

*National Park Service  
Pacific Ocean Parks*

*Strategic Plan: Conserving Our Coastal, Island and  
Marine Resources*

**PURPOSE OF THE STRATEGIC PLAN**

Over 55% of the US population now occupies the coastal zone. As a result, population pressures on water and land resources and consumption of marine resources are taking a severe toll on coastal ecosystems. Coastal watersheds face many threats which may have dramatic impacts on the functioning and integrity of coastal park ecosystems, or reduce quantity and quality of wildlife habitat.

The 2001 National Park System Advisory Board Report, Rethinking the National Parks for the 21<sup>st</sup> Century, raised concerns about “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 resources in the National Park System. “The Service should pay special attention to the protection of aquatic and marine systems. It should be an active partner in a national and international dialogue to develop a strategy for marine resource protection and restoration.”

In response to the US Ocean Action Plan, issued by the President in 2004, the National Park Service has launched a new initiative to provide an enhanced focus on ocean park resources. The National Park Service Ocean Park Stewardship Action Plan, announced in December 2006, commits to science-based management and conservation of marine resources, both natural and cultural, in the National Park System. The Plan calls for an increased understanding of marine ecosystems and human interactions, restoration of impacted resources, and new measures to enhance park resource management efforts. The National Park Service needs to strengthen its capacity to explore and protect marine resources, foster partnerships with marine and coastal-oriented agencies and organizations, foster international partnerships, and engage the public in ocean park stewardship.

The NPS Pacific Ocean Park Strategic Plan will serve to lead the PW and AK Regions’ coastal parks toward implementation and achievement of the overall goal of the President’s US Ocean Action Plan and the National Park Service Ocean Park Stewardship Action Plan.

## INTRODUCTION

The Pacific West and Alaska (PW/AK) Regions ocean park units include some of our nation's most outstanding coastal and marine environments and resources on the Pacific Ocean. The PW/AK Regions have 34 park units within four oceanic realms containing six provinces and 12 marine ecoregions (See APPENDIX 1). The United States shares ecoregions with Russia, Canada, Mexico, and the central Polynesian countries. Within each of these ecoregions the biological diversity is strongly linked with the variability of oceanographic and topographic features. The diversity of landforms and life ranges greatly from:

Cape Krusenstern NM (Arctic oceanic realm) with its 70 mile coastline and series of lagoons created by the Chukchi Sea and Kotzebue Sound supporting habitat for marine mammals, shorebirds and fish, to;

Glacier Bay NP/Pres (Temperate Northern Pacific oceanic realm, Cold Temperate Northeast province), one of the world's premier areas for studying glacial fjord systems and the dynamics of ecosystem succession, and currently one of the largest north temperate marine reserves in existence, to;

Channel Islands NP (Temperate Northern Pacific oceanic realm, Cold and Warm Temperate Northeast provinces) where the shoreline topography and currents in this region facilitate the mixing of cool, nutrient rich waters from the north with warmer waters from the south, creating a biologic transition zone that brims with life, including one of the fastest growing organisms in the world – the giant kelp, to;

National Park of American Samoa (Eastern Indo-Pacific oceanic realm) islands composed along a volcanic archipelago supporting outstanding coral reefs, littoral strand and tropical rainforests on four beautiful, tropical island landscapes, to;

War in the Pacific National Historical Park (Central Indo-Pacific oceanic realm) with over 3,500 marine species and 200 species of coral.

These ocean parks also preserve the rich cultural fabric of our country at places like Pu'uhonua O Honaunau National Historic Site where visitors experience native Hawaiian customs and traditions. And places like San Francisco Maritime National Historical Park which offers the sights, sounds, smells and stories of Pacific Coast maritime history. And places commemorating the events that shaped and defined our country, like Rosie the Riveter/World War II Home Front National Historical Park which preserves and interprets the stories and places of our nation's home front response to World War II, and Sitka National Historical Park which preserves the site of the last major battle between the Tlingit tribe and Russian colonization.

In addition to being places of scientific inquiry and a backdrop for natural and cultural education, these ocean parks provide a vast array of recreational and educational opportunities.

## **CHALLENGES FACING OCEAN PARKS**

Throughout the past decade numerous studies have been conducted and blue ribbon panels convened (e.g., Pew Oceans Commission Report (2003) and U.S. Commission on Ocean Policy: An Ocean Blueprint for the 21st Century (2004)) to assess the state of our nation's oceans and coastal areas. All of these reports consistently identify a common thread of threats and challenges facing our coastal and oceanic systems, including: coastal development, nutrient runoff, declining water quality, ocean pollution, overfishing, and introduction and spread of invasive species. Park superintendents strive to manage parks to avoid degrading resources, depleting fisheries, and losing recreational opportunities for the public. Nevertheless, these impacts diminish ecological integrity and beauty in the parks, and reduce nature's capacity for self-renewal.

In addition climate change is expected to profoundly impact coastal and marine ecosystems. As noted by the Pew Oceans Commission, "Sea-level rise will gradually inundate highly productive coastal wetlands, estuaries, and mangrove forests. Coral reefs that harbor exceptional biodiversity will likely experience increased bleaching due to higher water temperatures. Changes in ocean and atmospheric circulation attributable to climate change could adversely affect coastal upwelling and productivity and have significant local, regional, and global implications on the distribution and abundance of living marine resources." By extension, climate change impacts will also affect cultural resources and park infrastructure along the coastline.

Effective long-term conservation of park marine resources will be dependent on implementation of planning strategies that anticipate issues to be confronting ocean parks. Planning tools that are relevant to marine resource stewardship must be embraced and incorporated into park planning efforts.

Promoting stewardship of ocean park marine resources is not new to the PW/AK Region, but a comprehensive ocean park strategy that looks to the future, integrates all programs (natural and cultural resources, operations and protection, interpretation and education, planning and partnerships), calls for focused collaboration within and between parks, facilitates partnerships, and addresses the complex issues of global climate change is now needed. This Strategic Plan provides the PW/AK Region with the vision to become a leading partner in the conservation and restoration of marine resources and maritime heritage that define our ocean parks.

## COMPONENTS OF THE STRATEGY

Consistent with the national-level Ocean Park Stewardship Action Plan, the PW/AK Region Strategic Plan identifies four major Strategies:

- Strategy 1: Establish a seamless network of ocean parks, sanctuaries, refuges and reserves;
- Strategy 2: Inventory, map, and protect ocean parks;
- Strategy 3: Engage visitors and the public in ocean park stewardship;
- Strategy 4: Increase technical capacity for ocean exploration and stewardship

Each of the strategies has specific goals and action items, some of which can be implemented and achieved within months, while others are more complex and will involve longer time-frames to fully implement. It is intended that the Strategic Plan will be periodically revised as action items are completed and as additional tasks are identified.

### **Strategy 1: Establish a seamless network of ocean parks, sanctuaries, refuges, and reserves**

Numerous federal, state and local agencies, and conservation-oriented organizations, share common mandates for protection of marine and coastal resources. Each agency could more effectively and efficiently achieve their common ocean stewardship goals and responsibilities through enhanced collaboration. Within the PW/AK Regions, national park units are often immediately adjacent or within a shared ecoregion of federal, state, local or private land managing agencies or organizations, including international conservation units. The following are examples:

|             |   |
|-------------|---|
| NPS/FWS     | Kenai Fjords National Park, Alaska Maritime National Wildlife Refuge  |
| NPS/NOAA    | Point Reyes National Seashore, Gulf of the Farallones National Marine Sanctuary, Cordell Bank National Marine Sanctuary |
| NPS/NERR    | Cabrillo National Monument, Tijuana River Reserve   |
| NPS/USFS    | Olympic National Park, Olympic National Forest  |
| NPS/State   | Redwood National and State Parks  |
| NPS/Private | Channel Islands National Park, The Nature Conservancy - Santa Cruz Island   |

See attached propinquity table for potential network-level partners, excluding the Pacific Islands (see APPENDIX 2).

*GOAL: Facilitate partnership opportunities among federal, state and local agencies and non-government organizations toward enhanced marine resource conservation and education.*

*Action items include:*

- Collaborate with state, provincial and/or local governments (where applicable) to establish Marine Protected Areas<sup>1</sup> (MPAs) within and/or adjacent to NPS units and pursue the establishment of Marine Reserves<sup>2</sup> within these MPAs.
  - Marine Reserves have been established by the State of California and NOAA at Channel Islands;
  - At Point Reyes National Seashore the process of evaluating, with partners, the establishment of MPAs including reserves and conservation areas has begun, as legislated in the California Marine Life Protection Act.
- Annually convene workshops throughout the PW/AK Regions, with multi-agency participation, to establish processes to improve coordination among governments, institutions, users of ocean resources, and the general public to:
  - Communicate the goals of this strategic plan;
  - Communicate the benefits of marine protected areas to the public and other stakeholders;
  - Communicate the results of ongoing research testing the effectiveness of marine protected areas;
  - Identify common stewardship responsibilities;
  - Identify priority marine resource threats that confront each agency;
  - Identify common priority research, inventory and monitoring needs;
  - Identify environmentally sensitive marine and coastal resources under stewardship of each agency, with a focus on common priority resources;
  - Identify the capacity for sharing of resources (e.g., personnel, facilities); and
  - Highlight opportunities among specific parks, refuges, sanctuaries, reserves and/or state/local conservation areas that will embrace the seamless network concept.
- Participate in the West Coast Governor’s Oceans Working Group (CA, OR, WA) to facilitate, coordinate, and enhance ocean protection.
- Participate in the Alaska Marine Ecosystem Forum with 12 other state and federal agencies/organizations.
- Participate in Coastal America’s interagency partnership to preserve coastal heritage.
- Propose and prepare a feasibility study to establish a PW/AK Ocean Center of Excellence. A multi-agency Center (e.g., NPS, NOAA, USGS, US Coast Guard, others), with strong academic involvement, would serve the Regions and the nation, advance the seamless network concept, and promote the marine exploration, protection, policy, and education goals of the PW/AK Region Strategic Plan.
- Create opportunities to co-locate agency personnel, on a long-term basis or short-term details, with the goal of facilitating collaboration and implementation of the seamless network concept.
- Work proactively with NOAA and MMS addressing preplanning efforts as they relate to renewable energy, aquaculture, and marine shipping.

---

<sup>1</sup>Marine Protected Areas (MPAs) are a general term used to identify areas in the ocean that are set aside to protect and restore ocean habitats and ecosystems.

<sup>2</sup>Marine Reserves are a specific type of MPA where there is complete protection of plants and animals from consumptive uses (such as fishing, kelp harvesting, etc.).

- Promote involvement of resource managers and NPS scientists in national and international partnerships for better understanding the science of marine protection and conservation. Examples include the U.S. Global Ocean Ecosystem Dynamics Program (GLOBEC), North Pacific Marine Science Organization (PICES), and the Forecasting, and Understanding Trends, Uncertainty, and Responses of the North Pacific Marine Ecosystem (FUTURE) a program sponsored by PICES.
- Become a representative agency of the North Pacific Research Board (NPRB),
- Expand the support and presence of NPS at regional marine science-related meetings such as the annual Alaska Marine Science Symposium.
- Continue to coordinate with USGS to emphasize marine-related research under the Ocean Research Priorities Plan, including the Comparative Analysis of Marine Ecosystem Organization (CAMEO) which seeks to develop advanced models to forecast ecosystem responses to a variety of management actions, including marine reserves.
- Promote research by existing programs and institutions to evaluate the assumptions and importance of marine reserves at places such as Channel Islands and Glacier Bay. Related to this, designate a small committee of NPS representatives from the PW and AK Regions to evaluate how to better attract research organizations on marine reserve research at Glacier Bay and Channel Islands, including an evaluation of housing, vessel support, long-term databases, permitting, and other factors that may better attract researchers to these areas.
- Continue to develop site-based partnerships with National Marine Sanctuaries, Estuarine Research Reserves, and National Wildlife Refuges via existing agreements and the national Seamless Network agreement between Department of the Interior and NOAA. Work with NPS, DOI, and NOAA to resolve administrative and financial obstacles to these partnerships (see Attachment 1).

*GOAL: Facilitate partnership opportunities with neighboring countries (specifically Canada, Mexico, and neighboring Pacific Islands), and build sister park relationships throughout the Pacific and Arctic Oceans to enhance marine resource conservation and education.*

*Action items include:*

- Continue to work with the Commission of Environmental Cooperation of North America (CEC) on the Baja California to the Bering Sea Project. It is well recognized that many conservation efforts and sustainable development initiatives are carried out at varying scales along the Pacific coast of North America, but most if not all of these efforts are working independently of one another. Successful conservation requires cooperative action among the U.S., Canada, and Mexico.
- Work with the South Pacific Regional Environmental Programme (SPREP) and non-governmental organizations to collaborate conservation efforts in the South Pacific region.
- Work closely with Canada's three agencies which have jurisdiction over marine reserve planning and implementation including Fisheries and Oceans Canada, Parks Canada, and Environment Canada.

Many countries around the world look to the U.S. as a leader in park and protected area management. At the same time, the NPS often learns about innovative practices from other countries' park agencies. For these reasons, the PW/AK parks will work with the NPS Office of International Affairs to facilitate cooperation between the NPS and park and protected area agencies throughout the Pacific and Arctic Oceans.

- Explore means to facilitate international travel to other countries in order to communicate and cooperate on an informal and routine basis.

## **Strategy 2: Inventory, Map, and Protect Ocean Parks**

The NPS has stewardship responsibility for a significant amount of submerged marine area. Resulting from decades of studies, inventories, assessments, and monitoring, our knowledge of natural and cultural resources associated with terrestrial areas of ocean parks is relatively robust, but for the submerged portions that are often a major park component, fundamental information is limited. Bathymetry, sediment type, habitat, and species composition/distribution/abundance are the kinds of basic information essential for park managers to effectively design resource protection strategies, identify restoration needs, implement resource monitoring, and provide for recreation opportunities. It is also important to inventory, map and protect submerged archeological resources that document the exploration, colonization, and development of commerce in the Pacific Ocean.

Coastal and marine regions are increasingly the subject of active management decisions, yet the location and status of most of these resources within park marine boundaries has not been systematically surveyed. Our understanding of how submerged environments and associated biota, historic resources, and archeological resources are responding to climate change (e.g., sea-level rise, changing storm frequencies and intensities, changing salinity and temperature) and other issues (e.g., nutrient input, fishing pressure) must be strengthened to support scientifically-informed management decisions. An additional reason for mapping ocean parks is to help people visualize submerged park seascapes and thereby better connect with them.

*GOAL: Inventory and map natural and cultural resources within the submerged (includes the intertidal zone) boundaries of ocean parks.*

*Action items include:*

- Prepare a plan for the inventory and mapping of submerged/intertidal natural and cultural resources. Existing data sets will be compiled (from NPS and other sources), inventory and mapping data gaps will be identified, and a study plan will be prepared guiding the PW/AK Region, ocean parks, and partners with details on the collection of fundamental information;
- Coordinate with NOAA's habitat mapping efforts at the Northwest Fisheries Science Center and in conjunction with the University of New Hampshire Center for Coastal and Ocean Mapping Joint Hydrographic Center for outlining efforts for multi-beam sonar mapping of submerged NPS lands and adjacent areas.

- Coordinate the PW/AK Regional mapping plan with NPS Water Resources Division, Ocean and Coastal Resources Branch, to assist in developing the NPS Service-wide Marine Benthic (including intertidal) Habitat Mapping Program and support pilot studies at PW/AK parks. Under an Interagency Agreement, USGS is reviewing NPS technical capabilities for benthic sensing, map classification and verification relative to NPS resource management needs, and will provide recommendations for NPS mapping protocols. USGS will conduct a pilot gap analysis of existing Park map products, source imagery and other data for three representative park units, including one unit in Alaska and another temperate park to be determined.
- Pursue a Centennial Challenge Signature project to facilitate an integrated program to inventory and map submerged/intertidal natural and cultural resources, understand resource status or condition, and develop protection strategies.
  - Develop a strategy between the following NPS units and corresponding National Marine Sanctuaries to develop biogeographical assessments similar to those developed for the Channel Islands and the Farallones Islands.
    - Olympic NP and Olympic Coast NMS;
    - NP of American Samoa and Fagatele Bay NMS;
    - Hawaii Volcanoes NP and Hawaii Humpback Whales NMS.
  - Take existing biogeographical information and all future information and incorporate the information into the “Encyclopedia of Life” (<http://www.eol.org/demonstration.html>). Either the NPS should contribute to the ongoing effort or develop our own and have it readily accessible on the web and within visitor centers.
- Conduct archeological overviews and assessments for submerged cultural resources (shipwrecks and other submerged archeological sites) of all PW/AK Region ocean parks. These assessments, working collaboratively with partners, will consolidate existing information on the location, status, and historical/cultural significance of all known resources and propose follow-up studies using existing and new technologies to discover presently unknown cultural resources.
- Define and understand linkages of submerged cultural resources, cultural landscapes, and historic structures toward development of a holistic approach to stewardship of maritime-related cultural resources. Begin at pilot parks, Kaloko-Honokohau and Bering Land Bridge.
- Coordinate with the North Slope Science Initiative (NSSI) to address the research, inventory, and monitoring needs related to development activities on Alaska’s North Slope. There are numerous unknown impacts anticipated with the loss of sea ice in the Arctic Ocean and the increase of energy, shipping, tourism, and fishing activities in the area.

*GOAL: Expand the natural resource vital signs monitoring program to more fully address ocean and estuarine resources.*

*Action items include:*

- Coordinate with the NPS Inventory and Monitoring Program to convene an oceans/coastal workshop, similar to the process used by individual parks during the



vital signs planning stages, to identify priority monitoring needs that are essential for quantifying and understanding changes in processes, biota, and/or stressors that are relevant to submerged and nearshore ocean and estuarine environments, and assess ongoing efforts. Include a comprehensive effort to obtain, organize (database), and track resource extractive uses such as harvest. These need t be reported at geographic domains relevant to NPS units. These will complement ongoing or planned vital signs monitoring that is focused on shoreline change processes, salt marsh habitats, rocky intertidal habitats, coral reefs, and nearshore ecosystems and the response of estuaries to nutrient enrichment, temperature change, and pH.

- Expand the role of the NPS as a partner to the Alaska Ocean Observing System (AOOS), whose specific goals include improving predictions of climate change and its effects on coastal populations, more effectively protect and restore healthy coastal marine ecosystems, and enable the sustained use of marine resources. The AOOS is currently developing a draft strategic plan, and the NPS is not listed as a partner organization.
- Reduce the complexity of reporting.
- Increase NPS funding and staffing for marine research and monitoring to ensure a commitment to long-term needs.
- Using existing data, spotlight several vital signs that clearly characterize the current condition and/or threats on ocean park submerged/intertidal natural resources. These could be related to tracking of trends in fish landings, shellfish bed closures or coral coverage, occurrences of non-native marine species, land use changes, climate change factors, and others. Incorporate these vital signs into public education programs such as citizen science initiative.
- Collaborate with NOAA on the development of vital sign parameters for offshore marine waters, and integrate with NOAA's ongoing Ocean Ecosystem Indicators research effort intending to identify the most robust metrics for identifying marine ecosystem health.
- Utilize regional ocean observing alliances under the Integrated Ocean Observing System (IOOS) to advocate for data and information that is relevant to local scales and needs of resource managers.
- Inventory all existing marine and coastal monitoring programs that are being implemented at national, state, and local scales and determine whether they are appropriate for the NPS and NPS participation [e.g., MARINe = Multi Agency Rocky Intertidal Network (California) <http://www.marine.gov/>; CRANE = Cooperative Research and Assessment of Nearshore Ecosystems (California) <http://www.dfg.ca.gov/Mrd/fir/sss.html#crane>; National Coastal Assessment (EPA, NOAA)].
- Work with established programs like the South Pacific Regional Environmental Programme (SPREP) and the Global Coral Reef Monitoring Network (GCRMN) for tracking change and condition of marine resources.
- Invest in existing and new technologies, and partner with other agencies that utilize state-of-the-art technologies, for performing more comprehensive inventories and monitoring.
- Enhanced NPS presence within marine environments through expanded boat patrol activities, labeling of park boundaries on maps, charts, and marine-related visitor

- education programs, all serving to reinforce the message that the NPS is fully committed to marine resource stewardship.
- Moreover, effective protection of ocean parks and establishment of cooperative programs with local, state, and federal partners (the seamless network concept) requires a clear understanding of submerged/intertidal marine resource jurisdictions and authorities. This topic is complex and varies among individual parks, states, territories, and local entities.

*GOAL: Understand and quantify threats to natural, cultural, and subsistence resources, including those associated with climate change and land- and water-based activities and develop mitigation or restoration strategies.*

*Action items include:*

- Complete remaining natural resource condition assessments at Santa Monica Mountains, National Park of American Samoa, War in the Pacific, and American Memorial. (NOTE: assessments are completed for other PW/AK coastal parks.) Utilize completed coastal watershed condition assessments to identify priority threats and information gaps in resource knowledge, and identify commonalities spanning multiple parks and regions.
- Inventory existing marine and coastal resource mitigation/restoration projects, and ensure scientifically defensible measures of evaluation of these efforts for both natural and cultural resources. For successful restoration projects, promote accomplishments throughout the PW/AK Region to serve as models for new projects that may be required to restore impaired resources.
  - Take existing biogeographical information and all future information, and incorporate the information into the “Encyclopedia of Life” (<http://www.eol.org/demonstration.html>). Either the NPS should contribute to the ongoing effort or develop our own and have it readily accessible on the web and within visitor centers.
- Collaboratively work with the USGS and the research community to identify and initiate targeted studies to enhance understanding of mitigation measures humans can take to respond to specific threats to natural and cultural resources, as well as responses to global climate change variables (e.g., sea level rise, increasing ocean temperature, changing storm frequencies and intensity).
- Collaboratively work with the MMS to identify potential offshore alternative energy locations and initiate targeted studies to enhance understanding of natural and cultural resources, park operations, and visitor impacts associated with these developments.
- Collaboratively work with NOAA to identify and initiate targeted studies to enhance understanding of aquaculture and potential threats associated with its development in and adjacent to NPS units.
- Solicit funding in collaboration with state agencies from the newly established Coastal Impact Assistance Program (CIAP)
- Expand on the efforts of Point Reyes National Seashore which has begun the process of evaluating, with partners, the establishment of Marine Reserves and Protected areas, as directed by the California Marine Life Protection Act. The park is also

facilitating enhanced research opportunities within the park's submerged boundaries, to evaluate the effectiveness of conservation methods, and to increase public awareness of the Seashore's role in ocean stewardship.

*GOAL: Expand understanding of ocean park boundaries, jurisdictions and authorities.*

*Action items include:*

- Facilitate preparation of a Solicitor's opinion on boundaries, jurisdictions and authorities for each PW/AK Region ocean park, including a discussion on relevance to consumptive uses (fishing, shellfishing, kelp harvesting, etc.), submerged cultural resource protection, and other marine activities. Parks entering the general management planning process should be given high priority.
- Convene a workshop for park managers aimed at inventorying and clarifying ocean park jurisdictional issues. In addition to jurisdiction, the following topics will be discussed and taken into account from the park management perspective: Submerged Lands Act, Coastal Zone Management Act, Renewable Energy Act, Aquaculture Act (pending), Abandoned Shipwreck Act, etc. Coordinate this effort through the DOI Regional Solicitor's Office.
- With respect to the Submerged Lands Act, work with DOI WASO and the Regional Solicitor's Office to provide guidance on the management of park resources that may be inundated in the future by sea level rise.

*GOAL: Increase the National Park Service's and other agencies' ocean and marine presence.*

*Action items include:*

- In cooperation with the national-level Ocean Park Stewardship Task Force and NOAA, include park boundaries on digital and paper nautical charts. Interact with state and local agencies, sportfishing and bait shops, recreational boating organizations, and others to display park boundaries on fishing maps, recreational guides, websites, tide charts, and other media. Evaluate the need for and costs of using buoys to mark park boundaries.
- Promote and expand joint marine enforcement patrol operations with other agencies. Identify a law enforcement ranger at each park to serve as a liaison with nearby non-NPS marine enforcement agencies to maintain communication and plan regular patrols.
- Establish an ocean park network of strategically located telephone "tip lines" (e.g., boat launches, bait shops, public docks, visitor centers) to facilitate reporting of marine violations in a timely manner and to reinforce the NPS message of ocean stewardship.

*GOAL: Proactively inform park management and the public of emerging issues that could impact the status and function of marine resources. Identify strategies to address these issues.*

*Action items include:*

- Prepare synthesis papers on emerging issues, including discussion of expected impacts on cultural and natural resources, park operations, and visitor experiences. Issues could include alternative energy development (wind turbines, wave and tidal power), liquefied natural gas LNG facility siting, aquaculture, invasive species, fishing pressure, coastal development pressure, shoreline stabilization practices, dredging, and accelerated rates of sea level rise and other climate change topics. Include a discussion of regulatory, planning, and other strategies to address these issues. Emerging issue synthesis papers could be developed for specific parks or be relevant to the region and multiple parks.
  - Develop a workplan within one year for every coastal park to work with the WASO Climate Change Coordinator to model sea level rise for their specific area. Through scenario-building parks will identify all natural resources, cultural resources, subsistence resources, and infrastructure that may be threatened by this event.
- Join concurrent efforts by other organizations to understand the responses of marine ecosystems in the Pacific to climate change and human activities at basin-wide and regional scales, to provide forecasts of what might be expected based on a current understanding of how nature works, and to communicate this information effectively to society in general.
- Prepare a written guide for park managers describing the variety of planning methods that may be available for enhancing conservation of park marine resources, including special designations such as outstanding national water resources, marine reserves, and others.
- Engage in state and local watershed planning efforts and encourage implementation of smart-growth and best management practices, conservation easements, and other practices that will lessen the impacts of development that are external to park boundaries and impacts related to within park extractions.
- Develop easily interpreted guidelines for viewing marine seabirds and mammals that can be distributed to boat-based visitors to NPS units.
- Generate forecasts, based on projected trends in status, of marine resources to display at park visitor centers for educating the public about how, based on the current state of the science, stressors such as global climate change are expected to influence NPS ocean resources.

*GOAL: Ensure that park-specific ocean stewardship issues and knowledge (both natural and cultural resources) are available and synthesized for planning teams.*

*Action items include:*

- Develop a strategy to ensure that NPS units are able to maintain and replace park vessels and related assets to prevent the loss of capability over time.

- In advance of the upcoming general management planning processes, identify the key issues that will be relevant, and then prepare papers that synthesize and interpret the available literature and data; describe historic and current management, regulatory and other activities of relevance to the particular issue; and identify gaps in our current understanding of the issue. Synthesis papers as described can be used as references for the planning team, as well as to inform the public of key issues.
  - Collaboratively work with the MMS to identify potential offshore alternate energy locations, and initiate targeted studies to enhance understanding of natural and cultural resources, park operations, and visitor impacts associated with these developments.
  - Collaboratively work with the NOAA to identify and initiate targeted studies to enhance understanding of aquaculture and potential threats associated with development in and adjacent to NPS units.

### **Strategy 3: Engage Visitors and the Public in Ocean Park Stewardship**

PW/AK Region coastal parks are a major destination for local, national and international visitors, creating opportunities for a wide variety of coastal experiences. For the most part, all of the coastal parks are located in the vicinity of major population centers, thus providing extraordinary venues to communicate ocean stewardship messages. As human populations expand and the ethnic demographics change, pressures on ocean and coastal resources will increase. Knowing the status of coastal and ocean resources, understanding ocean-related climate change topics and expected societal consequences, fostering changes in daily habits that would promote ocean resource conservation, and cultivating innovative thinking on approaches for ocean resource protection, are some of the messages that will enhance knowledge and awareness of critical marine resource issues. On-site and virtual park visitors, community neighbors, teachers, students, park staff, and volunteers are just some of the broad audience that can be reached with a diversity of education and communication techniques.

*GOAL: Create a communication strategy for PW/AK Region ocean parks to better inform the public on topics of ocean stewardship.*

*Action items include:*

- Convene a meeting with ocean park interpretive staff to assess effective outreach and education actions and develop a communication strategy that will identify key ocean stewardship messages at the region and park level, identify core audience interests, and suggest preferred media approaches. An effective communication strategy will ensure presentation of consistent ocean stewardship messages among parks and provide messages for targeted audiences. Information must be communicated in a manner that recognizes and incorporates the complexity of issues confronting ocean park managers (e.g., global climate change) from both technical and policy perspectives. Interpreters, educators, and natural and cultural resource professionals will convene to refine the key messages and concepts relevant to ocean stewardship in the PW/AK Region.

- The PW/AK Region will, as part of its communication strategy, consider an iconic species (such as the humpback whale) as a branding/thematic element in exhibit or wayside planning that creates the seamless feeling, or at least connectivity among the ocean parks, and helps identify the need for protecting other areas.
- Create a film over the next 5 years that is shown in each of the Pacific Rim visitor centers as one of many tools to deliver awareness, the strategy (including stewardship), and the connectivity of Pacific Ocean Parks.
- Work with the National Science Foundation's initiative, Centers for Ocean Education Excellence (COSEE), which supports partnerships between ocean science researchers, educators, and informal science organizations, providing the public a deeper understanding of the ocean and its influence on each person's quality of life and our national prosperity.

*GOAL: Enhance awareness and understanding of ocean stewardship issues through the development of interpretive materials and recreational opportunities.*

*Action items include:*

- Develop a thematic, curriculum-based resource guide aimed at teachers and non-formal education partners (e.g., local boating and fishing clubs, park friends groups).
- Promote marine-based programs similar to the National Science Foundation's Faculty Early Career Development (CAREER), which supports pre-tenure researchers who would like to combine their research efforts with educational programs.
- Work with the Northeast Region to facilitate development of an ocean park stewardship program at the 2008 conference of the National Science Teachers Association, to be held in Boston. Work collaboratively with the NPS Natural Resource Program Center.
- Develop an annotated list of sources of ocean stewardship interpretive information (from both NPS and non-NPS sources) and a list of potential partners involved with ocean literacy. These tasks will serve to avoid duplication of effort, foster connections among parks, and facilitate multi-partner collaborations.
- Develop regionally generic interpretation materials and templates articulating the key ocean stewardship messages and concepts. Disseminate to parks for inclusion of park-specific messages and for use in a variety of media including brochures, powerpoints, panel displays, and web pages, as well as audio and audio/visual outlets.
  - Use the materials developed above to participate in community programs and during special events (Oceans Week), especially at local venues and aquaria throughout the PW/AK.
- Evaluate the effectiveness of education and outreach approaches in advancing the ocean stewardship message, and capitalize on the evaluation strategy in the Interpretation and Education Renaissance Action Plan.
- Engage regional interpretation ranger advisory committees (oceans subgroups) in working collaboratively in both PW/AK parks to develop ocean park stewardship as a central theme, develop and share materials, tap education partners, and build new education partnerships with existing ocean stewardship organizations.

*GOAL: Explore approaches to engage visitors, teachers and students in the practice of ocean stewardship through experiential learning.*

*Action items include:*

- Engage the public in marine environment bio-blitz programs and incorporate citizen involvement in ocean park natural resource monitoring.
- Work with universities to promote programs for Pacific Ocean Parks such as the Research Experiences for Undergraduates (REU) Program (National Science Foundation), which provides funding to universities and marine laboratories to offer summer internships to undergraduate students who would like to participate in ocean-related research efforts.
- Work with the NPS Water Resources Division, Ocean and Coastal Resources Branch and Reef Environmental Education Foundation to expand volunteer fish surveys and involvement in park stewardship by divers and snorkelers through the Great Annual Fish Count and NPS Marine Recreational Stewardship Outreach Program, targeting Glacier Bay, Channel Islands, Kaloko-Honokohua and National Park of American Samoa.
- Develop prototype self-guided marine trails (e.g., canoe, kayak, and SCUBA) that inform recreational users of significant natural and cultural resources and ocean stewardship issues.
- Develop a local and distance learning venue for middle and high school students, modeled after Channel Islands Live, a one-hour interactive broadcast from Anacapa Cove (underwater within the kelp forest ecosystem directly into the classroom). Expand this model throughout the PW/AK Region and move the program and contents into the INTERNET II realm for interactive broadcast throughout the U.S. Invest in programs (and the technology to support their success) to reach a broader audience.
- Sponsor K-12 teacher workshops to facilitate local and distance learning efforts.
- Increase NPS presence at regional National Ocean Science Bowl competitions, a venue where high school students compete for college scholarships and marine science-based field trips/cruises. It can also be a recruitment venue for the agency.
- Develop and make available high-quality ocean and coastal education curricula through the internet.
- Link ocean stewardship messages with the PW/AK Region's Civic Engagement and 21<sup>st</sup> Century Relevance task groups to maximize public benefit and cultivate new park stewards.
- Work with aquaria through the PW/AK Region to develop exhibits and interactive displays that bring awareness to NPS ocean resources and stewardship.

*GOAL: Demonstrate a commitment to ocean stewardship through adoption of sustainable operations and practices at ocean parks.*

*Action items include:*

- Launch a “green marina” initiative at PW/AK Region ocean parks as marina concession contracts are negotiated, and work collaboratively with local communities to encourage “green harbors” that are within or adjacent to park boundaries.
- Identify specific alternative park operation approaches that will contribute to sustainability of ocean resources. Re-designed septic systems and designated mooring/anchoring areas are examples.
- Develop a “conserve your ocean resources” traveling display that demonstrates sustainable actions that contribute to ocean stewardship, with examples from programs implemented at PW/AK Region ocean parks.
- Develop a “best practices website” for marine operations. It can be used to share innovative ideas and climate-friendly approaches to park operations.
- Develop outreach programs highlighting the ecological consequences of marine engine emissions (hydrocarbons) and impacts of underwater noise, promoting the use of more ecologically sustainable materials/equipment such as less toxic bottom paints, and quieter motors.

*GOAL: Demonstrate a commitment to ocean stewardship through adoption of sustainable tourism and recreational opportunities, operations, and practices at ocean parks.*

*Action items include:*

- Identify public infrastructure in the greatest need of maintenance, repair, or protection to support tourism and recreational opportunities/activities.
- Identify ocean and recreational conflicts and safety issues and work with the public, industry, and special interest groups to identify potential solutions.
- Work with the NPS Water Resources Division, Ocean and Coastal Resources Branch, to pursue an NPS Marine Recreational Stewardship Outreach Program that uses 20 percent fee revenue funding. Develop information on marine recreational visitor use patterns, survey visitor beliefs, and utilize outreach and education materials to encourage ocean stewardship amongst boaters, divers, and anglers.

#### **Strategy 4: Increase Technical Capacity for Ocean Exploration and Stewardship**

PW/AK Region ocean parks have a long history of committing to ocean resource stewardship through active resource assessment, science, protection, education and planning programs, but this dedication must be enhanced through collaboration with partners, sharing of resources among parks and among partners, marine- and ocean-focused training, and investment in new personnel, equipment, facilities, and support.

*GOAL: Maximize the existing capacity of the PW/AK Region and ocean park units to engage in stewardship activities.*



*Action items include:*

- Conduct an inventory of existing NPS resources (personnel, equipment, facilities, cooperative partnerships, others) capable of engaging in natural and cultural resource ocean park initiatives, resource protection, planning, interpretation and education. Prepare a directory of resources that could be shared within and among ocean park units, including sharing of personnel, boats, and technical facilities and equipment (e.g., laboratories, field sampling equipment).
- Explore the capacity of using existing NPS marine vessels such as ranger boats, or concessionaire vessels such as tour vessels, as continuous passive recorders of basic ocean metrics such as temperature, salinity, and pH, as they undergo normal operations.
- Create programs dedicated to ocean stewardship within the PW/AK Region's Research Learning Centers. The Research Learning Centers could become centers of regional and national excellence on specific marine ecosystem types or topics.
- The Research Learning Centers and PW/AK Cooperative Ecosystem Studies Unit will sponsor technical workshops, symposia, and training to enhance local knowledge of ocean issues; initiate ocean resource fellowship programs; and facilitate student and faculty research in ocean parks. Focus areas will be related to marine natural resources, marine archeology, maritime history, and coastal planning and policy.
- Increase the use of special appointments (e.g. Schedule A, etc.) to assist parks in addressing oceans issues, including technical advice, proposal development, and others (including the development of RFPs).
- Cooperate with the Federal Law Enforcement Training Center (FLETC) to host the coastal marine law enforcement training course at a PW/AK Region park. This will increase the capacity of parks to engage safely in marine-related enforcement activities aimed at protecting ocean resources.

*GOAL: Increase the technical capacity for ocean exploration and stewardship.*

*Action items include:*

- Identify and prioritize specific ocean stewardship programs that require a new investment in personnel, equipment, facilities, and/or support funds in order to be effective. Seek to fulfill these new investment needs through NPS and partner sources.
- Continue to seek opportunities to obtain high-quality surplus boats from federal marine enforcement agencies.
- Propose and prepare a feasibility study to establish a National Ocean Center. A multi-agency Center (e.g., NPS, NOAA, USGS, U.S. Coast Guard, others) with strong academic involvement would serve the Regions and the nation, advance the seamless network concept, and promote the marine exploration, protection, policy, and education goals of the PW/AK Region Strategy. Pursue a Centennial Challenge Signature project to implement this action item.
- Support volunteer programs that enhance the base knowledge of park resources such as the Reef Check Program. Through this volunteer effort, hundreds of diving groups around the world are organizing annual field trips to gather transect data on selected

- coral reefs. The Reef Check protocol (methodology) is simple, requiring only a few hours to explain, but is dependent on the involvement of coral reef scientists to supervise site selection and data gathering.
- Support NOAA's Sea Grant Program that both networks university based marine researcher and provides outreach and education to a variety of audiences that visit park areas.

## **MOVING THE STRATEGIC PLAN FORWARD**

The goals and action items that follow are addressed, in some capacity, throughout the Strategic Plan, but they deserve special mention because of their broad significance and relevance to all of the general Strategic Plan categories (Seamless Network; Discover, Map and Protect; Engage the Public; Increase Technical Capacity).

*GOAL: Evaluate the effectiveness of the PW/AK Ocean Park Stewardship Strategy in conserving coastal and marine resources.*

*Action items include:*

- Develop an interdisciplinary taskforce to advance the strategies outlined in the plan. The taskforce will complete a 2-year implementation strategy which addresses high priority tasks to be accomplished and funding needs.
- Engage the regional science programs to determine if an ocean advisor is needed.
- Develop a mechanism for engaging with state and territorial governments.
- Develop a process to evaluate progress that is made with ocean park stewardship throughout the Region. Establish specific criteria and metrics for measuring progress, accomplishments, and success in areas of natural and cultural resource conservation, enforcement/protection, planning, education, and interpretation. Establish a schedule for monitoring progress.

*GOAL: Generate awareness among park managers of the significance of marine resources and protection responsibilities.*

*Action items include:*

- Design and implement a pilot Ocean Park Rapid Assessment Program that will include a 2-day park visit and follow-up assessment report with the objective of informing park managers of the Strategic Plan, conducting an initial characterization of existing knowledge (e.g., jurisdictional authorities, natural and cultural marine resources, activities within marine boundaries, etc.), evaluating management issues, identifying activities (research, monitoring, protection, planning, education) that are needed for

effectively meeting ocean stewardship goals, identifying marine-related partners, and other topics. Conduct two pilot rapid assessments by FY10.

- Utilize coastal watershed condition assessments to identify priority resource issues and information gaps.

*GOAL: Understand and anticipate the role of ocean park stewardship within the urban corridor, given changing demography, development patterns, economies, and societal preferences.*

*Action items include:*

- Engage social scientists, demographers, planners, economists, and others in preparing research papers that inform park managers on societal changes that will be relevant to the ocean stewardship goals of the Strategic Plan. For long-term effectiveness, management actions related to conservation of ocean park resources must anticipate our changing society.

*GOAL: Pursue funding opportunities to increase the technical capacity for ocean exploration and stewardship.*

*Action items include:*

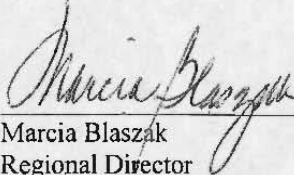
- PW/AK Region ocean parks authorized to collect recreational fees under the Recreation Fee Enhancement Program should consider using 80% funds to support ocean stewardship activities. Ocean stewardship projects that have a direct visitor connection through interpretation and education, restoration of resources, health-and-safety improvements, and law enforcement would be appropriate under the Recreation Fee Enhancement Program. In addition, the PW/AK Region will develop proposals for use of 20% recreation fee funds to support ocean stewardship projects in non-fee collection ocean parks.
- In association with the new flexible park base funding program associated with the National Park Centennial Initiative, the PW/AK Region will prepare a series of park-based proposals (or proposals from clusters of ocean parks) to focus on specific ocean-related needs as identified in this Strategic Plan.
- Partnerships are fundamental to success of the PW/AK Region Ocean Park Strategic Plan and fundamental to the National Park Centennial Initiative. The PW/AK Region will pursue several Centennial Challenge projects aimed at advancing our understanding of ocean park resources through fostering productive partnerships.

\* \* \* \* \*

Promoting stewardship of ocean park marine resources is not new to the PW/AK Region, but a comprehensive ocean park strategy that looks to the future, integrates all programs (natural and cultural resources, operations and protection, interpretation and education, planning and partnerships), calls for focused collaboration within and between parks, facilitates

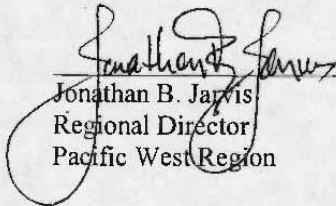
partnerships, and addresses the complex issues of global climate change is now needed. This Strategic Plan provides the PW/AK Region with the vision to become a leading partner in the conservation and restoration of marine resources and maritime heritage that define our ocean parks.

The Pacific West and Alaska Regions enter into this strategic plan.

  
\_\_\_\_\_  
Marcia Blaszak  
Regional Director  
Alaska Region

Date

4/14/08

  
\_\_\_\_\_  
Jonathan B. Jarvis  
Regional Director  
Pacific West Region

Date

4/14/2008

As the nation's primary conservation agency, the Department of the Interior has responsibility for most of our nationally owned public land and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Literature Cited:

Pew Oceans Commission. 2003. A Report to the Nation, Recommendations for a New Ocean Policy.

Spalding, M.D., H.E. Fox, G.R. Allen, N. Davidson, Z.A. Ferdana, M. Finlayson, B.S. Halpern, M.A. Jorge, A. Lombana, S.A. Lourie, K.D. Martin, E. McManus, J. Molnar, C.A. Recchia, and J. Robertson. 2007. Marine Ecoregions of the World: A Bioregionalization of Coastal and Shelf Areas. *BioScience* Vol. 57 No. 7: 573-583.

| <b>APPENDIX 1. Marine Ecoregions of the Pacific West and Alaska Regions</b> |                                     |   |   |
|---|-------------------------------------|---|---|
| <b>Oceanic Realm</b>  | <b>Province</b>                     | <b>Ecoregion</b>                            | <b>NPS Units</b>  |
| Arctic  | Arctic                              | Chukchi Sea                                 | Cape Krusenstern NM<br>Bering Land Bridge NM  |
|   |                                     | Eastern Bering Sea                          | Alagnak Wild River  |
| Temperate North Pacific   | Cold Temperate<br>Northeast Pacific | Aleutian Islands                            | Aleutian World War II NHA   |
|   |                                     | Gulf of Alaska                              | Aniakchak NM/P<br>Katmai NP/P<br>Lake Clark NP/P<br>Kenai Fjords NP<br>Wrangell-St. Elias NP/P  |
|   |                                     | North American Pacific Fjordland            | Glacier Bay NP/P<br>Klondike Gold Rush NHP<br>Sitka NHP   |
|   |                                     | Puget Trough/Georgia Basin                  | San Juan Island NHP<br>Ebey's Landing NHR   |
|   |                                     | Oregon/Washington/Vancouver Coast and Shelf | Olympic NP<br>Lewis and Clark NHP   |
|   |                                     | Northern California                         | Redwood N/SP<br>Point Reyes NS<br>Golden Gate NRA<br>San Francisco Maritime NHP<br>Rosie the Riveter<br>Port Chicago<br>Channel Islands NP              |
|   | Warm Temperate<br>Northeast Pacific | Southern California Bight                   | Channel Islands NP<br>Santa Monica Mountains NRA<br>Cabrillo NM   |
| Central Indo-Pacific  | Tropical Northwestern Pacific       | Mariana Islands                             | War in the Pacific NM   |
| Eastern Indo-Pacific  | Hawaii                              | Hawaii                                      | Hawaii Volcanoes NP<br>Pu'uhonua O Honaunau NHS<br>Kaloko-Honokohua NHP<br>Puukohola Heiau NHS<br>Haleakala NP<br>Kalaupapa NHP<br>USS Arizona Memorial |
|   | Central Polynesia                   | Samoa Islands                               | National Park of American Samoa   |

NOTE: Oceanic Realms, Provinces, and Ecoregions as defined by Spalding et al. 2007.

APPENDIX 2

| State Territory | National Park System  | FWS National Wildlife Refuges   | NOAA Sanctuaries | National Estuarine Research Reserves |
|-----------------|---|---|------------------|--------------------------------------|
| AK              | Aniakchak National Monument & Preserve<br>Glacier Bay National Park and Preserve<br>Katmai National Park & Preserve<br>Kenai Fjords National Park<br>Klondike Gold Rush National Historical Park<br>Lake Clark National Park & Preserve<br>Sitka National Historical Park<br>Wrangell-St. Elias National Park & Preserve<br>Central, Southeast, & Southwest Alaska Networks | Alaska Maritime<br>Alaska Peninsula<br>Becharof<br>Izembek<br>Kenai<br>Kodiak | NA*              | Kachemak                             |
| AK              | Bering Land Bridge National Preserve<br>Cape Krusenstern National Monument<br>Arctic Network  | Selawik   | NA               | NA                                   |
| AS              | National Park of American Samoa<br>Pacific Islands Network  | Rose Atoll  | Fagatele Bay     | NA                                   |

| State Territory | National Park System  | FWS National Wildlife Refuges  | NOAA Sanctuaries                                       | National Estuarine Research Reserves |
|-----------------|---|--|--|--------------------------------------|
| CA              | Cabrillo National Monument<br>Channel Islands National Park<br>Santa Monica Mountains National Recreation Area<br>Mediterranean Coast Network   | San Diego<br>Sweetwater Marsh<br>Tijuana Slough Seal Beach<br>Guadalupe-Nipomo Dunes         | Channel Islands  | Tijuana River                        |
| CA              | Fort Point National Historic Site<br>Golden Gate National Recreation Area<br>Point Reyes National Seashore<br>San Francisco Maritime National Historical Park<br>San Francisco Bay Area | Don Edwards San Francisco Bay<br>Farallon<br>Marin Islands<br>Salinas River<br>San Pablo Bay | Cordell Bank<br>Gulf of the Farallones<br>Monterey Bay | Elkhorn Slough<br>San Francisco Bay  |

|         |   |   |               |                  |
|---------|---|---|---------------|------------------|
|         | Network   |   |               |                  |
| CA & OR | Redwood National Park<br>Klamath Network  | Brandon Marsh<br>Castle Rock Humbolt<br>Bay<br>Oregon Islands   | NA            | South Slough     |
| WA & OR | Ebey's Landing National<br>Historical Reserve<br>Lewis & Clark National<br>Historical Park<br>Olympic National Park<br>San Juan Island National<br>Historical Park<br>North Coast & Cascades<br>Network | Copalis<br>Dungeness<br>Flattery Rocks<br>Grays Harbor<br>Nisqually<br>Protection Island<br>Quillayute Needles<br>San Juan Islands<br>Cape Meares<br>Lewis and Clark<br>Nestucca Bay<br>Siletz Bay<br>Three Arch Rocks<br>Willapa | Olympic Coast | Padilla Bay (WA) |

EXPERIENCE YOUR AMERICA™



Organizations/Programs that NPS should be a full partner/participant

NOTE: Table is not meant to be inclusive of all potential opportunities

| ORGANIZATION                                      | PARTNERS/PROGRAMS   |
|---|---|
| North Pacific Research Board                      | <p>The Board was created by Congress in 1997 to recommend marine research initiatives to the US Secretary of Commerce, who is charged with making final funding decisions. The Board has 20 members hailing mainly from Alaska, Washington and Oregon.</p> <p>The mission is to develop a comprehensive science program of the highest caliber to enhance understanding of the North Pacific, Bering Sea, and Arctic Ocean ecosystems and fisheries. The Board will seek to avoid duplicating other research.</p> <p><a href="http://www.nprb.org/">http://www.nprb.org/</a></p>  |
| West Coast Governor's Oceans Working Group        | <p>At the request of the three Governors, the Chair of the White House Council on Environmental Quality and its Cabinet Committee on Ocean Policy pledged to support meaningful collaboration among the West Coast states and federal agencies to address the priorities of the West Coast Governors' Agreement on Ocean Health.</p> <p>On September 18, 2006 the Governors of California, Oregon and Washington announced the West Coast Governors' Agreement on Ocean Health. The Agreement launched a new, proactive regional collaboration to protect and manage the ocean and coastal resources along the entire West Coast, as called for in the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission.</p> <p><a href="http://resources.ca.gov/press_documents/WCOceanAgreementp6.pdf">http://resources.ca.gov/press_documents/WCOceanAgreementp6.pdf</a></p> |
| Coastal Impact Assistance Program (CIAP)          | <p>The Energy Policy Act of 2005 (Public Law 109-58) was signed into law on August 8, 2005. Section 384 of the Act establishes the Coastal Impact Assistance Program (CIAP) which authorizes funds to be distributed to Outer Continental Shelf (OCS) oil and gas producing states to mitigate the impacts of OCS oil and gas activities.</p> <p><a href="http://www.mms.gov/CIAPmain.htm">http://www.mms.gov/CIAPmain.htm</a></p>  |
| Alaska Marine Ecosystem Forum (AMEF)              | <p>The AMEF promotes the collective aim of Federal and State agencies and the North Pacific Fishery Management Council to achieve sustainable management and use of Alaska's marine ecosystems in the most effective and efficient manner, consistent with the missions of those agencies. Through coordinated and cooperative understanding, the AMEF seeks to ensure that the interests of the people, biota, and physical environment of Alaska's marine waters are well served.</p> <p><a href="http://www.adfg.state.ak.us/special/oceans/policy_ecosystem.php">http://www.adfg.state.ak.us/special/oceans/policy_ecosystem.php</a></p>  |
| Faculty Early Career Development (CAREER) Program | <p>The Faculty Early Career Development (CAREER) Program is a Foundation-wide activity that offers the National Science Foundation's most prestigious awards in support of the early career-development activities of those teacher-scholars who most effectively integrate research and education within the context of the mission of their organization. Such activities should build a firm foundation for a lifetime of integrated contributions to research and education.</p> <p><a href="http://www.nsf.gov/">http://www.nsf.gov/</a></p>   |
| Coastal America                                   | <p>Coastal America is an action-oriented, results-driven process aimed at restoring and preserving vital coastal ecosystems and addressing our most critical environmental issues.</p>  |
| <b>Global Ocean</b>                               | <p>U.S. GLOBEC is a multi-disciplinary research program designed by oceanographers, fishery</p>   |

|   |   |
|---|---|
| <p><b>Ecosystems Dynamics (GLOBEC)</b></p>  | <p>scientists, and marine ecologists to examine the potential impact of global climate change on ocean ecosystems. U.S. GLOBEC is a component of the U.S. Global Change Research Program and is linked to worldwide research on this topic through the International GLOBEC Program.</p> <p>The objective of U.S. GLOBEC research is to understand how climate change and variability will translate into changes in the structure and dynamics of marine ecosystems and in fishery production.</p> <p><a href="http://www.usglobec.org/">http://www.usglobec.org/</a></p>  |
| <p><b>North Pacific Marine Science Organization (PICES)</b></p>   | <p>PICES is an intergovernmental scientific organization, was established in 1992 to promote and coordinate marine research in the northern North Pacific and adjacent seas.</p> <p>The purposes of the Organization are as follows:</p> <ul style="list-style-type: none"> <li>▪ Promote and coordinate marine research in the northern North Pacific and adjacent seas especially northward of 30 degrees North</li> <li>▪ Advance scientific knowledge about the ocean environment, global weather and climate change, living resources and their ecosystems, and the impacts of human activities</li> <li>▪ Promote the collection and rapid exchange of scientific information on these issues</li> </ul> <p><a href="http://www.pices.int/">http://www.pices.int/</a></p> |
| <p><b>Forecasting and Understanding Trends, Uncertainty and Responses of North Pacific Marine Ecosystems (FUTURE)</b></p> | <p>FUTURE is an integrative Scientific Program undertaken by the Member Nations and affiliates of PICES to understand how marine ecosystems in the North Pacific respond to climate change and human activities, to forecast ecosystem status based on a contemporary understanding of how nature functions, and to communicate new insights to its members, governments, stakeholders and the public.</p> <p><a href="http://www.pices.int/">http://www.pices.int/</a></p>   |
| <p><b>Commission for Environmental Cooperation (CEC)</b></p>  | <p>CEC is an international organization created by Canada, Mexico and the United States under the North American Agreement on Environmental Cooperation (NAAEC). The CEC was established to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law. The Agreement complements the environmental provisions of the North American Free Trade Agreement (NAFTA).</p> <p><a href="http://www.cec.org/home/index.cfm?varlan=english">http://www.cec.org/home/index.cfm?varlan=english</a></p>   |
| <p><b>Pacific Regional Environment Programme (SPREP)</b></p>  | <p>SPREP is a regional organization established by the governments and administrations of the Pacific region to look after its environment. It has grown from a small program attached to the South Pacific Commission (SPC) in the 1980s into the Pacific region's major intergovernmental organization charged with protecting and managing the environment and natural resources.</p> <p>SPREP's mandate is to promote cooperation in the Pacific islands region and to provide assistance in order to protect and improve the environment and to ensure sustainable development for present and future generations.</p> <p><a href="http://www.sprep.org/sprep/about.htm">http://www.sprep.org/sprep/about.htm</a></p>  |
| <p><b>North Slope Science Initiative (NSSI)</b></p>   | <p>The North Slope Science Initiative (NSSI) is an inter-agency effort to increase collaboration at the local, state, and federal levels to address the research, inventory, and monitoring needs as they relate to development activities on the North Slope.</p> <p><a href="http://mtri.org/">http://mtri.org/</a></p>   |

|   |   |
|---|---|
| Alaska Ocean Observing System (AOOS)  | <p>The Alaska Ocean Observing System's mission is to improve our ability to rapidly detect changes in marine ecosystems and living resources, and predict future changes and their consequences for the public good.</p> <p><a href="http://www.aos.org/">http://www.aos.org/</a></p>   |
| Multi-Agency Rocky Intertidal Network (MARINe)                              | <p>The MARINe partnership of local, State, and Federal agencies, universities and private organizations monitors rocky intertidal sites along the coast of California, including the islands, on a long-term basis. It represents the largest program of its kind on the west coast.</p> <p><a href="http://www.marine.gov/">http://www.marine.gov/</a></p>   |
| Research Experiences for Undergraduates (REU) program                       | <p>The Research Experiences for Undergraduates (REU) program supports active research participation by undergraduate students in any of the areas of research funded by the National Science Foundation. REU projects involve students in meaningful ways in ongoing research programs or in research projects specifically designed for the REU program.</p> <p><a href="http://www.nsf.gov/">http://www.nsf.gov/</a></p>  |
| Cooperative Research and Assessment of Nearshore Ecosystems (CRANe) Program | <p>CRANE is a collaborative effort between the California Department of Fish and Game (CDFG), various universities, private organizations, and government programs to gather and report data for fishery management and performance of marine protected areas. In 2004, funding was available for a wide-scale survey and report of fish and invertebrate populations in shallow, rocky habitats accessible to divers (Monterey to San Diego, including the Channel Islands).</p> <p><a href="http://www.dfg.ca.gov/marine/fir/sss.asp#crane">http://www.dfg.ca.gov/marine/fir/sss.asp#crane</a></p>  |
| Global Coral Reef Monitoring Network (GCRMN)                                | <p>GCRMN works to improve management and conservation of coral reefs by providing manuals, equipment, databases, training, problem solving, and helps with finding funds for reef monitoring - all coordinated in a global network.</p> <p>The GCRMN aims to improve management and sustainable conservation of coral reefs for people by assessing the status and trends in the reefs and how people use and value the resources.</p> <p><a href="http://www.gcrmn.org/">http://www.gcrmn.org/</a></p>   |
| National Coastal Assessment   | <p>The US EPA's National Coastal Assessment surveys the condition of the Nation's coastal resources by creating an integrated, comprehensive monitoring program among the coastal states.</p> <p>To answer broad-scale questions on environmental conditions, EMAP and its partners have collected estuarine and coastal data from thousands of stations along the coasts of the continental United States.</p> <p>The Environmental Monitoring and Assessment Program (EMAP) is a research program to develop the tools necessary to monitor and assess the status and trends of national ecological resources. EMAP's goal is to develop the scientific understanding for translating environmental monitoring data from multiple spatial and temporal scales into assessments of current ecological condition and forecasts of future risks to our natural resources.</p> <p><a href="http://www.epa.gov/emap/nca/">http://www.epa.gov/emap/nca/</a></p> |