

**Fiscal
Years
2007-
2008**

**Federal Agency Report Under
Executive Order 13158 on**

MARINE PROTECTED AREAS

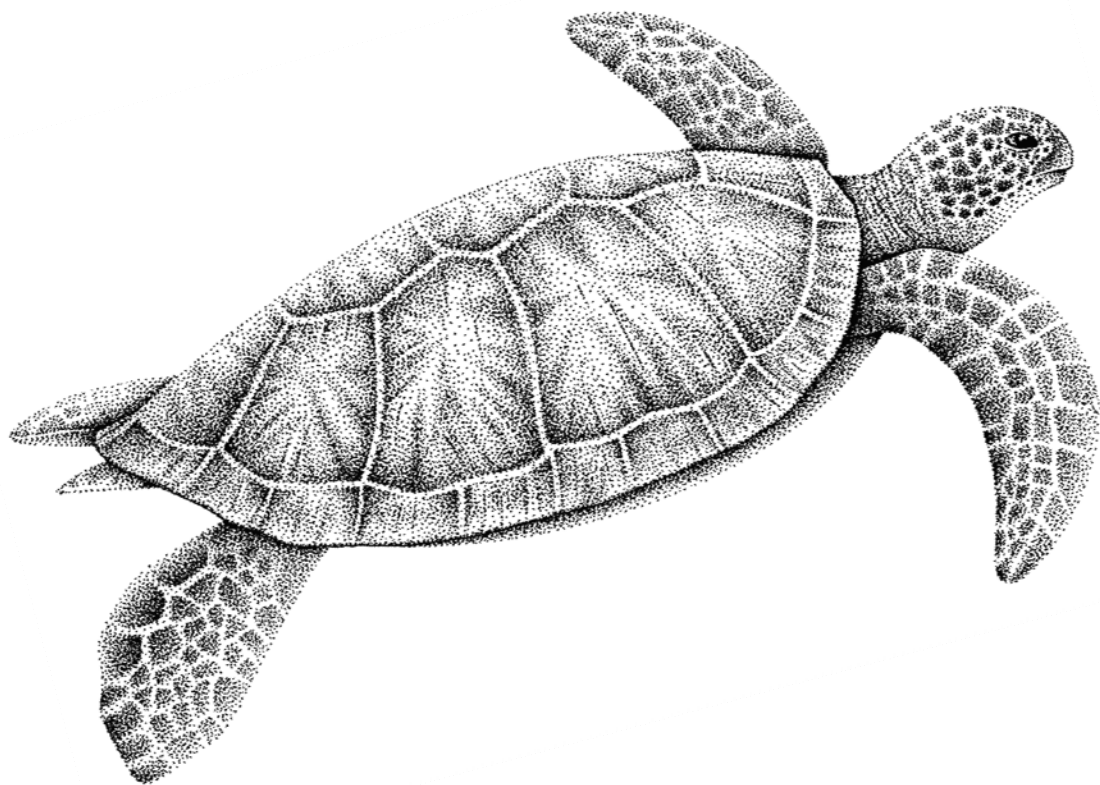


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INTRODUCTION

In the United States of America (U.S.) and around the world, marine protected areas (MPAs) are increasingly recognized as an important and promising management tool for conserving marine resources. The U.S. currently has nearly 1,700 existing MPAs established by federal, state, territorial, and local governments to achieve a wide range of conservation objectives. These objectives range from conserving biodiversity hotspots, to preserving sunken historic vessels, to protecting spawning aggregations important to commercial and recreational fisheries. Similarly, the level of protection provided by these MPAs ranges from no-take marine reserves to those allowing multiple uses, including fishing.

Recognizing the significant role that U.S. MPAs play in conserving marine heritage and sustainable use, and the need for a national framework for comprehensive MPA planning, coordination and support, Presidential Executive Order 13158 (Order) was created in May 26, 2000. The Order directs the National Marine Protected Areas Center (MPA Center) to work with the Department of the Interior and other agencies and stakeholders to develop an effective, integrated, science-based national system of MPAs.

The Executive Order calls for each federal agency that is required to take actions under the order to prepare a public report. This report is a summary of the actions taken to implement the Order across the federal agencies in fiscal years (FY) 2007-2008¹. For more detailed information on additional activities undertaken by the MPA Center to implement the order, visit www.mpa.gov.

¹This report is usually done on a fiscal year basis. However, this report includes two major events related to MPAs and the national system of MPAs that fall outside this reporting period but were included so that the information would be timely. These include the publication of the *Framework for the National System of Marine Protected Areas of the United States* (November 2008) and the designation of marine monuments in the Pacific (January 2009).

DEVELOPING A FRAMEWORK FOR THE NATIONAL SYSTEM OF MPAs

To provide a blueprint for building the National System of MPAs, the Order calls for the development of a framework for a National System of MPAs. From September 2006 through February 2007, the NOAA and the Department of the Interior, through the MPA Center, made the *Draft Framework for Developing the National System of Marine Protected Areas* available for public comment. In response, the MPA Center received over 11,000 submissions from around the nation representing over 100 specific comments. Comments came from many different organizations and sectors including: state (includes both states and territories) and tribal governments, conservation and industry organizations, private individuals, commercial and recreational fishermen and fishing organizations, federal fishery management councils, interstate fish commissions, academia, and the MPA Federal Advisory Committee (FAC). Based on review of comments, it was clear that substantial revisions to the draft Framework document were necessary.

Revised Draft Framework

On March 17, 2008, NOAA and the Department of the Interior released the *Revised Draft Framework for Developing the National System of Marine Protected Areas*. The Revised Draft Framework addressed comments from the public and the MPA Federal Advisory Committee on the first draft. The Revised Draft was available for public comment for 60-days, until May 16, 2008. It introduced a simplified, more deliberate approach to building and implementing the national system over time based on prioritized resource conservation objectives. Additionally, it provided a clearer description of the process for identifying gaps in the system, including a set of “National System Design and Implementation Principles.”

During this period, the MPA Center continued its collaborative effort to engage and inform the nation on the publication of Revised Draft Framework, and the opportunity to provide public comment. The Revised Draft Framework was posted on the MPA Center website, and stakeholder groups were informed of the opportunity to comment. The MPA Center held a stakeholder roundtable information session in Washington, D.C. to provide stakeholders an opportunity to ask questions and acquire additional information. Additionally, the MPA Center participated in several congressional outreach briefings during the public comment period. Thirty-four submissions were received from government agencies, stakeholder groups and individuals during the comment period. In addition, the MPA Federal Advisory Committee also provided two sets of recommendations on the Revised Draft Framework.

Final Framework

On November 20, 2008, NOAA and the Department of the Interior published the final *Framework for the National System of Marine Protected Areas of the United*

States of America (Framework). The product of over four years of consultation with federal agencies, states, tribes and stakeholders, the Framework provides comprehensive national goals and flexible guidance for partnership efforts among all levels of government and stakeholders to develop an effective national system. It proposes guidance for how existing MPA sites, programs, and stakeholders can work better together to share information and coordinate their MPA management efforts, develop the necessary scientific information to make more informed management decisions, and improve the stewardship and effectiveness of existing MPAs.

The process of nominating eligible federal, state and territorial sites to be included in the National System of Marine Protected Areas officially began with the announcement of the release of the final Framework. Using existing information from the MPA Inventory, the MPA Center has identified sites that meet the following entry criteria for inclusion: 1) meets the definition of an MPA, as defined in the Framework; 2) has a management plan (this can be site-specific or part of a broader programmatic management plan, but must include specific goals or objectives and call for monitoring and evaluation to assess progress toward those goals); and 3) conforms to criteria for the National Register for Historic Places (for cultural heritage MPAs only). Through the nomination process, managing agencies are asked to provide information on the final entry criteria -- whether the MPA contributes to at least one priority conservation objective, as listed in the Final Framework. Managing agencies of potentially eligible sites were sent a nomination package and invited to nominate some or all of their sites for inclusion in the national system by February 2009. All nominated sites will be available for public comment. The managing agency will reaffirm or withdraw the nomination based on public comment received and other factors deemed relevant. After final MPA Center review, the first group of MPAs will be accepted into the national system in Spring 2009. A second round of nominations will be available for public review in late 2009.

Throughout 2007-2008, the MPA Center engaged in several outreach efforts to stakeholders on the development of the national system and the final Framework. These include: Regional Fishery Management Council meetings; recreational fishing conferences; briefing the Sport Fishing and Boating Partnership Council; environmental organizations; scientific and technical conferences; and national and regional coastal state managers meetings. Additionally, the MPA Center submitted stories on the national system to several stakeholder newsletters, and provided timely updates through www.mpa.gov.

SCIENCE AND ANALYSIS

U.S. MPAs and Other Place Based Management

MPA managers and scientists are increasingly using geographic information systems (GIS) and remote sensing to map and analyze the resources under their jurisdiction. In the years 2007 and 2008, the MPA Center added three new staff with GIS expertise, and made considerable advances in its use of GIS, a key component of the initiatives described below.

Transition from MMA to MPA Inventory

In April 2008, the MPA Center unveiled the new Marine Protected Areas Inventory (MPA Inventory) on ww.mpa.gov. The MPA Inventory is based on the previously developed Marine Managed Areas (MMA) Inventory, which was active from 2001-2007. The MPA Inventory is a more inclusive database that includes the definition of "MPA" as defined in the *Framework for the National System of Marine Protected Areas of the United States*. The MPA Inventory contains information on nearly 1,700 sites and is the only such dataset in the nation. This unique, comprehensive inventory provides governments and stakeholders with access to information to make better decisions about the current and future use of place-based conservation.

The Inventory includes GIS spatial data collected from state and federal MPA programs, as well as from other public sources, and made publically available on www.mpa.gov. Inventory GIS data are in ESRI shapefile format and include the following attribute fields: Site Name, Level of Government, Marine Area, Year Established, Level of Protection, Permanence, Constancy, Scale of Protection, Conservation Focus, Primary Conservation Focus, and Fishing Restrictions. In 2008-2009, the MPA Center plans to expand its GIS database as new analyses are completed and verified.

State of the Nation's De Facto Marine Protected Areas

The MPA Center published the first ever synthesis of information on the location, purpose, and restrictions for all federal de facto MPAs in the United States in April 2008. De facto MPAs are areas of the ocean where access and/or use are restricted for reasons other than conservation (e.g., anchorages, safety zones, etc). The report, *State of the Nation's De Facto Marine Protected Areas*, reveals important trends in how de facto MPAs are used, and describes whether and how they limit access or restrict human activities. Results from this analysis reveal that more than 1,200 de facto MPAs are located in and cover 3% of U.S. waters, however the vast majority of this area is open for fishing, recreational uses and other uses, or closed only for brief periods of time. Use restrictions are primarily geared toward reducing potential accidents or conflicts of use in congested areas. The report was posted on the MPA Center's website, www.mpa.gov, as well as published on CDs and delivered to partners.

The State of U.S. Marine Managed Areas: West Coast

In May 2008, the MPA Center published a report describing characteristics of west coast marine managed areas (MMAs), illustrating how these types of place-based conservation are widely used in the west coast region. The report, "The State of U.S. Marine Managed Areas: West Coast," summarized how MMAs along the west coast of the U.S. are used to conserve marine resources and ecosystems. The report contained the best available information on the purpose, management approach, and location of MMAs off the coasts of California, Oregon and Washington, including detailed maps. This report, combined with other regional analyses, will help provide the foundation for an effective national system of MPAs. The report was posted on the MPA Center's website, www.mpa.gov, as well as published on CDs and distributed to partners.

Mapping Products

GIS data were used to create maps of MPAs in the Gulf of Maine and New York/New Jersey to support the Ocean Action Plan's Seamless Network of Marine Protected Areas and the West Coast for general purposes. These maps were made publically available on www.mpa.gov. GIS data were used in conjunction with Google Earth to create a West Coast Google Earth map file that displays MPA sites for California, Oregon and Washington. In 2008-2009, the MPA Center plans to create additional mapping products for other regions in the U.S., as well as continuing to partner with Google technologies on interactive MPA projects. Data also were provided to the Commission for Environmental Cooperation in North America to support continued development of the North American Protected Areas Atlas and the North American MPA Network (NAMPAN).

Ocean Uses Atlas

The California Ocean Uses Atlas is an innovative public-private partnership between the MPA Center and the Marine Conservation Biology Institute (MCBI). Funded by grants from the Gordon and Betty Moore Foundation and the Resources Legacy Fund, and MPA Center in-kind matching support the Atlas project fills a critical information gap in ocean management by mapping, for the first time, the full range of significant human uses of the ocean in state and federal waters off the coast of California from the shoreline to the outer edge of the Exclusive Economic Zone (EEZ). The project began in January 2008 and will be completed in September 2009. Maps of ocean uses are being created by regional experts through participatory GIS workshops in four regions throughout the state. The first Ocean Uses Atlas workshop was held in Southern California in September 2008. Resulting data, maps and analytical products will be made available to state and federal agencies and to all interested parties.

The Atlas Project will produce three related products:

- ***Regional Maps of Ocean Uses*** - Drawing upon the experience and knowledge of regional experts in ocean use and management throughout the state, the project will develop and provide to ocean managers and the interested public comprehensive GIS maps and analytical products reflecting the variety of ocean uses in state and federal waters in regions used by California's Marine Life Protection Act Initiative (MLPAI).
- ***Sustainability Plan for Long-Term Mapping of Changes in Ocean Uses*** - Working with a variety of federal and state agencies, including the MLPAI's new Monitoring Enterprise, the Atlas project will develop plans to ensure the sustainable collection and management of ocean use data as part of a broader ocean monitoring effort in California.
- ***Design Criteria for Online Mapping Tool*** - Working with federal and state agencies and private organizations in California, the Atlas project will convene an expert workshop to develop design criteria for a web-based mapping tool that will allow individual users and stakeholders to participate directly and easily in planning for managing ocean uses.

The California Ocean Uses Atlas Project was designed specifically to inform ongoing management and policy decisions among federal and state agencies responsible for ocean ecosystems off the coast of California. Potential applications and clients of Atlas products include the MLPAI, federal MPA initiatives, fisheries management actions, ocean energy siting, and regional ocean governance. All data and products will be delivered to key agencies as they are completed and will be made available to any interested parties via various publicly accessible web sites.

Gap Analysis

In 2008, the MPA Center began planning the gap analysis process that will identify high priority areas for future conservation based the Framework's 15 natural resource-based Priority Conservation Objectives (PCOs). In addition to enhancing the effectiveness of existing national system MPAs through coordination, science and technical assistance, the national system will also work with other management agencies to identify gaps in protection among important ocean areas whose current management does not adequately address existing or emerging threats from human uses. Both priorities will be addressed through a collaborative gap analysis process designed to guide the developing national system of MPAs as well to inform and support its partner MPA programs and sites across the U.S.

Key components of the gap analysis process include:

- ***Establishing the Initial National System of MPAs*** - Following the release of the Framework, the first group of existing MPAs will be incorporated into the national system in Spring 2009.
- ***Designing the Process*** - The MPA Center will bring together an international panel of experts to design the area identification process.
- ***Identifying Ecologically Important Areas*** - The MPA Center will bring regional science experts together in a participatory GIS workshop to map the location of ecologically important areas corresponding to the national system's priority conservation objectives.
- ***Identifying Current Protection for Important Places*** - Using its unique national inventory of MPAs in U.S. waters, the MPA Center will identify and assess the location, type and level of protection afforded by existing U.S. MPAs to those ecologically important areas, and to the national system's priority conservation objectives.
- ***Comprehensively Assessing Gaps in Protection*** - Working closely with other MPA agencies and stakeholders, and using the best available ecological, ocean uses, and governance data, the MPA Center will evaluate regional gaps in protection for regionally important ocean areas.
- ***Supporting MPA Agencies in Filling Gaps*** - Using the results of the collaborative gap analysis process, the MPA Center will work with partner agencies at all levels of government who have the authority to enhance the effectiveness of existing MPAs or expand protections to threatened important areas to fill critical gaps.

While stemming from a need to develop a science-based national system of MPAs for the U.S., the gap analysis process has many applications and potential clients. By working collaboratively with a variety of agencies and stakeholders, the MPA Center will design and execute this process to create data, map products and planning tools that can inform and support all forms of ocean management. These range from local marine parks, to regional fisheries management, to ocean energy siting, to ocean zoning schemes. The gap analysis process will begin on the West Coast in 2009, and will be conducted regionally around the U.S. over the coming years. In keeping with MPA Center policy, reports from meetings and workshops and work products will be readily available to the public through the mpa.gov web site.

MPA FEDERAL ADVISORY COMMITTEE

The Marine Protected Areas Federal Advisory Committee is authorized by Executive Order 13158 to provide expert advice to the Departments of Commerce and the Interior on the implementation of the order. It consists of individuals with diverse backgrounds and experience, who represent parties interested in the use and impact of MPAs as a management tool. The 30 Committee members are appointed by the Secretary of Commerce and represent a broad stakeholder community, including scientists, academia, commercial and recreational fishermen, other resource users, state and tribal resource managers, and environmentalists. In addition, nine federal agencies are represented by non-voting ex-officio members of the Committee (see Appendix B). The Committee is supported by the MPA Center.

In 2007-2008, the MPA Federal Advisory Committee held four meetings in Arlington, Virginia; Alpena, Michigan; Silver Spring, Maryland; and Monterey, California. Key activities and accomplishments of the Committee included:

- Publishing their second set of recommendations to the Departments of Commerce and the Interior in January 2008 - *Toward a National System of Marine Protected Areas: A Report by the MPA Federal Advisory Committee, Recommendations from 2006-2007* was delivered to the Under Secretary of Commerce for Oceans and Environment, and the Assistant Secretary of the Department of the Interior, and was broadly distributed to other interested parties. It included recommendations on developing processes for determining which existing MPAs will constitute the initial national system; developing plans for effective MPA management; incentives for participation in the national system; and regional approaches to planning and coordinating MPAs.
- Providing three sets of comments on the national system Framework as it moved through successive drafts.
- Unanimously passing a set of guidance principles regarding compliance and enforcement of MPA regulations to support the national system.
- Appointing 14 new members to the Committee. The new members joined 15 continuing members when the terms of half of the Committee members expired following the October 2007 meeting. The new members were selected to represent key stakeholder groups based on their experience, expertise, and geographic region following a public call for nominations in summer 2007.
- Implementing a subcommittee structure to address the committee's 2008-2009 charge. Two subcommittees formed to address the short-term charges that were delivered in April 2008. These include the *Scientific and Technical Subcommittee*, and the *Review and Evaluation Subcommittee*.

- Participating in the rollout ceremony for the release of the *Framework for the National System of Marine Protected Areas of the United States* in November 2008.
- Incorporating input from a variety of panels and speakers, including NOAA leadership, tribal leaders, regional fishery management councils, cultural resource experts, ocean observing system experts, and natural and social scientists.
- Generating draft reports from each subcommittee that will be submitted to the full Committee for consideration.

The Committee has been charged with several issues that will be addressed in the longer term (2008-2009). These include developing recommendations on the conceptual design of the gap analysis process, integration of the National System of MPAs and the Integrated Ocean Observing System, and guidance for evaluating the national system.

INTERAGENCY MPA WORKING GROUP

The MPA Center established a working group in 2003 to coordinate federal activities related to the Executive Order and to provide staff support to the federal agencies serving as ex officio members of the MPA Federal Advisory Committee. Agencies represented include Defense (Navy, Army Corps of Engineers), Interior, Commerce, Homeland Security (Coast Guard), Agency for International Development, State, Agriculture (USDA), and the Environmental Protection Agency (EPA) (See Appendix C).

The Interagency MPA Working Group met twice during 2007 and four times during 2008. A key focus was on soliciting input from federal agencies to review and finalize the national system framework, and establish the nomination process for MPAs to become part of the system. Other issues included support for the MPA Federal Advisory Committee, coordination with the U.S. Ocean Action Plan's "Seamless Network" initiative and other MPA initiatives, and coordinating international activities.

SEAMLESS NETWORK OF MARINE MANAGED AREAS

Work continued during 2007-2008 to coordinate the development of the national system of MPAs and the creation of a “seamless network” among existing marine managed areas (MMAs) programs in the U.S. in order to improve their efficiency and effectiveness in protecting the nation’s marine and cultural resources.

The U.S. Ocean Action Plan called on National Parks, National Wildlife Refuges, National Marine Sanctuaries, and National Estuarine Research Reserves to “coordinate and better integrate the existing network of marine managed areas.” Many of these sites overlap or lie adjacent to each other and have a history of collaboration that provides a model for this expanded network. Although these sites were created under separate agency authorities and statutory mandates, they are united by their proximity and similar science and management priorities. These actions to coordinate and better integrate are referred to as the “seamless network” initiative. In August 2006, the Department of the Interior and the National Oceanic and Atmospheric Administration (NOAA) signed an Interagency General Agreement to increase coordination and integration of these marine protected areas, referred to as the “Seamless Network Agreement.”

Key accomplishments under the seamless network initiative include:

- Organizing a regional workshop for the seamless network sites in the Gulf of Maine. This workshop, held at the Wells National Estuarine Research Reserve on March 6-7, focused on identifying research, stewardship and education and outreach opportunities for coordination among the four federal programs. The group identified specific ideas for collaboration in each of these areas, including coordination on communication and outreach messages; improved enforcement; common monitoring parameters and protocols; and shared mapping of marine resources and uses. The group also planned to meet in 2009 to assess progress and identify next steps.
- Organizing a regional workshop for seamless network sites and partners in the New York/New Jersey Bight. On May 13-14, 2008, approximately 50 representatives of key federal and state agencies, nongovernmental organizations and experts met to identify collaborative approaches and programs. Climate change was identified as an overarching theme, with participants noting that the densely populated Northeast could face substantial increases in the extent and frequency of coastal flooding and risk of severe storm related damage. Other areas of interest for collaboration included sharing platforms and data, ecosystem-based management, human use of coastal and marine resources, education and outreach, and evaluation of methods and products.

The complementary efforts of the seamless network and the national system are closely coordinated by NOAA and DOI. While the seamless network provides a mechanism for focused coordination among the four MPA systems on resource conservation and operational improvement issues of shared interest, the national system works with MPA programs at all levels of government and at ecosystem, regional and national levels to improve coordinated MPA planning and effectiveness. As the national system moves into the implementation phase in 2009, including integrated planning and gap analysis, the Seamless Network partners intend to work through the national system to support regional priorities and expand partnerships to include non-federal MPA programs. In addition to marine areas, the seamless network includes the associated upland areas of parks, refuges and reserves, which are not currently included in the national system. Complementary upland conservation, research, and education activities of the seamless network can advance goals of the MPA System.

LOOKING AHEAD

Building the National System of MPAs

Key activities to implement Executive Order 13158 that will be ongoing over the coming two years include:

- Incorporating existing eligible federal, state, and tribal MPAs into the national system and working with them to identify initial stewardship priorities and strengthen the capabilities of member MPAs;
- Initiating a series of multi-year regional gap analyses to identify ocean, coastal, and Great Lakes areas requiring new, enhanced or expanded MPAs;
- Continuing the regional Ocean Uses Atlas project beyond California to document and understand the implications of patterns of human use of the ocean and to support other ocean governance planning efforts;
- Incorporating additional site information into the National MPA Inventory, including information about Priority Conservation Objectives;
- Improving MPA visibility and stewardship and safe commercial and recreational navigation through “Navigating MPAs” partnership projects with NOAA’s Office of Coast Survey, combining MPA information with charting products;
- Continuing joint planning to strengthen the synergistic linkages between the national MPA system and the Integrated Ocean Observing System (IOOS);
- Supporting the MPA Federal Advisory Committee’s continued provision of recommendations to the Departments of Commerce and the Interior;
- Maintaining open communication and information linkages to the public through the mpa.gov web site, MPA Connections newsletter, and targeted outreach to support national system implementation; and
- Enhancing international MPA and species conservation cooperation through the North American MPA Network (NAMPAN) and in other regions of primary interest.

Designation of New Marine Monuments in Pacific

As a result of inter-agency identification efforts in 2008, in January 2009, President Bush designated three areas of the Pacific Ocean as marine national monuments. The new national monuments, Marianas Trench Marine National Monument, Pacific Remote Islands Marine National Monuments, and Rose Atoll Marine National

Monument, will protect delicate coral reef ecosystems and unique geologic and volcanic features of the Pacific Ocean's floor. Combined, these designations represent the largest fully protected area in the world. Destruction or extraction of protected resources within the boundaries of these monuments will be prohibited, as will commercial fishing in the coral reef ecosystem areas of the monuments. Scientific and non-commercial fishing activities may be permitted consistent with the care and management of the protected resources of these monuments. Management planning for the new monuments will begin in 2009, and these areas may become part of the national system in the future.

The Marianas Trench Marine National Monument consists of three components:

- The first component of this monument is the waters and submerged lands encompassing the coral reef ecosystem of the three northernmost islands: Uracas, Marug and Asuncion. These islands represent some of the westernmost territory of the United States – 5,600 miles from California. They are home to more than 300 species of stony corals.
- The second component is the Marianas Trench. The trench, the site of the deepest place on Earth, is approximately 940 nautical miles long and 38 nautical miles wide within the Exclusive Economic Zone of the United States.
- The third component is a series of active undersea volcanoes and thermal vents. Twenty-one active hydrothermal submarine volcanoes and vents support life in the harshest conditions imaginable. Many scientists believe extreme conditions like these could have been the first incubators of life on Earth. Further research will allow us to learn more about life on the bottom of the sea.

The Pacific Remote Islands Marine National Monuments protects the pristine coral reef ecosystems around Kingman Reef, Palmyra Atoll, Howland, Baker, and Jarvis Islands, Johnston Atoll, and Wake Island – the site of a pivotal battle in World War II and an important military base today. These areas support a large number of nesting seabirds and migratory shorebirds, and their pristine coral reefs contain hundreds of thriving fish species and large apex predators and are also home to endangered turtles.

The Rose Atoll Marine National Monument protects the pristine coral reef ecosystem around a remote part of American Samoa. One of its most striking features is the pink hue of fringing reef caused by the dominance of reef building coralline algae. Rare species of nesting petrel, shearwaters, and terns also thrive on this island, and the waters surrounding it are a home for many species depleted elsewhere in the world, including giant clams and reef sharks.

APPENDIX A. AGENCY AND PROGRAM REPORTS

DEPARTMENT OF COMMERCE

National Marine Fisheries Service

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NOAA Fisheries Service establishes protected areas as one of several tools to conserve and manage living marine resources. Our mission is to rebuild and maintain sustainable fisheries, promote the recovery of threatened and endangered species, and protect and maintain the health of coastal and marine habitats. We provide stewardship of these resources for the benefit of the nation, supporting coastal communities that depend on them, and helping to provide safe and healthy seafood to consumers and recreational opportunities for the American public.

NOAA Fisheries Service is responsible for the conservation and management of living marine resources under various authorities, including the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act (ESA), Marine Mammal Protection Act (MMPA), and Atlantic Coastal Fisheries Cooperative Management Act. All NOAA Fisheries Service sites are located in state or federal waters, within 200 miles of the U.S. coast. These sites have been established by federal regulations in accordance with the specific authority and afford protection under one of four categories: Federal Fisheries Management Zone, Federal Fisheries Habitat Conservation Zone, Federal Threatened/Endangered Species Protected Area, and Federal Marine Mammal Protected Area (MPA).

The size of and protections afforded to these sites vary greatly depending on the objectives for which each was established. The majority are gear-restricted areas (i.e., areas prohibiting the use of one or more fishing gear types), although a few sites prohibit all fishing within their boundaries. In most cases, sites represent areas that encompass important ecological or biological features or functions. Sites could also include particularly valuable habitats, such as coral reefs or other habitats essential to the life history of a particular managed species. Types of species protected include marine and anadromous fish, invertebrates, aquatic plants, marine mammals, and sea turtles.

Under the Magnuson-Stevens Act, eight Regional Fishery Management Councils develop resource management recommendations, which may include area-based management measures to meet specific objectives (e.g., preventing overfishing or habitat destruction, protecting spawning aggregations or juvenile nursery habitat,

or allowing overfished stocks to rebuild). These areas may have restrictions on gear or limitations on the time of year when fishing is allowed. Similarly, the ESA provides for designation of “critical habitat” and the development of other protective measures for species listed as threatened or endangered. Protecting listed species may be accomplished through regulations directly under the ESA, through the MMPA, or through regulations in fishery management plans under the Magnuson-Stevens Act.

In 2007–2008, NOAA Fisheries Service implemented MPAs under various authorities that furthered the objectives of the MPA Executive Order. These activities included:

- NOAA Fisheries Service continued working on implementation of a National System of Marine Protected Areas. This effort included a Policy Directive to establish both a process for consulting with Regional Fishery Management Councils during the nomination process for MPAs, as well as a process for consulting with Councils when modifying MPAs or removing them from the National System.
- With technical assistance from NOAA Fisheries Service, the New England Fishery Management Council developed a new science-based tool for designating essential fish habitat for 27 commercially important northeast fish species. This tool will allow NOAA Fisheries Service to analyze a combination of fish abundance estimates with data on bottom temperatures, depth, and substrate types. This will afford a better understanding about environmental conditions and habitat areas necessary for fish to spawn, breed, feed, and grow to maturity.
- The Benthic Habitat Cruise program on Georges Bank assesses the effect of fishery closures in habitat areas of particular concern on benthic habitats and on the fisheries resources they support. The program has been comparing conditions of habitat and fish production in closed areas with adjacent areas open to fishing.
- Habitat Mapping cruises to Hudson Canyon in the Northeast were conducted to acquire data pertinent to a pending Habitat Areas of Particular Concern (HAPC) declaration. Poor resolution of bottom topography and sediment type distribution has previously hampered efforts to identify sensitive habitats (i.e., deepwater coral/sponge and tilefish “pueblo village” habitats) in this canyon area whose presence and distribution will be critical to management decisions. About half the relevant area has now been mapped, clearing the way for targeted habitat investigations.
- NOAA Fisheries Service will implement a closure of large areas of the Alaskan sea floor to minimize the effects of bottom fishing on seafloor habitats in the Bering Sea. These new habitat conservation measures reflect an open-area

approach that limits bottom trawling to areas where it has historically occurred, protecting undisturbed habitats from potential expansion of fishing into new areas. The measures include closing about 50,000 square nautical miles in the western portion of the Bering Sea management area and about 85,000 square nautical miles in the northern Bering Sea and nearshore areas.

- In June 2008, NOAA Fisheries Service published the Final Rule for Amendment 2 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan. This rule establishes complementary time/area closures for bottom longline gear that were included in Amendment 14 to the Snapper Grouper Fishery Management Plan being implemented by the South Atlantic Fishery Management Council.
- In September 2008, NOAA Fisheries Service announced the availability of a Draft Environmental Impact Statement that proposed to update and revise existing Atlantic Highly Migratory Species Essential Fish Habitat (EFH) descriptions, identifications, and boundaries; designate a new HAPC for bluefin tuna spawning areas in the Gulf of Mexico; and analyze fishing and non-fishing impacts on EFH.
- NOAA Fisheries Service is supporting work by Canada, Mexico, and the United States to establish a North American Marine Protected Areas Network (NAMPAN), part of the Biodiversity Program of the [Commission for Environmental Cooperation](#). The goal of NAMPAN is to work with a tri-national, multi-sectoral group of stakeholders in establishing an effective system of North American MPA networks that enhances and strengthens the protection of marine biodiversity. In 2008, the NAMPAN group completed the initial stages of one of the most comprehensive projects of the NAMPAN group to date: the NAMPAN Condition Assessment Scorecard. The Scorecard distills large amounts of complex technical and traditional/local ecological knowledge about MPA conditions for a few selected MPAs along the Bering Sea to Baja California (B2B) coast of North America.

National Marine Protected Areas Center

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The National Marine Protected Areas Center was established by Executive Order 13158 on MPAs to coordinate the development of an effective national system of MPAs in the U.S. by working with public and private partners. The MPA Center is located within NOAA, and is directed to work cooperatively with the Department of the Interior and to consult with other federal, state and tribal agencies and stakeholder groups. The MPA Center's mission is to facilitate the effective use of science, technology, training, and information in the planning, management and evaluation of the nation's system of marine protected areas.

Key responsibilities of the MPA Center include:

- Coordinating with federal, state, and tribal agencies to develop and implement an effective national system of MPAs;
- Coordinating the Ocean Uses Atlas and Regional Gap Analysis Series, and developing tools and mechanisms to enhance regional MPA planning and management;
- Producing, maintaining and analyzing an inventory of marine protected areas;
- Supporting the MPA Federal Advisory Committee;
- Conducting targeted research, assessment and analysis of natural and social science issues affecting MPAs; and
- Providing information on MPAs and the national system to a wide range of audiences through the www.mpa.gov website.

For 2007-2008, key accomplishments of the MPA Center included:

- Publishing the *Framework for the National System of Marine Protected Areas of the United States*;
- Initiating the first round of nominating eligible existing MPA sites and programs to join the national system;
- Publishing the second set of MPA Federal Advisory Committee recommendations on the development and implementation of the national system;
- Holding four meetings of the MPA Federal Advisory Committee to advise NOAA and the Department of the Interior on the implementation of Executive Order 13158;
- Conducting the first Ocean Uses Atlas Workshop to map 25 consumptive and non-consumptive uses off the coast of California, and publishing the first set of map products from this workshop;
- Resuming publications of *MPA Connections*, the MPA Center's quarterly newsletter;
- Publishing regional analysis reports on west coast MMAs and De Facto MPAs;
- Developing the conceptual process for the MPA Center's Regional Gap Analysis;
- Unveiling the MPA Inventory on www.mpa.gov, a first of its kind inventory containing a range of information on over 1,700 MPAs established or managed by federal, state, or territorial agencies or programs;
- Completing the North American MPA Network's prototype *Condition Report for Marine Protected Areas in the Baja to Bering Region* in cooperation with the

Commission for Environmental Cooperation in North America, Parks Canada, Mexico's Comisión Nacional de Áreas Naturales Protegidas and MPA programs of the three nations; and

- Maintaining the U.S. website on MPAs, www.mpa.gov, a comprehensive site with information on the inventory, Federal Advisory Committee, terminology, and other MPA Center activities.

For more detailed information on activities conducted by the MPA Center in 2007-2008, visit www.mpa.gov.

National Estuarine Research Reserve System

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Mission and Authority

The National Estuarine Research Reserve System is a network of 27 estuarine areas that are protected for long-term research and education. Established under section 315 of the Coastal Zone Management Act of 1972 as amended, the reserve system is a partnership between NOAA and state agencies and universities. Reserve sites are nominated by the governor of a coastal state and designated by NOAA, and ongoing programs are implemented by state agencies and universities with support from NOAA. The National Estuarine Research Reserve System Strategic Plan (2005-2010) states that the mission of the reserve system is "to practice and promote coastal and estuarine stewardship through innovative research and education, using a system of protected areas." To this end, reserves implement locally relevant research, education, and resource stewardship programs as well as system-wide programs in coastal monitoring, research, and training for coastal decision makers. Currently, there are 27 reserves protecting over 1.3 million acres of estuarine lands and waters.

2007- 2008 Activities

As the NOAA partner for the National Estuarine Research Reserve System, the Estuarine Reserves Division collaborates with the MPA Center. In 2007 and 2008, highlights included:

- Estuarine Reserves Division personnel and National Estuarine Research Reserve System staff participated in several MPA Center meetings to provide input on the development of the *Framework for the National System of Marine Protected Areas of the United States of America*.
- Together, staff of the Estuarine Reserves Division and the MPA Center provided information to reserve managers about the *Framework for Developing a National System of Marine Protected Areas of the United States of America* and the process for nominating sites to the national system of MPAs.

- NERRS is a partner in the “Seamless Network” initiative, and is working with the Seamless Network Partner agencies to further integrate the National MPA Center into this initiative
- Two NERRs, Sough Slough, OR, and Tijuana River, CA, participated in the development of the prototype condition report project of the North American MPA Network.

National Marine Sanctuary Program

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Mission and Authority

The Office of National Marine Sanctuaries' (ONMS) strategic plan states that the mission of the program is to “identify, protect, conserve, and enhance the natural and cultural resources, values, and qualities of the National Marine Sanctuary System for this and future generations throughout the nation.” The National Marine Sanctuary Act, the primary authority under which the National Marine Sanctuary System is managed, identifies the purpose of the program as “to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance and to manage these areas as the National Marine Sanctuary System” [Sec. 301(b)(1) of the National Marine Sanctuaries Act, Title 16, Chapter 32, Sections 1431 et seq. United States Code as amended by Public Law 106-513, November 2000]. The ONMS is also the primary management authority, with the U.S. Fish and Wildlife Service, and in close collaboration with the State of Hawaii, for the Northwestern Hawaiian Marine National Monument, designated by Presidential Proclamation 8031, dated June 15, 2006, under the authority of the Antiquities Act. The Office of National Marine Sanctuaries is the primary implementing agency designating and managing MPAs in the federal waters within the U.S. exclusive economic zone.

2007-2008 Activities

The ONMS continues to coordinate with the National MPA Center regarding the implementation of EO13158. Below are highlights of the collaboration between Office of National Marine Sanctuaries and the MPA Center.

- The ONMS continues to provide, as needed, Sanctuary-related data and information in support of maintaining the marine managed areas inventory.
- The ONMS continues to work with MPA Center staff in the development and implementation of an efficient and effective National System Framework that provides added value to existing and extensive interagency MPA collaboration. To this end, ONMS actively participated in the review and adoption of the Framework, the development of the nomination process for the MPA List, and will be submitting nominations for the NMS System in January of 2009.

- The ONMS participates in the Federal Interagency MPA Working Group, and has attended, as observers, a number of the MPA Federal Advisory Committee meetings.
- The ONMS continues as a key partner with the MPA Center in the West Coast Pilot Project, and is providing assistance in the development of the West Coast Atlas.
- The ONMS continues to participate with the MPA Center in North American MPA Network (NAMPAN) sponsored projects, including the MPA Monitoring Initiative.
- The ONMS is a partner in the “Seamless Network” initiative, and is working with the Seamless Network Partner agencies to further integrate the National MPA Center into this initiative.

DEPARTMENT OF DEFENSE

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Executive Order 13158 calls for collaboration amongst federal, state, local, and tribal governments to enhance the protection of United States ocean and coastal resources through an effective national system of marine protected areas (MPAs). DoD stewardship and management efforts in the marine and near-shore environments are administered through numerous programs to ensure safe and environmentally responsible action in and around designated MPAs. DoD policies address environmental and natural resources protection through compliance with the National Environmental Policy Act (NEPA); Sikes Act; Clean Water Act (CWA); Executive Order 12114, “Environmental Effects Abroad of Major Federal Actions”; Rivers and Harbors Act; Endangered Species Act (ESA); Fish and Wildlife Conservation Act; Coastal Zone Management Act (CZMA); Marine Protection, Research, and Sanctuaries Act (MRPSA), including the Ocean Dumping Ban Act (ODBA); Act to Prevent Pollution from Ships; Marine Mammal Protection Act (MMPA); Magnuson-Stevens Fishery Conservation and Management Act; Coastal Barrier Resources Act; Oil Pollution Act; Comprehensive Environmental Response, Compensation, Liability Act (CERCLA); Executive Order 13112, “Invasive Species”; Executive Order 13089, “Coral Reef Protection”; as well as other related statutes.

Military installations occur in numerous coastal locations throughout the United States, including U.S. territories such as American Samoa, Guam, the Northern Marianas Islands, and the U.S. Virgin Islands. In addition, at-sea training and testing operations are important exercises that maintain and enhance military readiness. DoD activities at its shore facilities and at sea are conducted with an awareness of

and sensitivity to ocean and coastal resources including established MPAs. DoD aims to improve military readiness through balanced and environmentally responsible testing and training.

DoD responsibilities in the marine environment also extend to the proper disposal of dredged materials. The U.S. Army Corps of Engineers (ACOE) operates and maintains 108 ocean dredged material disposal sites within the U.S. coastal zone, including Alaska and Hawaii. The Nation's coastal harbors and navigation channels require this maintenance to sustain the economic, social, and environmental viability of the near-shore environment. DoD management efforts seek to dispose of uncontaminated dredged materials in a manner that protects and enhances marine ecosystems.

Because military lands and waters are often protected from human exploitation, they include some of the Nation's most significant natural resources. The Sikes Act, as amended in 1997, requires that military installations develop and implement Integrated Natural Resources Management Plans (INRMP) to manage these assets. INRMPs provide for a comprehensive approach to ecosystem management by integrating natural resources management for land and water resources. The management of natural resources on an ecosystem basis prevents and reduces impacts to ocean and coastal resources, including those found in marine managed areas.

DoD is not an implementing agency under Executive Order 13158. Nonetheless, it has a role in the development and implementation of the MPA network. DoD, in particular the Navy, is at the vanguard of ocean and coastal research and technology development. For example, the Office of Naval Research (ONR) and the Naval Oceanographer/Navigator are involved in all aspects of ocean and coastal management and provide expertise in a multitude of disciplines with relevance to MPAs – oceanography, hydrography, geospatial information, marine biology, coastal geosciences, etc. Across DoD there are a number of subject matter experts (i.e., marine ecologists, oceanographers, policy analysts, etc.) that support marine resources management decisions. Ocean and coastal resources expertise within DoD ranges from high-level support (policy development, enforceable standards and regulations) to local level support (data collection and synthesis).

The DoD continues to support the MPA Federal Advisory Committee and maintains membership in relevant sanctuary advisory councils.

DoD continues to advance research and technology development through its Legacy, SERDP, and Marine Science research programs. In 2007 and 2008, the following DoD initiatives and research projects contributed to the protection of marine resources:

Coral Ecosystem & Marine Resource Initiative (T/E & Sensitive Species)

- The purpose of this project was to establish strategies and priorities for managing biological, geophysical, cultural and historical resources. Plans and management tools were then implemented as necessary to achieving the strategic goals. This project also supported training DoD personnel in activities affecting coral reefs to standardize practices, improve training and awareness, and enhance communication between locations to maximize benefit from lessons learned. The project also implemented elements of a model conservation plan developed for Johnston Atoll in partnership with other agencies. The CE&RM Initiative produced a coral reef database, a GIS, and technical reports that assessed strategic coral conservation needs at identified installations and a list of priorities and identify all DoD installations in proximity to coral reefs and compile existing data/maps for coral reefs at overseas locations.

Coral Reef Assessment and Monitoring Technology

- Over the past four years, SERDP has funded the development of two technologies for assessing and monitoring coral reef health: 1) high-resolution (millimeter scale) video-mosaicing technology, capable of rapidly surveying and providing a permanent visual record for benthic areas over 100s of square meters in size (University of Miami) and 2) advanced bio-optical techniques for non-destructive assessment of selective natural and anthropogenic stresses using fluorescence induction and relaxation sensors (Rutgers University). Now SERDP is working with DoD, federal agencies, and other potential users of this technology to fully understand coral reef monitoring and assessment requirements and how these two SERDP-developed technologies may help address those needs.

Natural Resource Assessment of Wake Island After Feral Cat Eradication and Super Typhoon Ioke

- This project assessed the natural resources damage of the super typhoon's effects on indigenous birds, invasive rodents and feral cats. In addition to storm damage assessment, the success of the feral cat eradication effort was assessed. The project produced a study entitled "Natural Resources Assessment of Wake Island after Feral Cat Eradication and Super Typhoon Ioke".

Southern California (SOCAL) Fisheries Study: An Examination of Access and Navy Activities

- United States Fleet Forces (USFF) funded a study to determine navy sonar impacts on fisheries, as well as use-conflicts within the SOCAL Range Complex, particularly around San Clemente Island. The study will serve to gather fisheries information and discuss regional fisheries issues and interactions with the Navy with Southern California.

Fish Controlled Exposure Experiments (CEEs)

- The Navy funded independent research to determine the potential for SURTASS LFA and MFA sonar signals to affect fish, including rainbow trout, channel catfish, bluegill sunfish, black perch, and largemouth bass. The studies examined the effects of intense sound stimulation on the auditory system of the fish species listed above, the onset and duration of TTS, and the onset of PTS and whether it may ultimately be recovered from as a result of regeneration in the auditory system.

Behavior Response Studies (BRS)

- A critical objective for understanding possible links between sonar exposure and injury or stranding involves developing techniques to safely study how beaked whales and other sensitive species respond to sound. The BRS uses established sound playback experiment methods; to define responses of beaked whales and other species of odontocete whales to mid-frequency active (MFA) sonar and natural sounds such as those from killer whales; and to measure exposure parameters for sounds that evoke a behavioral response.

Marine Mammal Monitoring on Ranges (M3R)

- The M3R program developed tools to acoustically detect and track marine mammals over wide areas using distributed bottom-mounted sensors. These tools can be incorporated into procedures designed to mitigate the effect of Navy operations on marine mammals. The tools have successfully been used in real-time to detect, localize, and track vocalizing marine mammals on the Atlantic Undersea Test and Evaluation Center (AUTECE). Ongoing funding is being used to adapt M3R capabilities for use at the SCORE and PMRF ranges.

Auditory Effects of Mid-Frequency Sonars on Marine Mammals

- This study measured temporary threshold shift (TTS) in a bottlenose dolphin exposed to intermittent tones using both auditory evoked potential (AEP) and behavioral methods and to evaluate the suitability of terrestrial mammal TTS models to fit the bottlenose dolphin TTS data. Prior effort established the growth and recovery of TTS after single, continuous exposures. The focus this effort was to examine the effects of multiple exposures and develop the capability of using AEP measurements for TTS.

The Effects of Noise and Tonal Stimulation on Hearing in Pinnipeds

- The project used behavioral psychophysics to determine auditory sensitivity in three pinniped subjects before, immediately after, and at least 24 hours following exposure to a fatiguing stimulus of a given duration and sound pressure level. Hearing loss induced by tonal stimuli was compared to that induced by broadband noise, and comparisons between hearing loss in air and in water were made in order to determine whether species differences (e.g., based on auditory anatomy) play a role in differential responses to airborne and

waterborne sound, and whether losses incurred in water translate to equivalent losses in air.

Radar-Based Detection, Tracking, and Speciation of Marine Mammals from Ship-Based Platforms

- This project investigates the ability of current or planned ship-based radars, augmented by specialized signal processing, to detect, discriminate and track (geo-locate) a number of different marine mammal species (e.g., great whales, schooling dolphins, etc.) under a variety of representative sea environments (e.g., Atlantic, Pacific, Mediterranean, etc.).

A Comprehensive Web-Based Library of Marine Biological Sounds

- This project assembled a system for processing aging analog sound recordings of marine animals into high-resolution deep archive storage specimens and lower resolution files that can be distributed, studied, analyzed, and compared by online users. The project created a relational database for the recordings that fulfills the metadata needs of diverse clients including researchers, educators, conservation biologists, the military, and the media.

Habitat Modeling and Acoustic Detection of Cetaceans in the North Pacific and Gulf of Alaska; Application of Acoustic Seagliders in Marine Mammal Monitoring

- This research included three tasks: (1) Refinement and expansion of a predictive model of cetacean seasonal occurrences in the North Pacific and Gulf of Alaska; (2) augmentation of acoustic detection of whale calls in the North Pacific and Gulf of Alaska; and (3) incorporation of model results and collation of whale acoustic detections with existing geo-referenced data on cetacean occurrence in the North Pacific and Gulf of Alaska. An ancillary task was to evaluate the possible use of Seagliders for marine mammal monitoring applications.

Acoustic Survey Methods for Cetaceans, Beaked Whale Dive Studies, and Worldwide Population Structure of Cuvier's Beaked Whales

- The Navy continues to sponsor work in developing techniques for using acoustics from towed arrays and sonobuoys to refine and improve marine mammal abundance estimates using distance sampling. Concentration has been on correction factors for sperm whales to account for the submerged whales not detected by visual observers; improved arrays to resolve left/right ambiguity in localizations; improved array design for detecting dolphins ahead of the ship before they have an opportunity to react to the ship; and development of analytical methods that will allow acoustic detections to increase search width and increase the precision of dolphin density estimates.

Marine Resources Assessments and Surveys

- The Navy funded and participated in numerous baseline assessments and surveys of the marine and coastal environments of the Atlantic, Pacific and Caribbean. These studies assessed and monitored threatened and endangered species, essential fish habitat, coral reef systems, and other components of the coastal and ocean environment under DoD management. Many of these areas establish exclusion zones for DoD operations, protecting resources and contributing to healthy and robust marine ecosystems. Marine resources assessments and surveys contribute significantly to DoD efforts to keep INRMPs current, which, in turn helps to prevent and reduce impacts to the marine environment from land-based sources of pollution.

Compliance

- The Navy initiated the development of fourteen programmatic environmental impact assessments (EISs) under the National Environmental Policy Act (NEPA) that will evaluate at-sea Naval operations along the Atlantic, Gulf, and Pacific shorelines and off the coast of Hawaii. MPAs will receive consideration as part of these evaluations.

DEPARTMENT OF HOMELAND SECURITY – U.S. COAST GUARD

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Mission and Authority

The United States Coast Guard is a military, multi-mission maritime service possessing a unique blend of humanitarian, law enforcement, regulatory, diplomatic and military capabilities. As the nation's principal maritime law-enforcement agency, the Coast Guard enforces all federal laws, applicable treaties, and international agreements on the high seas and all waters under U.S. jurisdiction.

The Coast Guard is not an implementing agency under Marine Protected Areas (MPA) Executive Order 13158, nonetheless, it has a role in the development and implementation of the MPA Network, and more specifically, coordinating statutory Coast Guard missions to support the various objectives of marine managed areas where Coast Guard authorities, jurisdiction, and resources can contribute to achieve greater efficiencies. To this end, the Coast Guard continues to support the MPA Federal Advisory Committee and maintains active memberships in National Marine Sanctuary Advisory Committees. In addition, Coast Guard District offices coordinate directly with agencies managing marine monuments and sanctuaries.

MPA Establishment, Protection and Management

The Coast Guard enforces a wide variety of regulations designed to ensure the sustainable harvest of the nation's marine fisheries, to safeguard marine protected species and to support stewardship of marine ecosystems. In order to meet its multi-mission goals, the Coast Guard adheres to a practice of responsiveness and cooperation, working with federal partners to ensure effective at-sea enforcement of applicable laws and regulations in marine protected areas. Coast Guard's vessels and aircraft patrol the nation's Exclusive Economic Zone, national marine sanctuaries and marine monuments to enforce various closed areas and other management measures that implement fishery, habitat, and ecosystem management plans.

Marine Sanctuary and Marine Monument Law Enforcement Examples

Throughout 2007 and 2008, the Coast Guard continued its Living Marine Resource Law Enforcement Program to provide effective presence and professional at-sea enforcement for the conservation and management of living marine resources and their environments, to include protected species and habitats. The Coast Guard's Living Marine Resource Law Enforcement Program provides security of the United States' Exclusive Economic Zone (EEZ), arguably one of the largest marine protected areas in the world, from foreign fishing vessel incursions and protection of the nation's living marine resources to advance national strategies and goals. While Coast Guard Living Marine Resource Law Enforcement efforts apply throughout various regions of the U.S. EEZ and are most recognizable in a fisheries management context, some specific examples relating to at-sea law enforcement in and around National Marine Sanctuaries and Marine Monuments include:

- The Coast Guard detected and documented violations within the Papahānoumokuākea Marine National Monument along the Northwest Hawaiian Island Chain. For example, a Coast Guard C-130 on a routine maritime surveillance patrol located a domestic fishing vessel trolling inside the Maro Reef Special Preservation Area. Video documenting the vessel's activities and other evidence was submitted to NOAA's Office of Law Enforcement and Office of General Council for Enforcement and Litigation for further investigation and case prosecution. Additionally, a Coast Guard C-130 observed and documented a domestic fishing vessel within the boundaries of the Marine National Monument and passed this target to a Coast Guard cutter patrolling in the area. A law enforcement boarding team from the Coast Guard cutter boarded the vessel and collected evidence of illegal fishing activity recorded in the vessel's catch logs. The case was forwarded to NOAA's Office of Law Enforcement for further action.
- The First Coast Guard District continued implementation of a Memorandum of Agreement (MOA) with the Stellwagen Bank National Marine Sanctuary and NOAA Fisheries, to increase the coordination of Sanctuary enforcement activities. The MOA also promotes research and data gathering and education of potential users and the general public to facilitate stewardship of Sanctuary resources. Additionally, the Coast Guard provided maritime vessel Automated

Information System data to Sanctuary officials for monitoring of vessel traffic in Sanctuary areas where large whales may be present. This information was used by NOAA in an analysis of possible adjustments to commercial shipping lanes transiting the Sanctuary. As a result, the International Maritime Organization adopted adjusted vessel traffic routes crossing Stellwagen Bank, thereby reducing the risk of commercial vessels striking the critically endangered North Atlantic Right Whale and or other large marine mammals that frequent the area.

- The Coast Guard, in coordination with NOAA, jointly administers the North Atlantic Right Whale Mandatory Ship Reporting (MSR) System which encompasses right whale critical habitat along the eastern seaboard of the United States. The MSR System helps inform commercial ships 300 gross tons or greater of the recent locations of North Atlantic Right Whale sightings and operating precautions in high use commercial vessel transit areas which coincide with North Atlantic Right Whale seasonal migration routes.
- The Coast Guard continues to support NOAA's Office of Law Enforcement and Office of Protected Resources to develop an enforcement strategy for the agency's Right Whale Ship Strike Reduction Rule. This rule imposes vessel speed restrictions in specific areas to mitigate the risk of vessels colliding with the endangered whales.
- In the Florida Keys, a Coast Guard boarding team cited a fishing vessel for using reef fish as bait and for failure to use Turtle Excluder Devices in its gear in violation of federal fishery regulations. Coast Guard worked collaboratively with NOAA's Office of Law Enforcement and General Counsel to prosecute this case which was detected in the Florida Keys National Marine Sanctuary.
- The Coast Guard worked closely with NOAA's Protected Resources Division and Office of Law Enforcement on Endangered Species Act enforcement activities for two listed *Acropora* species found within the Florida Keys National Marine Sanctuary. Collaborative efforts included development of a common enforcement posture and training for law enforcement agencies.

Environmental Protection Examples:

- The Coast Guard prevented over 145,000 gallons of oil/fuel from spilling into the marine environment within the Pacific Island region. Of this amount, 34,000 gallons of oil/fuel from the F/V WAHINE KAPOLOA would have been discharged directly into the Midway Atoll National Wildlife Refuge and the Northwestern Hawaiian Islands National Marine Monument, absent Coast Guard containment efforts.
- Throughout 2007 and 2008, the Coast Guard, working with its contractor and the U.S. Army Corps of Engineers, compiled and published NEPA documents describing measures that the Service could implement to improve the protection

and conservation of marine protected species and marine protected areas, while continuing meet mission objectives in the waters off of California, Oregon and Washington.

Marine Debris Removal Examples:

- Building on past success, Coast Guard continued to serve a key role in marine debris removal efforts. Early in 2008, Coast Guard Cutter WALNUT, a 225' buoy tender, participated in a coordinated marine debris removal operation in the Papahānoumokuākea Marine National Monument. Partnering with NOAA and the University of Hawaii, Coast Guard was able to remove more than 28 tons of trash from the area. This annual deployment added to the cumulative total of more than 510 metric tons of debris removed from the Northwestern Hawaiian Islands since 1996. The Coast Guard helped develop a marine debris action plan for the region, and will continue to participate in quarterly meetings.
- The Coast Guard Office of Operating and Environmental Standards continues to fulfill its role on the Interagency Marine Debris Coordinating Committee (IMDCC) and, in December 2007, commissioned the National Academy of Science's Committee on the "Effectiveness of International and National Measures to Prevent and Reduce Marine Debris and Its Impacts." The finished report Tackling Marine Debris in the 21st Century was submitted to Congress in accordance with the Marine Debris Research Prevention and Reduction Act. The findings of the report and its recommendations provide important insight into the effects of derelict fishing gear and other marine debris discharged, released or abandoned in both protected and unprotected marine waters.

Education and Outreach

The Coast Guard engaged in education, both of its own agency personnel and in the course of interactions with user groups and the general public, to support awareness and compliance with various marine protected area management efforts. First, the Coast Guard's Regional Fisheries Training Centers incorporated relevant marine protected area familiarization into agency training programs that address the enforcement of at-sea regulations within each geographic region. Second, Coast Guard District Offices liaise with federal and state agency counterparts and managing authorities at the regional and local levels to identify shared goals and opportunities to leverage Coast Guard patrol assets. Finally, the Coast Guard participates in events that allow direct interaction with the public, increasing awareness and support of efforts to manage the ocean environment and to mitigate threats to fragile marine communities.

- The Sea Partners Campaign is the Coast Guard's Marine Environmental Protection outreach and education program. Throughout 2007 and 2008, Coast Guard staff participated in Sea Partners teams that operate from each of the 35 Coast Guard Sectors and their subsidiary units located in port communities around the nation, including Puerto Rico and Guam. The primary objectives of

the Sea Partners Campaign are to educate communities at large in developing awareness of marine pollution issues and improve compliance with marine environmental protection laws and regulations. The Sea Partners Campaign targets a wide range of audiences, including state, local and federal officials, merchant mariners, offshore industry personnel, ferry operators, recreational boaters, sport and commercial fishermen, seafood processors, local business owners, marina operators, students, scouts and teachers. Sea Partners reaches an audience in excess of 300,000 people each year. In 2008 the Sea Partners program helped to develop two new publications to help educate students about the marine environment.

- Several of the Nation's marine protected areas include coral reef systems. In addition to the Service's work with Coral Reef Task Force partners, the Coast Guard recognizes that outreach and education about coral reefs can support the intent of both Executive Order 13158 concerning MPAs and Executive Order 13089 concerning Coral Reef Protection. In 2008, the Coast Guard was a proud sponsor of the 11th International Coral Reef Symposium hosted by the United States.

DEPARTMENT OF INTERIOR

Minerals Management Service

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The Minerals Management Service's responsibilities on the outer continental shelf are those of a manager of certain resources, not a general land manager. The Outer Continental Shelf Lands Act (OCSLA) requires MMS to ensure the "protection of the human, marine, and coastal environments" in its decisions about where and when to conduct mineral leasing and in its regulation and oversight of industry operations. The Energy Policy Act of 2005 amended the OCSLA to give authority to DOI to develop a program to manage alternative energy projects on the OCS, such as wind, wave and ocean current projects, except within areas designated as National Marine Sanctuaries, National Parks, National Wildlife Refuges, or National Monuments. In fulfilling these requirements, MMS scientists, engineers and inspectors establish and enforce substantial environmental protections for specific sites and biological communities in areas leased for mineral development.

For 2007-2008, key activities for MMS included:

- Participation in MPA Center -sponsored meetings and activities;
- Working cooperatively with NOAA to support the MPA Center; and

- Monitoring industry activities to ensure that MMS environmental standards are met and that they are effective in protecting MPA resources.

While MMS is not directly responsible for executing the Executive Order, it functions in an advisory capacity. MMS employs subject matter experts and is a leader in conducting high quality ocean science across many disciplines, including biology, physical oceanography, social sciences, and air quality. Although MMS-funded research is closely aligned with program-specific goals, much of it is applicable to a broader audience, including MPAs.

As part of its ocean stewardship role, MMS maintains active participation on several ocean related committees, including the Subcommittee on Integrated Management of Ocean Resources and the National Science and Technology Council's Joint Subcommittee on Ocean Science and Technology, both through the Committee on Ocean Policy. Additionally, MMS participates on several interagency working groups dealing with facilities, ocean partnerships, ocean observing and education. To see highlights of MMS research in science and technology, please see the quarterly publications of MMS Ocean Science (http://www.gomr.mms.gov/homepg/regulate/environ/ocean_science/).

National Park Service

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The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of current and future generations. The system includes 74 ocean and Great Lakes park units across 26 states, including 40 units on the Marine Protected Areas Inventory. Established for their beauty and national significance, these 74 parks conserve and interpret over 6,800 miles of coast and 3.1 million acres of ocean and Great Lakes waters with coral reefs, kelp forests, glaciers, estuaries, beaches, wetlands, and historic forts and shipwrecks, all of which provide tremendous biological, cultural and recreational value to the nation. Together these parks attract over 76 million visits per year and generate over \$2.5 billion in economic benefits to local communities. However, park managers are confronted by multiple threats to coastal resources from both inside and outside of park boundaries. Intense population growth and development, overfishing, climate change, pollution and watershed degradation, shoreline impacts from infrastructure and sea-level rise, invasive species and recreational overuse are taking their toll on park resources. The National Park System Advisory Board Report, *Rethinking the National Parks for the 21st Century*, raised concerns about the “dramatic declines in the health of marine ecosystems,” and called on the National Park Service to focus more attention on stewardship and protection of ocean and coastal resources.

Our FY2007-2008 accomplishments include:

Ocean Park Stewardship Action Plan

- In 2008, NPS completed national and regional-level Ocean Park Stewardship Action Plans that call for increasing the agency's scientific and organizational capacity to address ocean and coastal issues, in concert with state, federal and local partners (www.nature.nps.gov/water/marine.cfm). The Ocean Park Plan calls on NPS to place greater emphasis on describing ocean and coastal habitats and wildlife, assessing and monitoring their condition, and conserving and restoring them for future generations. The NPS Natural Resources Program Center (NRPC) integrates policy support and technical assistance across scientific disciplines to achieve these goals. In 2007, the NRPC created the Ocean and Coastal Resources Branch to coordinate and provide technical assistance to parks, and work with sister federal agencies, states and academic partners to expand NPS capacities to understand and manage ocean resources.

Habitat Maps & Species Inventories

- Habitat maps are lacking for submerged portions of many ocean and Great Lakes parks, and the distribution and abundance of marine organisms in these habitats are largely unknown. The NRPC is coordinating a habitat mapping program with parks and NPS Inventory and Monitoring (I&M) networks. In 2008, the NRPC collaborated with USGS and NOAA on pilot benthic mapping projects in Glacier Bay and Virgin Islands National Parks, Sleeping Bear Dunes National Lakeshore, Golden Gate National Recreation Area, and Gulf Islands National Seashore.

Coastal Resource Condition Assessments

- Funded by the Natural Resource Challenge, this program is assessing the condition of coastal resources and identifying threats to ecosystem health. As of 2008, assessments were complete in 27 parks and underway in 21 other ocean and Great Lakes parks.

Field-Based Marine Monitoring

- The I&M Networks and individual parks are developing and conducting monitoring programs for ocean and coastal resources, in conjunction with regional or national NPS monitoring programs, academic institutions, NOAA, and USGS.

State-Federal Partnerships on Marine Reserves and Ecosystem Based Research

- "No-take" marine reserves have been established at Dry Tortugas National Park, Virgin Islands Coral Reef National Monument, Buck Island Reef National Monument, Channel Islands National Park and Glacier Bay National Park, to restore and protect marine ecosystems and species they support from overfishing. The National Park Service has a clear scientific mandate to evaluate the performance and potential restorative impacts of these new reserves on

degraded marine ecosystems and fisheries. For example, the NPS kelp forest monitoring program begun in 1981 at Channel Islands National Park has contributed substantially to joint efforts with California Department of Fish & Game and Channel Islands National Marine Sanctuary to establish marine reserves in 2003, and to developing a five-year progress report in 2008 of ecological impacts from protecting marine species. In 2007, USGS Eastern Region dedicated \$900,000 in State Partnership Program grants over FY07-FY09, leveraging over \$2.1 million total from federal and state (NOAA, Florida and U.S. Virgin Islands) matching funds and in-kind support, to conduct applied research on the Dry Tortugas and Virgin Islands park reserves.

USGS-NPS Coastal Geology Partnerships

- The NPS NRPC Coastal Geology Program is leading efforts with USGS to address critical science and management needs related to storm hazard and coastal vulnerability assessments, storm recovery, and mitigation of coastal infrastructure impacts on shoreline processes and park resources. In 2007-2008, the program conducted assessments, continued developing an inventory of past and present coastal engineering structures and activities, developed a prototype storm recovery plan at Cape Lookout National Seashore, and continued educating park visitors about storm dynamics. NPS also collaborated with USGS to create geologic maps of coastal parks in 2007-2008 in National Park System sites in Alaska and the Hawaiian and Pacific Islands.

Disease Prevention and Response in Lake Superior

- In 2008, the NPS developed a Prevention and Response plan to prepare for potential introduction of viral hemorrhagic septicemia (VHS) into the Lake Superior basin parks - Apostle Islands National Lakeshore, Grand Portage National Monument, Isle Royale National Park and Pictured Rocks National Lakeshore – as well as the Grand Portage Indian Reservation. VHS, a virulent disease responsible for large fish kills of a wide range of species in the Great Lakes, has not yet been detected in Lake Superior. The four parks at risk contain some of the most productive fisheries in the Lake Superior basin, as well as coaster brook trout and possibly unique phenotypes of lake trout at Isle Royale. Because of the multiple jurisdictions involved and many potential vectors for VHS to invade the Lake Superior basin parks, the plan requires collaboration between Canada and the U.S., a dozen federal and state agencies, Grand Portage Tribe, the commercial shipping and fishing industry, local citizens and the visitors to the parks. Apostle Islands, Pictured Rocks and Isle Royale also adopted emergency rules to prohibit discharge of untreated ballast water in park waters.

Research and Monitoring of Threatened Elkhorn Coral

- Corals at Buck Island Reef National Monument, located north of St. Croix, USVI, and Virgin Islands National Park on St. John, USVI suffered from widespread bleaching and disease in 2005, triggered by elevated sea surface temperatures.

The loss of approximately 60% of live elkhorn coral (*Acropora palmata*) cover on Buck Island's barrier reef and approximately 30% throughout the rest of the monument is the most devastating since Hurricane Hugo in 1989. In 2008, NPS published information from water temperature studies and coral monitoring and assessments at Buck Island that will inform designation of critical habitats for protection under the recent listing of elkhorn and staghorn (*Acropora cervicornis*) coral under the Endangered Species Act. By intensifying frequency and scope of monitoring during and after the bleaching event at St. John, the NPS South Florida/Caribbean Inventory and Monitoring Network was able to compare videotapes of 4,153 colonies, measure the extent of disease and document a subsequent outbreak of white plague disease. Otherwise, NPS managers would not have known the extent of bleaching or that the subsequent disease outbreak among corals, including elkhorn corals, was primarily responsible for their demise. Collaborations between NPS and USGS Caribbean Field Station and Leetown Science Center have advanced the knowledge of coral microbiology and disease etiology that may help protect these reefs.

U.S. Fish and Wildlife Service

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The National Wildlife Refuge System (NWRS) is administered through the U.S. Fish and Wildlife Service (FWS) within the Department of the Interior. The mission of the National Wildlife Refuge System is to administer the United States' largest network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

The FWS is a field-based federal agency with the notable responsibility of managing the 552 units of the 147-million acre NWRS. The NWRS has substantial mission responsibilities including conservation, resource management, habitat restoration, providing recreational and educational opportunities for the public, and the development of science and information for decision-making. The NWRS's role in marine ecosystems goes back to the first National Wildlife Refuge (NWR) established at Pelican Island, Florida in 1903. The FWS now identifies 180 NWRs that include coastal, island, ocean or Great Lakes (marine) habitats. These "marine refuges" are found along every coastal state and range from expansive estuarine systems above the Arctic Circle to remote coral atolls below the Equator. The NWRS's responsibilities cover an estimated 30,000 miles of coastlines encompassing 30 million coastal and 60 million tidally-influenced acres, and 375,000 marine acres of Congressionally-designated wilderness in 34 refuges. The FWS also co-manages the 89 million acre Papahānaumokuākea Marine National Monument and has primary management responsibility for the Marianas Trench, Rose Atoll, and the Pacific Remote Islands Marine National Monuments. The NWRS's marine national monuments and refuges are the world's largest and most

ecologically comprehensive collection of unified, fully-protected marine areas under a “wildlife first” conservation mandate.

The NWRS was established to mitigate the deleterious effects of commercial and recreational harvest of migratory and resident, fish and wildlife. This conservation paradigm is now as appropriate in the broader ocean environment as it was over 100 years ago when applied in coastal areas. As the Refuge System advances by building capabilities for science-based ecosystem management by working with our many partners, so too shall the protections of our nation’s marine resources.

Our marine protected area efforts are focused on increasing cooperative conservation approaches with federal, state, and private partners in developing solutions to common conservation goals, issues, and challenges. We work with many valuable partners and stakeholders in managing our coastal and marine holdings, including, but not limited to the National Park Service, US Geological Survey, U.S. Coast Guard, NOAA programs (National Marine Sanctuary Office, MPA Center, National Estuarine Research Reserves National Marine Fisheries, Marine Debris, and Coral), as well as many non-governmental organizations, states, counties, and other local entities.

Some key activities for FY2007-2008 include:

President Bush’s Marine Conservation Initiative

- Worked with many partners to provide technical information, advice, and visitation opportunities in support of three new Pacific Ocean Marine National Monuments (Marianas Trench, Rose Atoll, and Pacific Remote Islands) established under Presidential Proclamations covering 125 million acres.

Seamless Network

- The NWRS partnered with NERRS, ONMS, and NPS to coordinate and deliver two field-based workshops in the Gulf of Maine and the New Jersey/New York Area.

U.S. Coral Reef Task Force (USCRTF)

- Supported efforts in coral reef conservation with our many federal, state, and territorial partners.

Framework of the National System of MPAs

- Supported the MPA Center to deliver the Framework document.

Mexico/Canada/USA Trilateral Committee for Ecosystem Conservation

- Coordinated and planned the multi-agency marine managed areas presentations for the yearly meeting and represented the US at the 2007 and 2008 Trilateral meeting plenary session on marine issues.

Papahānaumokuākea Marine National Monument

- With co-managers, completed joint regulations and monument management plan. Continue to work with State of Hawaii and NOAA partners to deliver products and coordinate monument regulations, public use and visitor service opportunities.

International Designations

- Assisted in the nomination of Papahānaumokuākea Marine National Monument as the first U.S. nominated UNESCO World Heritage site in 20 years.
- Oversaw designation of Palmyra Atoll NWR as a Ramsar Wetland of International Importance. The 25th site designated by the United States and the first containing coral reef habitat.
- Working with partners in American Samoa to designate Rose Atoll as a Ramsar site.

Marine Debris

- Working with federal, state, territorial, and private partners across the continental US, Alaska, Hawaii, remote Pacific Islands and insular territories on large and small scale marine debris cleanup efforts.
- Contributed to Interagency Marine Debris Coordinating Committee Report to Congress.
- Supported marine debris monitoring research at Midway Atoll NWR.

Palmyra Atoll NWR Research Consortium

- Working with The Nature Conservancy in managing this NWR as a natural laboratory for a private academic research institution's scientific staff.

MPA Research

- Working with private and federal agency partners (in particular NOAA) in facilitating conducting research at pristine NWRs located in the Caribbean, Hawaiian, and remote Pacific areas.

DEPARTMENT OF STATE

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The State Department's Offices of Oceans Affairs and Marine Conservation are responsible for developing and coordinating international MPA policy, particularly as it relates to the high seas. This issue arises regularly in a variety of multilateral fora the State Department covers, including the United Nations (UN) Open-Ended

Informal Consultative Process on Oceans and the Law of the Sea, the annual UN General Assembly Oceans Resolution, the UN Food and Agriculture Organization's Committee on Fisheries, and the IUCN World Conservation Congress. The Office of Oceans Affairs also attended the second meeting of the UN Ad Hoc Open-ended Informal Working Group on biodiversity in areas beyond national jurisdiction in April 2008, as well as the Ninth Conference of the Parties to the Convention on Biological Diversity in May 2008, both of which included discussion of high seas MPAs.

NATIONAL SCIENCE FOUNDATION

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The National Science Foundation (NSF) is an independent agency of the U.S. government responsible for promoting progress in science and engineering by fostering new ideas and research opportunities and supporting projects in basic scientific research, engineering and education. NSF plays a critical role in supporting fundamental research, education and infrastructure at colleges, universities and other organizations across the country. Specifically, the Division of Ocean Sciences supports basic research and education to further understanding of the global oceans, from coasts to the deep sea, and their interactions with the earth and atmosphere.

Most of the research proposals sent to NSF are unsolicited and peer-reviewed in competition with other proposals addressing similar disciplinary activities. NSF's broad support for basic research provides opportunities for discovery in many fields, including those that may inform the design, efficacy, placement, and management of MPAs and help address other considerations as put forth in Executive Order 13158. NSF continues to support projects encompassing basic research and education that also help provide answers to applied questions and build scientific capacity. These projects result in a better understanding of biological and oceanographic processes influencing marine populations.

NSF supported scientists are involved in a diverse portfolio of research activities directly and indirectly linked to MPAs. Funding spans the full range of marine ecosystems and includes deep-sea environments, intertidal and shallow benthic habitats, kelp forests, and coral reefs. Using experimental methods, scientists are gaining comprehensive knowledge and a fuller understanding of marine ecosystems. Through these efforts, scientists are building the foundation needed to answer applied research questions and broaden scientific capacity. In addition, projects provide valuable education and training experiences for students from K-12 to the graduate level.

As a result of NSF-supported workshops, projects often involve interdisciplinary teams of scientists working to develop innovative methods to address the challenges of studying in the ocean environment where research activities are complicated by physical processes, natural hazards and often limited access to research locations. Research activities involve both field experimentation and modeling to understand the connectivity between marine populations and its application to the MPA decision making process.

NSF funded research projects most relevant to MPAs involve the development of novel approaches and ecosystem models to understand larvae dispersal dynamics, feeding habits, migration patterns, and connectivity within and between populations of marine organisms. Many current projects also focus on understanding the effects of warming oceans on the community structure and ecological processes in marine environments. Examples of projects recently initiated include: 1) predicting the effects of ocean warming on larval dispersal; 2) understanding the cascade effects of predator-prey interactions in structuring seagrass communities; and 3) studying the migratory connectivity of basking sharks in the Western Atlantic Ocean.

In addition, the NSF supports the GEOTRACES program which is a global study of the biogeochemical cycles of important trace metals present in marine environments. For example, researchers are currently studying the chemical and biological processes regulating the distribution of mercury in seawater. Understanding the dynamics of mercury in seawater provides a better conception (and therefore management) of the serious human and ecosystem health threats that are imparted by the presence of numerous forms of marine mercury.

Such NSF-supported studies contribute to the science needed to serve in the use, selection, spatial array, and management of MPAs. With the emphasis on quantitatively understanding the mechanisms by which MPAs enhance marine populations, research supported by NSF will continue in coming years to support additional efforts to examine the latest questions related to population connectivity of marine organisms and its role in MPA design.

ENVIRONMENTAL PROTECTION AGENCY

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Three major statutes form the legal basis for programs managed and conducted by the U.S. Environmental Protection Agency (EPA) that relate directly or indirectly to MPAs -- the Clean Water Act; the Marine Protection, Research and Sanctuaries Act (also known as the Ocean Dumping Act); and the National Environmental Policy Act. Below is a brief description of EPA's activities related to these statutes.

Marine & Ocean Discharges; and Ocean Discharge Criteria

Under Section 312 of the Clean Water Act, the Vessel Sewage Discharge Program provides for designation of No-Discharge Zones. States can request EPA to issue a regulation to establish No-Discharge Zones if they are needed to protect environmentally sensitive areas such as shellfish beds, coral reefs, or fish spawning areas.

Clean Water Act Section 301(h), added in 1977, allows publicly owned treatment works that discharge to marine waters to apply for a waiver of the Act's Secondary Treatment requirements, provided they can show that their discharge will not adversely affect the marine environment, including MPAs.

Under Clean Water Act Section 402, any discharge of a pollutant from a point source (e.g., a municipal or industrial facility) to the navigable waters of the United States or beyond must obtain a National Pollutant Discharge Elimination System (NPDES) permit, which requires compliance with Technology and Water Quality-Based Treatment Standards. A NPDES permit allows a facility to discharge a specified amount of a pollutant into a receiving water body under certain conditions. In addition to the individual NPDES discharge permits, there are general NPDES permits that cover offshore oil and gas exploration and production facilities, seafood processors, and storm water discharges.

Any discharge to the territorial seas or beyond must also comply with the ocean discharge criteria established under Section 403 of the Clean Water Act. These criteria specifically address impacts from such discharges on marine resources. Section 403 provides for additional protection of ocean waters (i.e., waters of the territorial seas, the contiguous zone, and the high seas beyond the contiguous zone) from point source discharges. Under Section 403(a), EPA or an authorized state may not issue a permit for a discharge into ocean waters unless the discharge complies with the guidelines (ocean discharge criteria) established under Section 403(c). These guidelines provide a level of protection in addition to the technology or water-quality based requirements applicable to discharges into inland waters, and are intended to protect the marine environment.

Ocean Dumping

The Marine Protection, Research, and Sanctuaries Act (MPRSA), also known as the Ocean Dumping Act, prohibits the dumping of materials into the ocean that would unreasonably degrade or endanger human health or the marine environment. The MPRSA implements the requirements of the London Convention, the international treaty governing ocean dumping.

Under the MPRSA, transportation for the purposes of dumping in ocean waters requires a permit from EPA or, in the case of dredged materials, from the U.S. Army Corps of Engineers (subject to EPA's concurrence). EPA is also responsible for designating recommended ocean dumping sites for all types of materials. Virtually all material disposed in the ocean in the United States today is dredged material (sediments) removed from the bottom of water bodies in order to maintain

navigation channels and berthing areas. Other materials that are currently ocean disposed include fish wastes, human remains (e.g., ashes), and vessels. Certain materials, such as high-level radioactive waste, medical waste, sewage sludge, and industrial waste, may not be dumped in the ocean.

Cruise Ships' Sewage and Graywater Standards Development

In 2000, Congress enacted Title XIV, "Certain Alaskan Cruise Ship Operations" as part of the appropriations act for the Departments of Labor, Health and Human Services, and Education (33 U.S.C. 1901 Note). This law regulates the discharge of sewage and graywater from cruise ships authorized to carry 500 or more passengers for hire when operating in the waters of the Alexander Archipelago; and the navigable waters within the State of Alaska and within the Kachemak Bay National Estuarine Research Reserve. Before this law was passed, there was considerable concern about cruise ships discharging untreated sewage and graywater into areas that were surrounded by Alaskan waters but were beyond three miles from shore. In these areas, known as "doughnut holes," the discharge of sewage was unregulated. Title XIV sets requirements for discharges of sewage and graywater into Alaskan waters and the doughnut holes; and authorizes EPA to also develop regulations.

To implement Title XIV, EPA is currently assessing the need for additional standards for discharges of sewage and graywater from cruise ships operating in Alaskan waters. If changes to the standards currently in Title XIV are necessary, EPA expects to propose these regulations by the end of 2007. In addition, Title XIV requires the U.S. Coast Guard to inspect all discharge control equipment on covered cruise ships operating in Alaskan Waters; and requires sampling and testing of sewage and graywater discharges from covered cruise ships in Alaskan waters.

National Estuary Program

EPA's National Estuary Program was established by Congress in 1987 to improve the quality of estuaries of national importance. Section 320 of the Clean Water Act directs EPA to develop plans for attaining or maintaining water quality in an estuary. This includes protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on the water. It also requires the control of point and nonpoint sources of pollution to supplement existing controls of pollution. In several cases, more than one State is participating in a National Estuary Program. Each program establishes a Comprehensive Conservation and Management Plan to meet the goals of Section 320.

Nonpoint Source Pollution Monitoring and Control

Congress amended the Clean Water Act (CWA) in 1987 to establish the Section 319 Nonpoint Source Management Program because it recognized the need for greater federal leadership to help focus State and local nonpoint source efforts. Under Section 319, State, Territories, and Indian Tribes receive grant money which support a wide variety of activities including technical assistance, financial

assistance, education, training, technology transfer, demonstration projects, and monitoring to assess the success of specific nonpoint source implementation projects.

National Environmental Policy Act (NEPA)

Title I of NEPA contains a Declaration of National Environmental Policy which requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. Section 102 requires federal agencies to incorporate environmental considerations in their planning and decision-making through a systematic interdisciplinary approach. Specifically, all federal agencies, including the U.S. EPA, are to prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. These statements are commonly referred to as Environmental Impact Statements (EISs). Section 102 also requires federal agencies to lend appropriate support to initiatives and programs designed to anticipate and prevent a decline in the quality of mankind's world environment, including the marine environment where MPAs may be found.

U.S. EPA's 2007 & 2008 Accomplishments:

- Represented EPA at Marine Protected Areas Federal Advisory Committee (MPA FAC) meetings;
- Represented EPA on the periodic Federal Interagency MPA Workgroup meetings;
- Reviewed and provided detailed comments and recommendations to NOAA during the development of the U.S. Government's Report entitled "**Revised Draft: Framework for Developing the National System of Marine Protected Areas**" (Framework; March, 2008);
- Assisted the MPA Center in informing nongovernmental Organizations (e.g., National Association of Marine Laboratories, Consortium for Ocean Leadership) and EPA Staff about the opportunity to review and comment on the National MPA System's "Framework" document; and opportunities for nonfederal individuals and organizations to become members of the MPA FAC;
- Provided scientific and technical information (e.g., U.S. IOOS, Economic Benefits of MPAs, National Water Quality Monitoring Network, EPA's National Coastal Condition Reports) to the MPA FAC; NOAA's MPA Center, and the Federal Interagency MPA Workgroup;
- Actively participated on the MPA FAC's Science & Technology Subcommittee's Ocean Observing Systems Team; and the "Enforcement and Compliance" Workgroup [e.g., Co-Author of the Draft Manuscript entitled "**Principles for Effective Marine Protected Areas Compliance and Enforcement**" (2008)];

- Facilitated interactions between the MPA FAC and MPA Center with the Interagency Working Group on Ocean Observations (IWGOO), and NOAA's U.S. IOOS Program Office during the development of "Linkages" between the U.S. Integrated Ocean Observing System (IOOS), and the new National System of Marine Protected Areas;
- As requested by the MPA Center, provided an update about the status of the EPA Regulations as cited in Executive Order (EO) 13158;
- Made arrangements for Representatives of the National Association of Marine Laboratories (NAML) to attend the MPA FAC Meeting held in Silver Spring, Maryland (April 22-24, 2008); and
- The U.S. EPA will continue to actively support the activities of the MPA FAC, the MPA Center, and the Federal Interagency MPA Workgroup as we strive to develop and implement the National System of Marine Protected Areas.

APPENDIX B. MPA FEDERAL ADVISORY COMMITTEE MEMBERS, 2007-2008

Chair and Vice Chair:

Dr. Mark Hixon, Dept of Zoology, Oregon State University (Chair)

Robert Zales II, recreational fishing (Vice Chair)

Members:

Dr. Tundi Agardy, Sound Seas (MD)*

Lori Arguelles, National Marine Sanctuaries Foundation (MD)

Charles Beeker, Underwater Science, Indiana University (IN)

Robert Bendick, The Nature Conservancy, Southeast Division (FL)*

David Benton, commercial fishing (AK)

Dr. Daniel Bromley, Dept of Agricultural & Applied Economics, University of Wisconsin (WI)

Dr. Anthony Chatwin, National Fish and Wildlife Federation (VA)

Dr. Michael Cruickshank, Marine Minerals Technology Center Associates (HI)*

Rick Gaffney, Pacific Boats and Yachts, (HI)

Dr. Steve Gaines, University of California, Santa Barbara (CA)

Eric Gilman, Blue Ocean Institute (HI)*

Ellen Goethel, fishing and ocean education (NH)

Dr. John Halsey, Michigan Department of History, Arts and Libraries (MI)*

Dr. Dennis Heinemann, The Ocean Conservancy (DC)

George Lapointe, Maine Department of Marine Resources (ME)

Victor Mastone, Massachusetts Board of Underwater Archaeological Resources (MA)

Melissa Miller-Henson, California Marine Life Protection Act Initiative (CA)

Dr. Bonnie McCay, Dept of Human Ecology, Rutgers University (NJ)*

Dr. Russell Moll, California Sea Grant College Program (CA)

Dr. Steven Murray, College of Natural Sciences and Mathematics, California State University, Fullerton (CA)*

Dr. Elliott Norse, Marine Conservation Biology Institute (WA)

Dr. John Ogden, Florida Institute of Oceanography, University of South Florida (FL)

Terry O'Halloran, tourism industry (HI)

Alvin Osterback, City of Unalaska/Port of Dutch Harbor (AK)

Lelei Peau, American Samoa Department of Commerce (AS)*

Dr. Walter Pereyra, Arctic Storm Management Group, Inc. (WA)

Eugenio Piñeiro-Soler, Caribbean Fishery Management Council (PR)

Max Peterson, International Association of Fish and Wildlife Agencies (retired)
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Dr. Robert Pomeroy, Connecticut Sea Grant Office (CT)

Gil Radonski, sport fishing (NC)

Dr. James Ray, Oceanic Environmental Solutions, LLC (TX)

Captain Philip Renaud, USN (Ret.), Living Oceans Foundation (MD)

Jesús Ruiz, scuba diving (CA)

Dr. Daniel Suman, Marine Affairs and Policy, University of Miami (FL)*

Bruce Tackett, ExxonMobil Biomedical Sciences, (VA)

David Wallace, Wallace and Associates (MD)

Robert Wargo, North American Submarine Cable Association (NJ)

Kay Williams, Gulf of Mexico Fishery Management Council (MS)*

Jim Woods, Makah Tribe (WA)

*indicates FAC member whose term expired in October 2007

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vacant, Office of the Under Secretary for Conservation, Natural Resources and the Environment

Department of Commerce

Mary Glackin, Assistant Administrator for Program Planning and Integration, NOAA (2003-2007)

Paul Doremus, Acting Assistant Administrator for Program Planning and Integration, NOAA (2007-August 2008)

Laura Furgione, Assistant Administrator for Program Planning and Integration, NOAA (August 2008-present)

Department of Defense/Navy

Donald Schregardus, Deputy Assistant Secretary for Environment
Robin Brake, Office of the Assistant Secretary of the Navy (Designee)

Department of Defense/U.S. Army Corps of Engineers

Joseph Wilson, South Atlantic Division

Department of the Interior

Kameron Onley, Deputy Assistant Secretary (2005-June 2007)
Todd Willens, Deputy Assistant Secretary (June 2007-December 2007)
Kaush Arha, Deputy Assistant Secretary (2008)
Randal Bowman, Office of the Assistant Secretary (Designee)

Department of State

Margaret Hayes, Director of Ocean Affairs

Department of Homeland Security

Rear Admiral Wayne Justice, Assistant Commandant for Response (2006-July 2008)
Rear Admiral Joseph R. Castillo, Assistant Commandant for Response (July 2008-present)
LCDR Chris German, Office for Law Enforcement (Designee, 2006-2008)
Steven M. Tucker, Assistant Division Chief: Marine Protected Species (Designee, November 2008-present)

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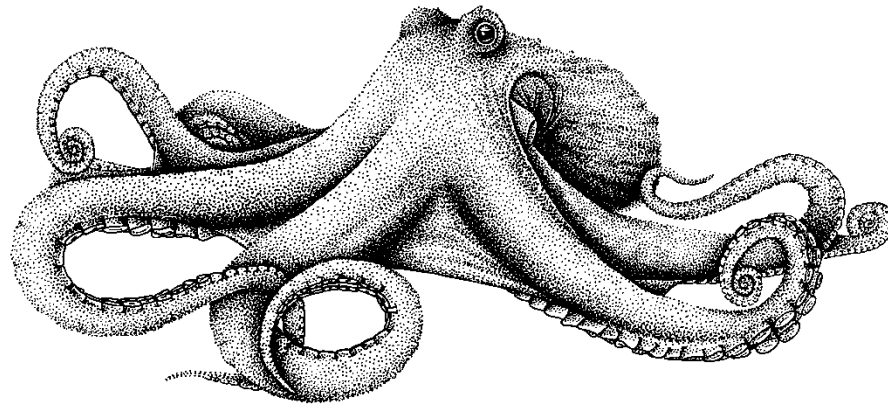
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