS FMP Vessel Spills, STRATEGY VS-2, STRATEGY VS-3, STRATEGY VS-7, STRATEGY VS-8 GFNMS FMP Ecosystem Protection, STRATEGY FA-1, STRATEGY FA-3, STRATEGY FA-4; Introduced Species, STRATEGY IS-2; Vessel Spills, STRATEGY VS-2, STRATEGY VS-4, STRATEGY VS-6, STRATEGY VS-7, STRATEGY VS-8

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Conservation Science Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY VS-8: Continue to improve integration of GFNMS Beach Watch and SEA Surveys data into ACP.</p>	<p>Activity 8.1 Increase frequency of integrating Beach Watch and SEA Surveys data into ACP.</p>	<p><u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.</p> <p><u>Objective 2</u> To develop long-term monitoring programs within GFNMS to identify trends and take proactive measures to reduce risk from vessel spills.</p> <p><u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.</p>	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-6, STRATEGY VS-7, STRATEGY VS-8</p>

OVERVIEW OF STRATEGIES:

Appendix IIC: Resource Protection

Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY RP-1: Establish a framework for identifying, tracking and addressing emerging issues on a timely basis.	<p>Activity 1.1 Develop an electronic Web-based cataloging system to capture information on new and emerging issues.</p> <p>Activity 1.2 Establish an evaluation system for determining if the issue is relevant to the site and identify steps for addressing issues.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-2, STRATEGY RP-3</p> <p><u>CBNMS FMP</u> Administration, STRATEGY AD-7</p> <p><u>MBNMS FMP</u> Emerging Issues, STRATEGY EI-1, STRATEGY EI-2</p>
STRATEGY RP-2: Develop a coordinated communication system amongst all national marine sanctuaries and other resource management agencies to stay informed about new and emerging issues	<p>Activity 2.1 NOAA, National Ocean Service and the NMSP are addressing new and emerging issues in some capacity, every day.</p> <p>Activity 2.2 GFNMS will formalize a communication system and leverage opportunities with other resource management agencies to exchange ideas on new and emerging issues.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Wildlife Disturbance, STRATEGY WD-3; Resource Protection, STRATEGY RP-1</p>
STRATEGY RP-3: As GFNMS' priorities shift, due to both availability of resources and priority of ecosystem protection issues, all current, new and emerging issues need to be continually tracked and re-evaluated.	<p>Activity 3.1 There are many new and emerging issues that need to be tracked and addressed in some capacity over the next five years.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Wildlife Disturbance, STRATEGY WD-3, STRATEGY WD-7; Resource Protection, STRATEGY RP-2</p>
STRATEGY RP-4: Develop a formalized review program to consistently and continuously review and evaluate effectiveness of sanctuary regulations.	<p>Activity 4.1 Evaluate the appropriateness and effectiveness of current sanctuary regulatory language (prohibitions) in addressing the priority resource management issues.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-1, STRATEGY RP-2, STRATEGY RP-3, STRATEGY RP-5, STRATEGY RP-6</p>

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY RP-5: Develop a formalized permit program to provide the mechanism to review requests to conduct prohibited activities within the sanctuary</p>	<p>Activity 5.1 The permit program will continue to review projects.</p> <p>Activity 5.2 Develop a Web-based permit application and tracking program.</p> <p>Activity 5.3 Coordinate with other regulatory agencies issuing permits to ensure consistency with applicable laws.</p> <p>Activity 5.4 Outreach efforts about the sanctuary’s permit process will help to inform and bring into compliance with the sanctuary’s permit process those activities.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-4, STRATEGY RP-6</p>
<p>STRATEGY RP-6: Strive to increase ecosystem protection through compliance with sanctuary regulations and other applicable state and federal statutes.</p>	<p>Activity 6.1 Ensure sufficient patrol presence in the sanctuary through the development of partnerships and interagency coordination.</p> <p>Activity 6.2 Use interpretive enforcement as a tool to inform and encourage voluntary compliance with sanctuary regulations.</p> <p>Activity 6.3 An interpretive law enforcement program will use education and outreach to affect behavior and values to achieve voluntary compliance with sanctuary regulations.</p> <p>Activity 6.4 Develop enforcement tools to ensure effectiveness of the enforcement program.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-4, STRATEGY RP-5; Vessel Spills, STRATEGY VS-9</p>

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY RP-7: Review and revise the sanctuary's emergency response plan, in order to be prepared to respond to an incident.</p>	<p>Activity 7.1 Review and revise emergency response plan, based on ICS and the USCG's ACP.</p> <p>Activity 7.2 Develop tools to ensure a coordinated and timely response to incidents.</p> <p>Activity 7.3 Assess levels of potential risk from activities in and adjacent to the sanctuary.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-8; Vessel Spills, STRATEGY VS-2, STRATEGY VS-3, STRATEGY VS-4, STRATEGY VS-6, STRATEGY VS-7, STRATEGY VS-8, STRATEGY VS-9 <u>CBNMS FMP</u> Administration, STRATEGY AD-7 <u>MBNMS FMP</u> Introduced Species, STRATEGY IS-4; Operations & Admin, STRATEGY OA-4; Beach Closures, STRATEGY BC-9</p>
<p>STRATEGY RP-8: Formalize plan to respond to incidents that damage sanctuary ecosystems.</p>	<p>Activity 8.1 Coordinate with the Office of Response and Restoration to restore sanctuary wildlife and habitats.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-7; Vessel Spills, STRATEGY VS-6, STRATEGY VS-9</p>
<p>STRATEGY RP-9: Develop a framework for identifying and analyzing boundary options.</p>	<p>Activity 9.1 Through an incremental process gather information, analyze the data, and develop a recommendation on boundary options.</p> <p>Activity 9.2 The following recommended criteria will be used by the working group to evaluate different boundary options.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p>	<p><u>GFNMS FMP</u> Research and Monitoring and Impacts from Fishing Activities, STRATEGY FA-1</p>
<p>STRATEGY RP-10: Continue to culture partnerships and leverage opportunities for protecting sanctuary wildlife, habitats, qualities and cultural resources.</p>	<p>Activity 10.1 Coordinate development of collaborative processes.</p> <p>Activity 10.2 Coordinate with other agency management and restoration plans to enhance and protect the sanctuary.</p>	<p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> All strategies in draft management plan</p>

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY RP-11: Evaluate condition of, and actual impacts on sanctuary resources and qualities from the Farallon Islands radioactive waste dump.</p>	<p>Activity 11.1 Convene a group of agency scientists to evaluate status of radioactive waste dump.</p> <p>Activity 11.2 Develop an outreach campaign to inform the public on the status and potential threats of the FIRWD.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	
<p>STRATEGY RP-12: In cooperation and coordination with the other ten local, state and federal agencies, develop and implement comprehensive plan to ensure the protection of water quality, wildlife, habitats and safety in Tomales Bay</p>	<p>Activity 12.1 Develop vessel management guidelines to address moored vessels and moorings that may be impacting sensitive habitats.</p> <p>Activity 12.2 Develop sewage waste disposal for public and private boating facilities.</p> <p>Activity 12.3 Develop enforcement plan to address derelict and abandoned vessels.</p> <p>Activity 12.4 Address impacts to sensitive habitats from construction, modifications and additions to docks and piers in Tomales Bay.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> Resource Protection, STRATEGY RP-4, STRATEGY RP-6, STRATEGY RP-10, Water Quality, STRATEGY WQ-1, STRATEGY WQ-2, STRATEGY WQ-3, STRATEGY WQ-6, STRATEGY WQ-9, Wildlife Disturbance, STRATEGY WD-4, Ecosystem Protection, STRATEGY EP-1, STRATEGY EP-3</p>
<p>STRATEGY RP-13: Working in collaboration with federal, state and local agencies, and the local community, restore the natural ecological processes of Bolinas Lagoon.</p>	<p>Activity 13.1 Collaborate in the development and implementation of a comprehensive plan to examine actions that would reduce, and possibly reverse, sediment accumulation and habitat shifts caused by human impacts.</p>	<p><u>Objective 1</u> To build a comprehensive and coordinated resource protection plan to ensure protection for the resources and qualities of GFNMS.</p> <p><u>Objective 2</u> To continue to build on partnerships, collaborative efforts, and coordination with other agencies, institutions, and organizations, in taking a comprehensive and effective ecosystem protection approach.</p>	<p><u>GFNMS FMP</u> STRATEGY RP-4, STRATEGY RP-6, STRATEGY RP-10</p>

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY WQ-1: Develop an umbrella program to coordinate partnerships in implementing a comprehensive and integrated water quality monitoring program in order to track impacts on the estuarine and nearshore environment.	Activity 1.1 Through better coordination, both efficiency and effectiveness could be improved, and monitoring needs and data gaps identified and filled.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-2, STRATEGY WQ-3, STRATEGY WQ-4, STRATEGY WQ-5, STRATEGY WQ-6, STRATEGY WQ-7, STRATEGY WQ-8, STRATEGY WQ-9; Introduced Species, STRATEGY IS-2
STRATEGY WQ-2: Address sources of anthropogenic pathogens and pollutants from recreational and commercial boating activities and marinas.	Activity 2.1 Impacts from discharges are impacting Tomales Bay and Bodega Bay. Activity 2.2 Develop a combined outreach program on BMPs and interpretive enforcement for recreational and commercial user groups in and around Tomales and Bodega Bays.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-3 <u>MBNMS FMP</u> Water Quality, STRATEGY WQPP-13, WQPP-15, WQPP-16, WQPP-17 <u>GFNMS FMP</u> Water Quality, STRATEGY WQ-1, STRATEGY WQ-2; Vessel Spills, STRATEGY VS-3; Education, STRATEGY ED-7
STRATEGY WQ-3: Coordinate with other agencies to address land-based discharges into the estuarine and nearshore areas of the sanctuary including SWQPAs and CCAs.	Activity 3.1 The sanctuary will take the following steps to understand and address impacts from pathogens, sediments, nutrients and residual pollutants. Activity 3.2 industries that discharge into the watersheds in and adjacent to GFNMS will be encouraged through letters and awards of recognition to employ BMPs. Activity 3.3 Steps will be taken to address impacts from land development and encourage the use of BMPs during the planning, development and alteration of upland areas.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-6, STRATEGY WQ-7 <u>MBNMS FMP</u> Water Quality, STRATEGY WQPP-1, STRATEGY WQPP-18, STRATEGY WQPP-19, STRATEGY WQPP-20 <u>GFNMS FMP</u> Water Quality, STRATEGY WQ-7; Education, STRATEGY ED-7, STRATEGY ED-11 <u>GFNMS FMP</u> Water Quality, STRATEGY WQ-7; Education, STRATEGY ED-11

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY WQ-4: Evaluate SWQPAs and make a determination whether to implement a no vessel discharge prohibition within these areas of concern.	Activity 4.1 Develop a process to make a determination on the need for a prohibition on vessel discharge in SWQPAs within the sanctuary to protect sanctuary resources.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-3
STRATEGY WQ-5: Ensure the continuation of the long-term data collection efforts under the Mussel Watch program.	Activity 5.1 The sanctuary should seek to continue this program.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-1, STRATEGY WQ-3
STRATEGY WQ-6: Develop a standing water quality working group, supported by sanctuary staff.	Activity 6.1 Create a working group of experts representing other agencies and institutions that can advise the sanctuary on the development and implementation of a comprehensive and cooperative water quality protection plan.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-1, STRATEGY WQ-3, STRATEGY WQ-5, STRATEGY WQ-7, STRATEGY WQ-9
STRATEGY WQ-9: Educate local decision makers on land-based water quality impacts in the sanctuary.	Activity 9.1 GFNMS will partner with the CCC and other agencies and institutions on NEMO to inform decision makers on the link between development/growth and water quality.	<u>Objective 1</u> To develop a regionally based, cooperative water quality protection plan to address point and non-point source water quality impacts. <u>Objective 2</u> To emphasize a watershed/ecosystem approach and address the range of water quality threats from chronic land-based runoff to catastrophic offshore events.	<u>GFNMS FMP</u> Water Quality, STRATEGY WQ-3, STRATEGY WQ-6
STRATEGY WD-3: Coordinate with other agencies, institutions and programs to better understand and address anthropogenic noise, light and visual impacts on wildlife from vessels and low flying aircraft.	Activity 3.1 In coordination with partners, modify existing monitoring programs to identify types and frequency of impacts on wildlife from motorized and non-motorized aircraft and vessels	<u>Objective 1</u> To continually evaluate levels and sources of impacts on wildlife and habitats.	<u>GFNMS FMP</u> Wildlife Disturbance, STRATEGY WD-7; Vessel Spills, STRATEGY VS-3; Administration, STRATEGY AD-3
STRATEGY WD-4: Through interpretive enforcement and law enforcement efforts, address human behavior that may adversely impact wildlife.	Activity 4.2 Develop a coordinated and cooperative Protected Resource Enforcement Plan to ensure sufficient patrol presence in the sanctuary.	<u>Objective 2</u> To address human behavior that is impacting wildlife and habitats.	<u>MBNMS FMP</u> Marine Mammal & Seabird Disturbance, STRATEGY MMST-8

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY WD-7: Coordinate the Seabird Colony Protection Program aimed at improving the survival and recruitment of seabird colonies by reduce and eliminate human disturbances at seabird breeding and roosting sites.</p>	<p>Activity 7.1: Provide appropriate education and outreach to government agencies, ocean and coastal users, and individuals including pilots, researchers, rangers, sea kayakers, coastal recreational users, commercial and recreational fishermen, whale watchers and students.</p> <p>Activity 7.2: Based on research and monitoring findings, take appropriate actions to address impacts on seabirds from vessels and low-flying aircraft</p>	<p><u>Objective 2</u> To address human behavior that is impacting wildlife and habitats</p>	<p><u>GFNMS FMP</u> Wildlife Disturbance, STRATEGY WD-3, STRATEGY WD-4, STRATEGY WD-5; Ecosystem Protection, STRATEGY EP-1, Resource Protection, STRATEGY RP-6, STRATEGY RP-10; Education, STRATEGY ED-7, STRATEGY ED-11, STRATEGY ED-13</p> <p><u>MBNMS FMP</u> Marine Mammal Seabird and Turtle Disturbance, STRATEGY MMST-2</p>
<p>STRATEGY IS-6: Develop partnerships with other agencies and organizations that are involved in issues related to introduced species to advise the sanctuary.</p>	<p>Activity 6.1 Develop a technical advisory council of experts to advise GFNMS on introduced species issues.</p> <p>Activity 6.2 A regional representative of the California sanctuaries should sit on CalFed’s Non-native Invasive Species Advisory Committee (NISAC).</p>	<p>To maintain an abundance and diversity of native marine/estuarine species:</p> <p><u>Objective 1</u> To prevent future introductions of introduced species in the sanctuary.</p> <p><u>Objective 2</u> To detect, manage, and where feasible, eradicate new and established introduced species in the sanctuary.</p>	<p><u>GFNMS FMP</u> Introduced Species, STRATEGY IS-1, STRATEGY IS-2, STRATEGY IS-3, STRATEGY IS-4, STRATEGY IS-5, STRATEGY IS-7, STRATEGY IS-8</p>
<p>STRATEGY IS-7: Have in place a rapid response plan and streamlined permit process in order to respond in a timely manner to necessary eradication or control efforts in the sanctuary.</p>	<p>Activity 7.1 Take the lead in coordinating with other agencies in the development of a rapid response plan to eradicate or control existing or new introduction in, or areas adjacent, to the sanctuary.</p>	<p>To maintain an abundance and diversity of native marine/estuarine species:</p> <p><u>Objective 1</u> To prevent future introductions of introduced species in the sanctuary.</p> <p><u>Objective 2</u> To detect, manage, and where feasible, eradicate new and established introduced species in the sanctuary.</p>	<p><u>GFNMS FMP</u> Introduced Species, STRATEGY IS-6</p>
<p>STRATEGY IS-8: Take regulatory action to control new introductions of introduced species.</p>	<p>Activity 8.1 Work with the State Water Resource Quality Control Board to include in the definition for “impaired waters” those areas where introduced species have been identified.</p> <p>Activity 8.2 Require the reporting of all research activities in the sanctuary.</p>	<p>To maintain an abundance and diversity of native marine/estuarine species:</p> <p><u>Objective 1</u> To prevent future introductions of introduced species in the sanctuary.</p> <p><u>Objective 2</u> To detect, manage, and where feasible, eradicate new and established introduced species in the sanctuary.</p>	

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY FA-2: Develop a socio-economic profile of fishing activities and communities in and adjacent to the sanctuary.	Activity 2.1 Hire a contractor to profile both the historic, and the evolution of fishing activities occurring in the sanctuary	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-1, STRATEGY FA-5
STRATEGY FA-3: Evaluate impacts from fishing activities on sanctuary resources.	Activity 3.1 Work with the standing Living Resource and Habitat Protection Working Group of the sanctuary advisory council to develop a definition for “compatible use.” Activity 3.2 Develop a compatibility index to rank and evaluate types and levels of impacts from fishing activities.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-1, STRATEGY FA-4, STRATEGY EP-1 <u>MBNMS FMP</u> Benthic Habitats, STRATEGY BH-2; Fishing Education, STRATEGY FRER-3
STRATEGY FA-4: Develop policy recommendations or management action(s) to address impacts from fishing activities on sanctuary resources.	Activity 4.1 If the compatibility index indicates significant negative impacts on sanctuary resources from fishing activities, as appropriate, a working group will be developed Activity 4.2 Develop a series of management categories (policy responses), based on relative level of impact from a fishing activity, as determined by the compatibility index.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-3, STRATEGY EP-1 <u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-3
STRATEGY FA-6: Establish consistent and coordinated region-wide sanctuary representation at the PFMC and FGC meetings.	Activity 6.1 Select regional sanctuary representative to attend PSFMC and FGC meetings and participate as appropriate.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>CBNMS FMP</u> Ecosystem Protection, STRATEGY FA-1; <u>MBNMS FMP</u> STRATEGY FRER-1
STRATEGY FA-7: Work with CBNMS and MBNMS to address impacts on ecosystems in and around sanctuary waters from krill harvesting.	Activity 7.1 Monitor the implementation of the Coastal Pelagic Species Fishery Management Plan, which includes a preferred alternative for a permanent ban on krill harvesting.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>CBNMS FMP</u> Ecosystem Protection, STRATEGY FA-5;

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY EP-1: Develop a Resource Protection Plan (policy) to minimize user conflicts and provide special areas of protection for sensitive habitats, living resources, and other unique sanctuary features.	Activity 1.1 Determine the need for using tools such as zoning to take a proactive approach and address specific resource management issues.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-3, STRATEGY FA-4, STRATEGY EP-2 <u>MBNMS FMP</u> Marine Protected Areas, STRATEGY MPA-1
STRATEGY EP-2: Create a standing “Living Resource and Habitat Protection” working group to advise the sanctuary on ecosystem protection issues.	Activity 2.1 Develop a permanent standing working group of the sanctuary advisory council to address ecosystem protection issues in the sanctuary.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY EP-1, STRATEGY FA-3, STRATEGY FA-4, STRATEGY FA-6 <u>MBNMS FMP</u> Benthic Habitats, STRATEGY BH-1
STRATEGY EP-3: Develop strategy to protect habitats that are known to be “special areas of concern.”	Activity 3.1 Through a community-based process, make a determination on marine reserve status for Estero Americano and Estero de San Antonio to protect and restore habitat for marine life.	To maintain an abundance of native marine/ estuarine/ intertidal species: 1) To better understand impacts from fishing activities on sanctuary resources. 2) To allow for fishing that is compatible with sanctuary goals and ecosystem protection.	<u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-1, STRATEGY FA-2, STRATEGY EP-2; Water Quality, STRATEGY WQ-1, STRATEGY WQ-2, STRATEGY WQ-5; Introduced Species, STRATEGY IS-1, STRATEGY IS-2
STRATEGY VS-1: Expand MBNMS drift analysis model to include Point Arena and Mendocino.	Activity 1.1 Expand MBNMS drift analysis model north to Point Arena/Mendocino using existing data.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk. <u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk. <u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-2, STRATEGY VS-3, STRATEGY VS-4
STRATEGY VS-2: Improve existing spill and drift model to increase accuracy of risk assessments.	Activity 2.1 Revise existing oceanographic circulation model to reflect the unique fine-scale features of the Gulf of the Farallones.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-3, STRATEGY VS-4

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY VS-3: Evaluate vessel activities in the GFNMS as a first step to assessing the risk of spills in the sanctuary.	<p>Activity 3.1 Profile vessel activities within the Gulf of the Farallones.</p> <p>Activity 3.2 Based on existing vessel traffic and risk assessment reports, determine potential risks to GFNMS and develop report.</p> <p>Activity 3.3 Based on existing vessel traffic and risk assessment reports, determine potential risks to GFNMS and develop report.</p>	<p><u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.</p> <p><u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.</p>	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-2, STRATEGY VS-3; Water Quality, STRATEGY WQ-5</p> <p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-2, STRATEGY VS-3; Water Quality, STRATEGY WQ-5.</p> <p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-2, STRATEGY VS-3; Water Quality, STRATEGY WQ-4</p>
STRATEGY VS-4: Evaluate recent vessel routing changes related to the MBNMS vessel traffic study.	Activity 4.1 Evaluate how the vessel routing adjustments have affected GFNMS, what lessons have been learned, and what improvements could be made.	<p><u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.</p> <p><u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk.</p> <p><u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.</p>	<p><u>GFNMS FMP</u> Ecosystem Protection, STRATEGY FA-1, STRATEGY FA-3, STRATEGY FA-4; Introduced Species, STRATEGY IS-2; Vessel Spills, STRATEGY VS-2, STRATEGY VS-4, STRATEGY VS-6, STRATEGY VS-7, STRATEGY VS-8</p>
STRATEGY VS-5: Track distribution and numbers of species of concern and habitats in relation to probable spill trajectories.	Activity 5.1 Refine resources-at-risk model analysis for Gulf of the Farallones.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-2, STRATEGY VS-3, STRATEGY VS-7, STRATEGY VS-8</p>
STRATEGY VS-6: Participate on regional response team to address risks to sanctuary resources.	Activity 6.1 Review regional response plan (RRP) and ACP.	<p><u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk.</p> <p><u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk.</p> <p><u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.</p>	<p><u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-2, STRATEGY VS-4, STRATEGY VS-6, STRATEGY VS-9</p>

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Resource Protection Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY VS-7: Revise GFNMS in-house emergency response plan.	Activity 7.1 Revise tasks and responsibilities for GFNMS in the event of a vessel spill in the sanctuary.	<u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-1, STRATEGY VS-2, STRATEGY VS-4, STRATEGY VS-6
STRATEGY VS-8: Continue to improve integration of GFNMS Beach Watch and EDS data into ACP.	Activity 8.1 Increase frequency of integrating Beach Watch and EDS data into ACP.	<u>Objective 2</u> To develop long-term monitoring programs within GFNMS to identify trends and take proactive measures to reduce risk from vessel spills. <u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-6, STRATEGY VS-7, STRATEGY VS-8
STRATEGY VS-10: Provide better communication between GFNMS and maritime trade industry.	Activity 10.1 Recruit maritime trade industry member for GFNMS Sanctuary Advisory Council.	<u>Objective 4</u> To develop outreach program for maritime industry, fishing, and recreational boating communities based on risk assessment and long-term monitoring results. <u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-10, STRATEGY VS-12
STRATEGY VS-12: A sanctuary representative should participate in regional forums for addressing vessel traffic issues.	Activity 12.1 Sanctuary will attend regional meetings including the area committee meetings, harbor safety meetings, and ad hoc panels.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk. <u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk. <u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-11, STRATEGY VS-13
STRATEGY VS-12: Create a standing vessel spills working group to advise the sanctuary on implementation of proposed action plans.	Activity 12.1 Create a vessel spills working group of the sanctuary advisory council.	<u>Objective 1</u> To assess level of risk and determine whether improvements can be made to reduce risk. <u>Objective 3</u> To review current response programs and identify areas of improvement, focusing on GFNMS resources at risk. <u>Objective 5</u> To provide for continuous evaluation and leverage opportunities for improvement in coordination with partners.	<u>GFNMS FMP</u> Vessel Spills, STRATEGY VS-9, STRATEGY VS-10, STRATEGY VS-11

OVERVIEW OF STRATEGIES:

Appendix IID: Administration

Administration Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
<p>STRATEGY AD-1: New sanctuary facilities will be developed through various partnerships with both the public and private sector.</p>	<p>Activity 1.1 Build a world class icon for marine stewardship in San Francisco</p> <p>Activity 1.2 Continue to maintain the Crissy Field and Pacifica visitor centers.</p> <p>Activity 1.3 Increase the sanctuary staff's ability to access the marine waters of the sanctuary by expanding vessel capabilities</p> <p>Activity 1.4 Complete priorities and implement facilities plan for visitors centers and outreach venues.</p> <p>Activity 1.5 Improve the site's information technology infrastructure.</p> <p>Activity 1.6 Partner with local research and academic institutions to develop facilities and infrastructure.</p>	<p><u>Objective 1</u> Develop an administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.</p> <p><u>Objective 2</u> Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan.</p> <p><u>Objective 3</u> Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations.</p>	<p>All</p>
<p>STRATEGY AD-2: Basic staffing requirements must provide support for administration and the program areas of research/monitoring, education/outreach, and marine resource management.</p>	<p>Activity 2.1 Sanctuary staff skills should collectively represent expertise in policy, marine resource management, education, outreach, volunteer development, research, monitoring, GIS, communications technology, and administration.</p> <p>Activity 2.2 GFNMS manager will allocate 1.5% of the base budget to encourage staff participation in professional development</p> <p>Activity 2.3 Collectively, the staff will function as a team supporting each program area</p>	<p><u>Objective 1</u> Develop an administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.</p> <p><u>Objective 2</u> Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan.</p>	<p>All</p>

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Administration Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
	<p>Activity 2.4 Through the administrative framework, the sanctuary will work to create a positive working environment.</p> <p>Activity 2.5 Work towards developing a strong and favorable public identity.</p>		
<p>STRATEGY AD-3: With limited staff and financial resources, GFNMS will develop partnerships, and identify outside funding sources, and in-kind services to assist in the implementation of the management plan.</p>	<p>Activity 3.1 Continue to maintain and build on existing partnerships.</p> <p>Activity 3.2 Expand informal working relationship with NMFS and USGS.</p>	<p><u>Objective 3</u> Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations.</p>	<p>All</p>
<p>STRATEGY AD-4: The sanctuary advisory council will develop a leading role in providing advice to the sanctuary manager.</p>	<p>Activity 4.1 Strengthen the structure of the sanctuary advisory council</p> <p>Activity 4.2 Identify the role of the sanctuary advisory council in addressing ecosystem management issues</p> <p>Activity 4.3 Provide support, resources, and guidance to help the sanctuary advisory council engage and educate the public</p> <p>Activity 4.4 Sanctuary advisory council members will be asked to serve on working groups.</p> <p>Activity 4.5 Add standing working groups and seats to the sanctuary advisory council.</p>	<p><u>Objective 1</u> Develop an administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.</p> <p><u>Objective 2</u> Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan.</p> <p><u>Objective 3</u> Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations.</p>	<p>All</p>

Administration Strategy	Activity	Program Area Objective(s) Addressed	Complementary Strategies
STRATEGY AD-5: GFNMS seeks to formalize intra- and interagency efforts.	Activity 5.1 GFNMS will engage other agencies in reviewing each other's actions.	<u>Objective 1</u> Develop an administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.	All
	Activity 5.2 Formalize agreements with federal/state co-trustee managers signaling that the cooperative and integrated management approach established for GFNMS has been adopted by other agencies.	<u>Objective 2</u> Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan. <u>Objective 3</u> Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations.	
Activity 5.3 GFNMS will formalize agreements for: 1) Protected Resources Enforcement Plan and 2) Emergency Response Plan.			
STRATEGY AD-6: Develop and make use of performance indicators to measure performance of the management of the sanctuary as a whole, as well as to evaluate specific strategies within the management plan.	Activity 6.1 Use the Site Report Card developed by the NMSP as a tool for quickly measuring the overall management performance of the site.	<u>Objective 1</u> Develop an administrative framework to continuously evaluate, maintain and expand, when necessary, administrative operations.	All
	Activity 6.2 Work with national marine sanctuary headquarters staff to develop performance indicators for program areas	<u>Objective 2</u> Identify appropriate staffing, budget levels and facility needs to support implementation of the management plan. <u>Objective 3</u> Continue to build on partnerships, collaborative efforts and coordination with other agencies, institutions and organizations.	
	Activity 6.3 GFNMS administrative framework will continue to prepare for and strengthen the infrastructure for the future.		

