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OIL SPILL RESTORATION PLANNING OFFICE

SUMMARY REPORT ON PROGRAMS TO PROTECT AND MANAGE MARINE HABITATS

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Prepared for:

U.S. Environmental Protection Agency

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Summary Report on Programs to Protect and Manage Marine Habitats

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EXECUTIVE SUMMARY

On August 1 and 2, 1991, the Restoration Planning Work Group held a workshop to discuss the potential of using protective area designations as part of the overall restoration strategy for resources affected by the Exxon-Valdez oil spill (EVOS). During the workshop, the work group and several managers and administrators from state and federal programs discussed the potential and suitability of using existing protective area designations, or new types of area designations, as part of the oil spill restoration effort.

This document presents a summary of presentations and roundtable discussions which occurred during the workshop. Appendix A presents a comparison of the various types of protective area designations discussed at the workshop.

INTRODUCTION

On March 24, 1989, the largest oil spill in U.S. history occurred when the oil tanker, Exxon-Valdez, ran aground on Bligh Reef in Prince William Sound. Over 1,000 miles of coastline was affected by the spill, resulting in the injury of a multitude of resources. The natural resources impacts are the most obvious; however, cultural, historical, economical, and recreational resources were also affected.

Following EVOS, the state and federal on-scene coordinators, Alaska Department of Environmental Conservation, and the U.S. Coast Guard organized the response to the spill. This included preventing, to the extent possible, the oil from reaching sensitive areas, manual cleaning, and bioremediation. The federal and state trustees directed a process of assessing the injury to natural resources including archaeology and recreational resources. This process was designed to serve litigation needs comparable to the Natural Resource Damage Assessment (NRDA) process and to become a basis for a restoration plan. The trustees and the U.S. Environmental Protection Agency (EPA) began to put the pieces of a restoration plan into place.

In late 1989, the state and federal interagency Restoration Planning Work Group (RPWG) was established to develop and coordinate restoration planning activities for the EVOS and to recommend appropriate restoration measures. RPWG is currently evaluating a broad spectrum of restoration options. Restoration includes three possible categories: direct restoration, in-kind replacement of the injured resources, and the acquisition of equivalent resources. One option being considered is to facilitate natural recovery of resources through protection of coastal and marine habitats.

The RPWG sponsored a workshop on August 1 and 2, 1991, in Anchorage, Alaska, to address the potential for using protected area designations as part of a restoration strategy. The workshop included managers and administrators of state and federal protected areas who provided information on their respective designation systems.

This document provides a summary of presentations and discussions which occurred during the RPWG workshop. The document summarizes federal and state designation programs, as well as the potential for creating new types of designations to promote restoration from the EVOS. Appendix A presents a comparison of the various types of protective area designations discussed at the workshop.

OVERVIEW OF PROTECTED AREA DESIGNATIONS FOR RESTORATION

A variety of state and federal designations for protecting marine and coastal habitats are now in existence. These protected area designations help maintain ecosystem productivity by controlling activities that disrupt ecological processes or that physically

damage the environment. Protected designations may be able to accommodate conservation objectives as well as other pre-existing uses. The success of a designation strategy depends on the selection of appropriate areas, well-designed mandates and regulations, effective management, and local support.

Protected area designations can be an effective means of preventing further degradation of the habitats on which injured species depend. By designating protected areas, a management authority becomes responsible for maintaining the habitat and protecting it from disturbance or conflict with other resource users. The designation of an area as protected may or may not directly expedite the recovery of species, but it will provide species added protection over the period they need to recover naturally. In addition, protected areas can shelter populations which may help to repopulate or supplement biodiversity in neighboring impacted areas.

In addition to preventing further degradation of habitats, protected area designations provide a number of other positive benefits. Designations:

- focus attention on sensitive resources and habitats;
- define concise restoration and management goals as part of the management plan;
- provide a vehicle in which to coordinate the efforts and address the concerns of multiple state and federal agencies, native people, and the general public;
- attract funding and interest in research;
- contribute to public education;
- provide the authority to implement and enforce regulations to protect habitats, and fish and wildlife populations; and
- safeguard the time and money invested in restoration by ensuring continued management and protection of areas.

RPWG is examining existing state and federal protected area designations to determine the feasibility of using protective designations for restoration. Managers and administrators of these areas provided information on designation objectives, management, monitoring, funding, and allowable uses, as well as experience-oriented information. The potential for creating a new type of designation was also explored.

DESCRIPTION OF EXISTING DESIGNATION

Federal Programs

National Marine Sanctuary Program

The National Marine Sanctuary Program is managed by the Sanctuaries and Reserves Division of the National Oceanic and Atmospheric Administration (NOAA). The purpose of the program is to protect the integrity of nationally significant marine areas by regulating human activities within them. An important aspect of the program is an emphasis on research and education to gain a better scientific understanding of marine ecosystems and to educate the public about the wise use of marine resources.

Areas which may be included in this program are coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction consistent with international law. Targeted areas are those which are ecologically or economically important and provide habitat for threatened or endangered species, or offshore areas where there are no existing special area protection mechanisms.

The process for designating a National Marine Sanctuary (NMS) officially begins with the Site Evaluation List (SEL). Sites are usually nominated to the SEL by individual states. To be selected for listing, a site must possess qualities which make it of special national significance. It is important to note that sites do not necessarily have to be pristine to be selected. Preliminary evaluations of nominated sites are conducted on a site-specific basis by regional agency teams. A public involvement process follows the preliminary evaluations before a site is nominated to, or placed on the SEL.

Once listed on the SEL, a site is evaluated for its natural resource values, human use values, conflicting activities that might require special regulation, and the relative benefits of the designation. This evaluation includes complying with National Environmental Policy Act (NEPA) requirements, including the preparation of an environmental impact statement (EIS), as well as preparing a management plan, and draft regulations. During the designation process, public notice is published in the Federal Register and the local media. After notification, public meetings are held in the affected areas.

The cost of designating a NMS is approximately \$500,000, most of which is for review of existing information, travel, and consultation. The process typically takes about 2 years.

Most sanctuary units are managed by a small staff of 6 to 10 people. In addition, local universities may provide some support. Law enforcement for the sanctuaries is the responsibility of the U.S. Coast Guard, as well as state and local law enforcement agencies.

Operation costs are \$600,000 to \$800,000 per year per unit and are funded by NOAA. However, the NMS budget has decreased appreciably over the past decade even though the number of sanctuaries has increased.

Pre-existing uses in the sanctuaries are generally allowed to continue, although they may be regulated so that they remain consistent with the purposes for which the sanctuaries were designated. There are generally no "in-holdings" of private lands within a NMS.

Each sanctuary has different regulations which are established within its management plan. For example, the Florida Keys NMS has specific restrictions on spear fishing and trapping. The Gulf of the Farallones NMS management plan prohibits oil and gas exploration and production, effluent discharge, dredging, and dredge spoil disposal within the sanctuary. A sanctuary can also apply different regulations within different zones of the sanctuary.

The strength in enforcement of sanctuary regulations comes from the substantial fines which can be levied against violators. Individuals in violation of regulations within the Gulf of the Farallones NMS can currently be fined up to \$50,000 a day; however, new legislation should increase the maximum fines up to \$250,000 per day. Fines can also be imposed on individuals who damage sanctuary resources, even if the source of the damage originates outside the sanctuary boundaries (e.g., discharge from an activity drifting into the sanctuary).

The National Marine Sanctuary Program includes a provision to support, promote, and coordinate scientific research and monitoring of site specific marine resources. The intent of this provision is to contribute to a better understanding of the marine environment and to promote more effective management. The results of the research are used in management and regulatory decision making for the sanctuaries.

Community support has been the foundation for success at the Gulf of Farallones NMS. In the case of the Florida Keys NMS, there was disagreement during the designation process. In response to these concerns, the various interest groups were organized and invited to participate in sanctuary management along with an advisory council. The advisory council included: NOAA, EPA, Florida Department of Natural Resources, Florida Department of Environmental Regulation, Florida Department of Community Affairs, Florida Marine Fisheries Commission, various regional fishery management councils, the south Florida Water Management District and the Monroe County government.

National Estuarine Reserve Research System

The National Estuarine Reserve Research System (NERRS) was established under the Coastal Zone Management Act to address threats to the nation's estuaries. Individual reserves are managed by states in partnership with NOAA. NOAA is responsible for designating the reserves and administering the overall NERRS program. The state manages individual reserves and provides staff. Reserves are established as natural field laboratories

to provide opportunities for long-term research and public education. While education and research are the primary objectives of the NERRS, environmental monitoring and protection are also priorities.

Reserves can be composed of entire estuarine systems, or at least the key land and water portions of the estuary, including adjacent transitional areas that constitute, to the extent possible, a natural unit. However, NERRS and NMS boundaries cannot overlap, although they may be adjacent.

After a site is selected, the state will request that NOAA begin the designation process. There are specific federal guidelines which apply to the designation process. Once NOAA approves the state's request for designation of a site, the state is required to submit a management plan and provide all the necessary information for NOAA to prepare an EIS. A public notification process is initiated early in the site selection process, and the public is encouraged to participate through correspondence and public meetings. The process takes approximately 2 to 3 years.

The management plan defines allowable activities within the reserve. Multiple uses are allowed within reserves, provided they are compatible with the management plan. A permitting system for regulating activities can also be established in the management plan. National Estuarine Research Reserves are open to the public to the extent permitted under state and federal law.

Up to \$100,000 in federal funds can be appropriated for the designation of a site. However, the state could be required to contribute an equal or greater share of the cost to complete the designation. Federal funding for the management of the reserves can be as much as \$70,000, which must be matched by the state. In reality, annual costs are usually significantly greater. Post-site designation, federal supplemental acquisition, and developmental awards of \$4,000,000 (land) and \$1,500,000 (physical construction) are also available, but must be matched by the state on a 50/50 basis. Reserves can include multiple sites; however, the budget for one reserve must be distributed between sites. Reserves are usually staffed by 3 to 5 state employees, which can be complemented by university research staff and volunteers. Law enforcement is handled by appropriate local, state, and federal authorities.

The reserves are set aside as natural field laboratories to provide long-term opportunities for research, education, and interpretation of ecological relationships within the designated areas. NOAA consults with other federal and state agencies to promote and coordinate use of the NERRS for research. A wide range of research projects are conducted which primarily focus on management and regulatory-related questions. Funding for baseline studies, and, on an annual basis, long-term monitoring projects are available through the national NOAA office.

The management of the Padilla Bay Estuarine Research Reserve found that a hands-on working relationship with the locals has been the best approach for gaining acceptance

from the general public. The management plan development process addressed concerns of local citizens especially with regard to agricultural practices. With the intention of continuing this cooperative effort, an oversight committee was established to provide a vehicle through which concerns of local citizens could be expressed.

National Park Service

The National Park Service (NPS) is a network of protected areas composed of national parks, national preserves, national monuments, national recreation areas, national seashores, and other NPS designated lands. The primary role of the NPS is stewardship of the nation's most protected lands. The purposes of the park system are to conserve the scenery, natural and cultural resources, and wildlife; and to provide for public enjoyment in a manner that will leave the resources unimpaired for future generations. Although there is a high level of protection in all of the park service areas, those designated as "wilderness" are afforded the utmost in protection. National park units usually consist of upland areas; however, there are a few instances where marine waters are included within park boundaries (i.e., Glacier Bay National Park and Preserve, and Everglades National Park).

A national park must be designated by an act of Congress. Other designations may be created by presidential proclamation or an act of Congress. Congress may or may not require a legislative EIS to be completed before its final consideration of legislation. There is no set time period or cost for the designation process. The public is normally involved during the designation process. The public can also be involved in park management in a number of ways. Public participation is encouraged during the development of major park plans. Some parks have public advisory groups.

Management staffing and budgets vary significantly for each park and each year. Congress annually appropriates funds for designation, research, monitoring, and operations of national parks. Enforcement of park laws and regulations within park boundaries are handled by NPS rangers. In some states, joint jurisdiction has been approved by the state, allowing rangers to enforce state statutes and regulations inside park boundaries.

Pre-existing uses can be authorized within park areas; however, uses that damage park resources can be restricted. Private lands within park boundaries are not controlled by the NPS; however, if uses imminently threaten park resources, the NPS has the authority to limit those uses. In Alaska, the NPS has some specific legislation with respect to allowing commercial fishing, aircraft landing, and other activities within some park boundaries.

Within the Resources Management Plan prepared for each park in Alaska, is a list of natural and cultural research projects that have been identified by the national park and regional NPS offices. The number of projects completed each year varies due to annual changes in funding levels. Research conducted by anyone other than the park service requires a Special Use Permit and must be compatible with the park purposes specified in legislation.

Channel Islands National Park has the first and perhaps the only completed inventory and monitoring program within the NPS. A handbook has been produced listing the 12 significant biomes within the park and protocols for inventorying and monitoring the resources within those biomes. Preparation of the handbooks cost \$13 million.

National Wildlife Refuges

National Wildlife Refuges (NWR) are administered by the U.S. Fish and Wildlife Service (USFWS). The purpose for each refuge is stated upon creation of the refuge. The Alaska National Interest Lands Conservation Act (ANILCA) has a strong influence in establishing purposes, defining objectives, management planning, and authorizing studies and programs for the refuges in Alaska. Refuges have purpose statements that tend to focus on specific species, treaty obligations, subsistence responsibilities, and water quality. The refuge mandate is focused on wildlife, conservation and the resources rather than on visitor enjoyment. Generally, the stated purposes for the Alaska Refuges are:

- (1) to conserve fish and wildlife populations and their habitats;
- (2) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (3) to provide, in a manner consistent with the purposes set forth in 1 and 2, the opportunity for continued subsistence uses by local residents; and
- (4) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in 1, water quality and necessary water quantity within the refuge.

In addition, the Alaska Maritime NWR also has the stated purpose to provide, in a manner consistent with the purposes set forth in 1 and 2, a program of national and international scientific research on marine resources.

Areas protected under the wildlife refuge program include uplands above mean high tide; inland submerged lands (non-coastal), especially those in Alaska established before December 2, 1980; and certain waters (coastal) withdrawn by executive order, public land order, act of Congress, or secretarial order for protection of habitats and threatened species as specified.

The Alaska Maritime NWR is one of the few refuges in the nation that claims ownership of the water. One of the stated purposes of the Alaska Maritime NWR is the protection of marine mammals and birds; the refuge is also given authority to regulate areas outside the refuge boundaries which function as feeding habitat for these species.

Refuge units are created by acts of Congress, executive order, public land order, secretarial order, or private donation. Designation for the Alaska Maritime NWR was done by executive order, ANILCA, and the Alaska Native Claims Settlement Act (ANCSA). The Comprehensive Conservation Plan establishes regulations for the refuge and includes an EIS process and a Wilderness Review Plan. This plan is congressionally mandated and provides management guidance. The public is involved at the local, state, and federal levels during the designation process. There is no set designation time, although the designation process may take a number of years from conception to establishment. The designation cost is difficult to determine because such a wide variety of people and agencies may be involved. Congress annually appropriates funds for the study, designation, research, monitoring and operational costs for NWR.

The Comprehensive Conservation Plan describes four different management categories: intensive, moderate, minimal, and designated wilderness. These categories were established as a result of public meetings. The intensive management category is the least protective and encompasses areas that have a potential public or economic use. Most of the intensive management areas include military installations. Moderate management areas have a reduced amount of allowable human developments compared with intensive management areas, and typically buffer military bases. Minimal management is directed at protection of existing fish and wildlife populations and habitats, and restoration of endangered and other species. Management of designated wilderness areas is similar to minimal management areas; however, there are more restrictions on the use of motorized equipment, oil and gas development, commercial uses, and the routing of transportation or utility systems. More details on these management alternatives are presented in Appendix B.

Management practices vary for each NWR. The four refuges in Alaska which were impacted by the oil spill have an intensive level of management in terms of habitat and wildlife population protection. The total staff for these four refuges in 1989 was 44 federal employees, and the budget was \$3,621,000. Management activities for each unit include habitat and population protection, and monitoring and regulation of public activities. Each refuge has two to three employees with law enforcement authority for all federal regulations. Refuge authorities are also assisted by special agents from the USFWS.

ANILCA and the Refuge Administration Act provide a continuation of pre-existing uses such as sport-hunting, fishing, trapping, guiding, and subsistence activities if they are compatible with the ANILCA objectives specified for each refuge. The Comprehensive Conservation Plan allows these activities to continue, subject to controls that will protect wildlife populations and habitats. Many private lands within refuges are subject to the regulations of the refuge.

Research conducted on the refuges is initiated to solve specific management problems and typically focuses on wildlife investigations. Refuge biologists direct the majority of projects, although the Fishery Assistance Office, Alaska Fish and Wildlife Research Center (USFWS), and the Alaska Cooperative Wildlife Research Center (Univ.

of Alaska) conduct many of the studies. Cooperative studies with the Alaska Department of Fish and Game (ADFG) are conducted under a memorandum of understanding.

At the Alaska Maritime NWR, there is an extensive monitoring program examining the feeding regimes of the bird populations in the refuge. The refuge also monitors marine mammal populations around the islands and there is a strong endangered species program.

State of Alaska

Alaska State Parks and Marine Parks

The Alaska State Parks System is managed by the Alaska Department of Natural Resources (ADNR), Division of Parks and Outdoor Recreation. The purpose of the system is "to foster the growth and development of a system of parks and recreational facilities and opportunities in the state, for the general health, welfare, education, and enjoyment of its citizens, and for the attraction of visitors to the state." State park lands are given a land-use designation that withdraws them from public domain and stipulates that they are no longer available for multiple uses.

A variety of state park classifications exist, including parks, scenic overlooks, cultural sites, and recreation areas. Areas are developed and managed in a manner that best serves the interests of the people of Alaska. Marine parks are primarily tidelands with a focus on recreational vessel anchorage. Uplands included under the marine park designations generally encompass the scenic view from that anchorage. The State Parks manage the water, submerged lands, and tidelands underneath.

Parks of less than 640 acres are created administratively by an Interagency Land Management Assignment (ILMA). For sites greater than 640 acres, legislative action is required. Public hearings are conducted in local communities and also in Anchorage during the designation process. A management plan is developed for each park unit. These plans establish regulations and outline the types of facilities to be developed within each park. In the case of Prince William Sound, a management plan for all state lands within the Sound was developed in cooperation with the ADNR Division of Land and Water Management. Costs and time for designation vary from site to site, but it is possible to complete the process in less than a year if an ILMA is used.

Management practices also vary. In Prince William Sound, one ranger manages the entire Sound, plus Kayak Island just outside of the Sound. Management costs, based on having a ranger for 8 months per year, are about \$30,000 per year. Rangers in the field are commissioned under the ADFG to enforce fish and game harvest regulations and also are commissioned by the Department of Public Safety and ADNR.

During the last legislative session, the governor of Alaska vetoed the operations budget for the marine parks; consequently, there has been no operations budget since August 30, 1991. Some management of the parks will continue, but there will not be an onsite ranger. In the next legislative session, there may be a campaign to re-establish an operating budget.

Pre-existing uses within parks may be restricted if they are found to be incompatible with the purposes of the park. Commercial fishing in a state owned park is specifically allowed. The state marine parks system is not required to allow aquaculture operations, but they can be permitted if they are in compliance with park statutes.

One major drawback to the state park system is that relatively little is known about the resources within the parks. The purpose in managing the marine parks is to provide recreational opportunities (e.g., protected anchorages), however, there is also a need to assess the resources to adequately plan for future development.

Research in Alaska state marine parks is usually conducted by outside sources such as the University of Alaska. The EVOS demonstrated the need for a greater understanding of the resources at risk within the marine parks in Prince William Sound. In response to this, during the 1991 field season, marine park personnel made a preliminary assessment of the intertidal and terrestrial resources in the marine parks around Valdez and near Whittier. This type of assessment will provide a basis from which to evaluate future developments or impacts.

Alaska Special Areas

State Refuges, Sanctuaries, and Critical Habitat Areas. Alaska has a system of state refuges, critical habitat areas, and sanctuaries that are administered by ADFG, and are collectively named special areas. These multiple-use state lands were established by the legislature for protection of productive fish and wildlife habitats, conservation of fish and wildlife populations, and public use. Land management responsibilities are shared between the ADFG and ADNR. State-owned uplands, tidelands, and submerged lands are all eligible for designation as state refuges, sanctuaries, or critical habitat areas. In addition, critical habitat areas can also include private lands. Special area boundaries can and often do go below mean high water.

There is a statutory requirement to propose additional areas for designation every year. The designation process is initiated by ADFG. Candidate sites are identified by ADFG personnel. Based upon the criterion of statewide, national, or international significance. Most legislative proposals for state special areas take 1 year or more to attain designation. Public support is crucial to the establishment of state special areas. One or more months of ADFG staff time is required to develop each proposal, but because this task is the responsibility of the existing staff, it is not usually reflected as an additional cost. The major cost in designating a new area is the development of the management plan. This

process includes an initial public scoping meeting, establishment of an interagency planning team, and a public hearing and comment period during review of the draft plan. If funding does not accompany the designation, it takes about 5 years to complete the management plan. The average annual time spent on each special area varies from one to three months depending on the needs of the area. Development of a management plan costs about \$70,000 and is completed once every 5 years. On an annual basis, about \$12,000 is spent on permit review, issuance, and monitoring; field inspections and information collection; and information and education.

Management responsibilities are shared among several divisions in the ADFG. Most of the management effort is directed at special permitting functions; however, all three state sanctuaries and the one refuge have onsite staffing. The ADFG Habitat Division issues Special Area Permits and conducts field inspections year-round. Law enforcement is provided by the Department of Public Safety and by deputized ADFG biologists. Violation of a state special area regulation is a Class A misdemeanor.

Existing uses are not affected by the establishment of a state special area. However, activities do have to be conducted in a manner compatible with the purpose for which the area was established and consistent with statutes and regulations under terms and conditions of a Special Area Permit. When a critical habitat area includes private lands, the state does not have eminent domain, but does have the authority to acquire land from willing sellers. Private lands within critical habitat areas may be subject to the permit requirements.

The ADFG's Wildlife Conservation, Sport Fisheries, and Commercial Fisheries Divisions conduct fish and wildlife population estimates within special areas for purposes of harvest management. In addition, some specific bear and walrus population studies are conducted in the McNeil River and Walrus Islands state game sanctuaries.

The significant difference between these special areas and other state lands is that on state land, ADNR is responsible for balancing uses, while ADFG serves an advisory role, recommending what is good for fish and wildlife. In special areas, however, the ADFG has a direct role and statutory authority to only allow activities that are compatible with maintaining fish and wildlife.

POTENTIAL FOR NEW AREA DESIGNATIONS AND COMPARISONS OF EXISTING DESIGNATION PROGRAMS

A new type of designation with an emphasis on habitat restoration may be a feasible option. The evaluation for creating a new type of designation specific to the EVOS must start with clearly defined goals. Once established, these goals will need to be refined to include the concerns and needs of local, regional, and national groups. Traditional rights and pre-existing uses must also be considered.

An array of criteria will need to be developed to evaluate areas for designation. In addition to the natural resource values, human use values and administrative concerns should be addressed. Some suggested criteria are social, economic, ecological, regional, and pragmatic criteria. Examples of social criteria are social acceptance, recreation, education, and aesthetics. Economic criteria include economic benefits, tourism, and economically important species (e.g., commercial fisheries). Ecological criteria are values of ecosystems such as diversity, representativeness, productivity, and uniqueness. Regional criteria can be described in terms of regional significance, awareness, and the degree to which compatibility between natural resource values and human activities can be enhanced. Pragmatic criteria involve the feasibility and appropriate timing of a protective designation and are dependant on such factors as urgency, degree of threat, size, opportunity, and restorability.

It is possible to compare elements of the existing state and federal area designations presented during the RPWG workshop and determine which elements are important in the selection of marine habitat protection option. The results of a first attempt to conduct such an exercise are found in Appendix A. The elements considered in this first comparison are, in reality, a subset of the elements to be considered in shaping any final recommendations about marine habitat protection options. In fact, new elements may also need to be developed to provide for the specific needs of the EVOS restoration efforts. Appropriate goals and criteria will need to be determined to facilitate selection of sites, and the level of protection which would be required. All interested parties should be involved throughout the designation process to coordinate the efforts and address the concerns of multiple state and federal agencies, native people, and the general public, as well as to ensure strong public support.

**Appendix A. Comparison of Types of Protected Area
Designations**

Table A-1. Comparison of Types of Protected Area Designations

Type of Protected Area	Designation Costs	Designation Time	Management Costs	Sources of Funding	Regulation of Pre-existing Uses	Level of Management	Type of Protection	Areas and Habitat Protected	Research	Monitoring Routine	Enforcement (by whom and what authority)	Private Lands
Alaska State Parks	Variable. State land transfers range between \$4,000 and \$60,000 in administrative costs. Administrative costs for designating private lands are \$20,000 to \$50,000, plus the cost of land purchase.	Variable. 640 acres or less state land transfer - 120 days minimum. Legislative designation (state land) - 1 year minimum. Legislative designation (private land) - at least 2 years.	Unit specific. Approximately \$30,000/ranger each of whom cover 6-7 parks. \$10,000 for field support staff; \$20,000 for boat, vehicle, maintenance, and supplies.	State operating budget and capital budgets and/or grants.	An area larger than 640 acres, may only be closed to multiple purpose use by act of the state legislature.	Management plans are prepared for each unit. Management is effected by park rangers directed out of area or regional offices. Uses are reviewed and can be permitted by the area office if found to be compatible.	Land and water resources, fish and game resources, and public safety.	State-owned uplands, tidelands, and nearshore waters.	Archaeological and historical resources studies coordinated and/or conducted by ADNRR. Other research conducted by non-ADNRR staff, (e.g., Univ. of Alaska, ADFG, USFWS).	Visitor, commercial, and special uses; illegal activities, archaeological resources, coastal, physical, and biological resources studies are currently being conducted on, at least, an annual basis.	State park rangers with authority through Department of Public Safety, ADFG, and ADNRR.	Exempt from regulation. However, if activities abut state land boundaries, a permit may be required.
Alaska State Marine Parks	Variable. State land transfers range between \$4,000 and \$60,000 in administrative costs. Administrative costs for designating private lands are \$20,000 to \$50,000, plus the cost of land purchase.	Variable. 640 acres or less state land transfer - 120 days minimum. Legislative designation (state land) - 1 year minimum. Legislative designation (private land) - at least 2 years.	Unit specific. Variable. Approximately \$30,000/ranger each of whom cover 6-7 parks. \$10,000 for field support staff; \$20,000 for boat, vehicle, maintenance, and supplies.	State operating budget and capital budgets and/or grants.	Lawful existing uses of resources are maintained. Special uses are permitted by the Commissioner of Natural Resources on a case-by-case basis.	Management plans are prepared for each unit. Management is effected by park rangers directed out of area or regional offices. ADFG manages fish and wildlife resources. Uses are reviewed and can be permitted by the area office if found to be compatible.	Land and water resources, fish and game resources, and public safety.	State-owned uplands, tidelands, and nearshore waters.	Archaeological and historical resources studies coordinated and/or conducted by ADNRR. Other research conducted by non-ADNRR staff, (e.g., Univ. of Alaska, ADFG, USFWS).	No monitoring programs are in place at this time, however, the EVOS has prompted some preliminary assessments of resources in Prince William Sound.	State park rangers with authority through Department of Public Safety, ADFG, and ADNRR.	Exempt from regulation. However, if activities abut state land boundaries, a permit may be required.
Alaska State Special Areas (Refuges, Critical Habitat Areas, and Sanctuaries)	Existing staff time is spent responding to proposals for new areas, so designations are not reflected as additional costs.	One year or more to work through legislative process.	Approximately \$12,000 annually per site for Special Area Permit process, field inspections and educational programs. In addition, management plan development costs are about \$70,000, but are only done once every 5 years. Seasonal staffing of the three sanctuaries costs \$50,000 annually.	ADFG, unless special appropriations are received.	Valid pre-existing rights are not affected, except that activities have to be conducted in a manner compatible with refuge regulations.	Responsibilities are shared by several ADFG divisions. All three sanctuaries and one refuge have seasonal onsite staffing. The sanctuaries require access permits to visit them.	Fish and wildlife populations, their habitats, and public use of the areas.	State-owned uplands, tidelands, and submerged lands.	ADFG's Wildlife Conservation, Sport Fisheries, and Commercial Fisheries divisions conduct population surveys for purposes of harvest management. Specific bear and walrus populations studies are conducted in the sanctuaries.	Monitoring is directed at harvest management. Sanctuaries conduct some monitoring of bear and walrus populations.	State Department of Public Safety and deputized ADFG biologists. Violation of a state special area regulation is a Class A misdemeanor.	Private lands lying within the boundaries of a state special area are not subject to area regulations, except in the critical habitat areas where ADFG has permit authority over private lands.

Table A-1. Continued

Type of Protected Area	Designation Costs	Designation Time	Management Costs	Sources of Funding	Regulation of Pre-existing Uses	Level of Management	Type of Protection	Areas and Habitat Protected	Research	Monitoring Routine	Enforcement (by whom and what authority)	Private Lands
National Marine Sanctuary	Up to \$250,000 over a 2-year period.	Usually 2 years, not more than 3 years.	Operational costs are \$600,000 to \$800,000 per year.	NOAA, but state could cooperatively support some research.	Pre-existing uses are typically grandfathered, but uses may be regulated consistent with the purposes for which the sanctuary was designated.	Small staff (6-10). Cooperative agreements through local universities may complement onsite staff.	Protection of ecosystem values, particularly for ecologically or economically important species, or threatened species; and for offshore areas where there are no existing special area protection mechanisms.	Marine environments including coastal and ocean waters and submerged lands over which the U.S. has jurisdiction.	Research is based on gaining a better understanding of the marine environment and to more effectively manage development and use of marine resources.	Long-term monitoring is conducted in order to predict resource and habitat changes and to answer management questions. Specific monitoring programs may be established for site specific questions.	U.S. Coast Guard, and state and local law enforcement agencies.	There are generally no "in holdings."
National Estuarine Reserve Research Program	Up to \$100,000 in Federal funds are available, but state may spend an equal or greater amount.	Approximately 3 years.	Federal funding of \$70,000 is matched by state, but actual costs are greater than this.	NOAA funds are available after designation, but need a state match (50/50).	NOAA can restrict any activity, but most uses are grandfathered.	Small staff (3-5) plus volunteers.	Research and education oriented. Coastal Zone Management emphasis on representative estuarine ecosystems.	Estuaries including tidal and submerged lands and waters of relatively small acreage. Adjacent uplands are only included for facilities.	NOAA, universities, state and other federal agencies. Research topics include management and regulatory-related questions.	The purpose of reserves are to provide long-term research and monitoring opportunities. Facilities are developed to promote research.	Appropriate local, state and federal law enforcement agencies.	Private lands may be obtained by states with 50/50 cost sharing with Federal Government.
National Parks	There is no set cost, nor any average cost that can be associated with the designation of a national park.	The existing Alaska park units were discussed for about 10 years.	Vary depending on size of unit, complexity of it's mandates, and funding availability. Annual operating funding for Alaska parks FY91: Kenai Fjords- \$569,400; Katmai- \$926,500; Aniakchak- \$122,900.	U.S. Congress annually appropriates funds for the study, designation, research, monitoring and operational costs for national parks.	Some may be grandfathered, pre-existing uses not specifically authorized by Congress fall under National Park Service regulation.	Staffing levels vary from park to park. Park rangers can be: specialists in law enforcement, natural resource management, interpretation or other areas.	To conserve the scenery, natural and cultural resources, and wildlife in the park boundaries.	Generally upland areas including water (lakes and rivers). In some cases marine waters are included.	Some research by the park. Special Use Permits are issued for research by other parties.	Channel Islands National Park has the first and only completed inventory and monitoring program within the park service. They have developed a handbook with protocols that can be used in any park.	NPS law enforcement rangers are authorized to enforce laws and regulations within unit boundaries. In states where concurrent jurisdiction has been approved, they can enforce state regulations within unit boundaries as well. (Not in Alaska.)	Private lands within the boundaries are not controlled by NPS regulation. The NPS can, on a case by case basis limit uses which seriously threaten to harm park resources.
National Wildlife Refuges	The total cost of refuge designation is unknown.	There is no requirement for time allocated between conception and designation of a refuge. It took up to 20 years to designate some of the areas under ANILCA.	Average operational costs: Alaska Peninsula/ Becharof- \$396,000; Alaska Maritime NWR- \$1,789,000; Kodiak NWR- \$808,000.	U.S. Congress appropriates funds for the study, designation, research, monitoring and operational costs for national wildlife refuges.	Pre-existing uses are grandfathered in provided that they are compatible with objectives specified for each refuge.	The level of management is extensive in terms of habitat and wildlife population protection. The total staff for the 4 Alaskan refuges in 1989 was 44.	The lands, waters and wildlife populations are protected. In addition, archaeological sites, critical habitats, and RAMSAR sites are given protection from human influence.	Uplands above mean high tide; inland submerged land and certain waters (coastal) withdrawn by executive order, public land order, Act of Congress, or secretarial order for protection of habitats and threatened species as specified.	Research is initiated to solve specific management problems and primarily are wildlife investigations. Refuge biologists direct the majority of projects, but USFWS, Univ. of Alaska, and ADFG also conduct studies.	There is an extensive monitoring program examining the feeding regions of the bird populations in the refuge. The refuge also monitors marine mammal populations and endangered species.	Each refuge has 2-3 employees with full authority to enforce federal laws.	Private lands within the boundaries of a refuge are not controlled by refuge regulations except some native lands.