McGrath State Beach Area
Berry Petroleum Oil Spill, December 1993

Final Restoration Plan
and Environmental Assessment

January 2005

Prepared by:

California Department of Parks and Recreation

California Department of Fish and Game

United States Fish and Wildlife Service

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EXECUTIVE SUMMARY

On December 24, 1993, a pipeline owned and operated by Berry Petroleum Company (Berry) ruptured causing the discharge of approximately 2,075 barrels of crude oil (the Spill) in the vicinity of McGrath Lake in Ventura County, California. Release of the crude oil resulted in petroleum contamination along a pathway that extended from the pipeline rupture, along a riparian corridor and adjacent wooded areas, into McGrath Lake, through a diversion pipeline into a slough that traverses the dunes and beach, into the Pacific Ocean and onto approximately seven (7) miles of sandy beach. Cleanup of the beach, dunes, lake, and riparian corridor included removal and/or disturbance of oiled and un-oiled terrestrial and aquatic vegetation, debris, sand, soil, and sediments using heavy equipment and hand tools.

The California Department of Fish and Game, the California Department of Parks and Recreation, and the U.S. Fish and Wildlife Service, are the Trustees for the natural resources injured by the Spill (Trustees). As authorized by federal and state law, an injury assessment was conducted by the Trustees to determine the damages to natural resources resulting from the Spill. The Trustees determined that petroleum contamination and cleanup activities resulted in injuries to birds, fish, invertebrates, vegetation and habitats within riparian, lake/wetland and modified sand dune plant communities in and around McGrath Lake, and McGrath State Beach, Ventura County, California.

The United States and the State of California reached a settlement with Berry regarding natural resource damages and penalties. The terms of the settlement are memorialized in a Consent Decree, which was entered by the United States District Court on January 23, 1997. The settlement required Berry to place $1,315,000 in a trust account to fund restoration projects that will restore, rehabilitate, replace or acquire the equivalent of the injured, lost, damaged, or destroyed natural resource and/or affected services resulting from the Oil Spill.

Pursuant to a Memorandum of Understanding signed by the Trustees, the McGrath Trustee Council composed of Trustee representatives was formed. Under the authority of both the California Lempert-Keene-Seastrand Oil Spill Prevention and Response Act and the federal Oil Pollution Act of 1990, the McGrath Trustee Council has the sole responsibility to develop a Restoration Plan, secure public input, adopt a Final Restoration Plan, and provide implementation oversight for the successful completion of all restoration actions/projects.

Public comment and agency input were solicited through circulation of the draft Restoration Plan and Environmental Assessment (Plan/EA) and at a public meeting held by the Trustee Council. No new projects or substantive changes to the Plan/EA were proposed through that process.

The restoration alternatives (projects) presented in this Final Restoration Plan/EA include: land acquisition (fee title/conservation easements), habitat enhancement/restoration, and public information/education projects. Habitat enhancement/restoration projects include invasive species control, natural recovery or seeding/planting, monitoring, and adaptive management in various geographic areas (zones).

Environmental review of the Final Restoration Plan/EA (Final Plan) will be completed pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) prior to adoption of the Final Plan by the Trustee Council. Additional environmental review will take place if new information becomes available or conditions change during implementation.

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1.0 INTRODUCTION

1.1 Purpose

The purpose of the Draft Restoration Plan and Environmental Assessment (Draft Plan/EA) was to inform the public about the affected environment, natural resource injuries, and restoration actions proposed to compensate for the injuries resulting from the McGrath State Beach Area Berry Petroleum Oil Spill. The Draft Plan/EA also provided a framework for evaluating the proposed restoration alternatives, including consideration of potential environmental impacts.

Public review of the Draft Plan/EA is an integral component of the restoration planning process. The Trustee Council solicited public input and comment on the Draft Restoration Plan and Environmental Assessment as a whole, and/or on the restoration alternatives and environmental review presented. The public was also invited to present ideas or proposals for projects that had not previously been considered.

The Trustee Council held an open house to familiarize the public with the Draft Restoration Plan and Environmental Assessment, answer questions, and receive written or verbal comments. Only written comments become part of the official record. The open house was held:

Wednesday September 8, 2004
6:30 pm to 8:00 pm

Presentation by the Trustee Council 7:00-7:30 pm

at California State Parks
Channel Coast District Conference Room
911 San Pedro Street, Ventura

The Channel Coast District office is located within San Buenaventura State Beach, at the intersection of San Pedro Street and Pierpont Boulevard.

Comments were accepted for a period of 45 days from August 21, 2004 through October 4, 2004. Comments must be received in writing to be considered part of the official record. Written comments could be e-mailed to **vwatt@parks.ca.gov** or sent to the California Department of Parks and Recreation, Channel Coast District, 911 San Pedro Street, Ventura, CA 93001, Attention: Valerie Watt. All written comments received are included in Appendix D. The comments were used to modify the Draft Plan/EA where appropriate, and to assist the Trustee Council in the selection of appropriate projects that can be successfully implemented.

1.2 Authority

The restoration is being conducted under the authority of the Lempert-Keene-Seastrand Oil Spill Prevention Response Act (California Government Code 8670.1 et seq.) and the federal Oil Pollution Act of 1990 (33 U.S.C. 2701 et seq.). A goal of both acts is to require responsible parties to compensate the public for injuries to natural resources resulting from an oil spill and to make the environment and the public whole again. This goal is achieved through implementation of restoration actions that restore, rehabilitate, replace or acquire the equivalent of the injured natural resources or services provided by the injured resources. Restoration alternatives must comply with all applicable laws and regulations, which include the federal and state Endangered Species Acts, the federal Clean Water Act, the federal Migratory Bird Act, the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), the federal Coastal Zone Management Act, the California Coastal Act, and others.

1.3 Oil Spill and Injuries

On December 24, 1993, a pipeline owned and operated by Berry Petroleum Company within the West Montalvo Field, an onshore oil production facility in and near Oxnard, California, ruptured causing the discharge of approximately 2,075 barrels of crude oil. The spilled oil resulted in petroleum contamination along a pathway that extended from the pipeline rupture into and along a riparian corridor and adjacent wooded area and into McGrath Lake. Oil was then pumped along with water from the Lake through a diversion pipeline into a slough that traverses a portion of the dunes and beach and finally into the Pacific Ocean. Approximately 7 miles of sandy beach were impacted. Some oil was documented at the mouth of the Santa Clara River Estuary. Cleanup of the beach, dunes, lake, and riparian corridor included the removal of surface oil, debris, contaminated soil and sediments, oiled vegetation and other vegetation, using heavy equipment and hand tools.

As authorized by federal and state law, a natural resources injury assessment was conducted by the Trustees to evaluate the damages to natural resources resulting from the Oil Spill. It was determined that petroleum contamination and cleanup activities resulted in injuries to vegetation and wildlife within riparian, lake/wetland, marine shoreline, and modified sand dune areas. Wildlife injured by the Spill included birds, amphibians, fish, invertebrates, and other valuable resources. The federally endangered California brown pelican and western snowy plover were among the special status species affected.

1.4 Consent Decree

A Consent Decree, entered by the U.S. District Court on January 23, 1997, settled the civil action brought by a number of state and federal agencies against the Responsible Party. The Consent Decree required that the responsible party place $1,315,000 into a trust account to fund restoration projects. The McGrath Trustee Council (also referred to as the Trustee Council) was formed to oversee restoration planning and implementation. The Trustee Council is comprised of designated representatives from the California Department of Parks and Recreation (CDPR), California Department of Fish and Game (CDFG) and the United States Fish and Wildlife

Service (USFWS). The California Department of Parks and Recreation is the lead administrative agency for the Trustee Council.

The Trustee Council is responsible for developing and implementing a Restoration Plan to restore natural resources injured by the Spill and with the subsequent oversight and monitoring of restoration activities to ensure successful completion of the restoration projects. The Trustee Council is also responsible for ensuring that the settlement funds are spent in accordance with the Consent Decree, the Memorandum of Understanding (MOU) entered into by the Trustees in connection with the McGrath Lake Oil Spill, and with applicable state and federal laws.

The settlement funds were placed in a trust account (McGrath Lake Trust) established by the National Fish and Wildlife Foundation (Foundation), which administers the funds on behalf of the Trustee Council. The Foundation enters into contracts and makes payments as directed by the Trustee Council. The funds placed in the McGrath Trust are to be used for the design, implementation, permitting, monitoring and oversight of restoration projects that address water quality improvement of McGrath Lake, habitat improvements, revegetation, and/or protection of natural areas in and around McGrath State Beach. “Restoration” is defined in the Consent Decree (Appendix B) as, "Any action to restore to its pre-Spill condition any Natural Resource injured, lost, or destroyed as a result of the December 1993 Oil Discharge and the services provided by that Natural Resource, or any action which restores, replaces, rehabilitates or acquires the equivalent of the injured, lost or destroyed Natural Resource and affected services."

The projects included in this Restoration Plan are consistent with projects contained in the Restoration Scoping Document incorporated in the MOU (Appendix C) and authorized by the Consent Decree. The preferred alternatives provide for the protection of affected resources through:

- land acquisition (fee title or conservation easements)
- habitat enhancement (increase native vegetation through exotic species control with natural recovery, seeding and/or planting)
- public information and education (interpretive signs, visitor center relocation, outreach coordinator)

To the extent that on-site restoration is not feasible, the Trustee Council will fund off-site restoration projects that benefit the same or similar resources. The Trustee Council retains the authority to implement other projects deemed reasonable and necessary, in accordance with the established evaluation criteria.

2.0 AFFECTED ENVIRONMENT

Information in this section is derived primarily from the McGrath State Beach Natural Resources Management Plan, prepared for the California Department of Parks and Recreation by Environmental Science Associates (April 2003).

2.1 Physical Environment

McGrath State Beach is located along the Pacific Ocean on the Oxnard Plain, at the mouth of the Santa Clara River (see Figure 1). The park unit consists of 316 acres of river estuary, beach, sand dunes, inland salt flats, riparian woodlands and a back-dune coastal lake (McGrath Lake). Developed facilities include campgrounds, day use parking, maintenance yard, employee residences, visitor center and sanitary dump station. Adjacent to the park are oil and gas extraction facilities, a power generating station, wastewater treatment plant and public road. Agricultural fields lie to the east, with the Pacific Ocean to the west.

The terrain of McGrath State Beach is relatively level and low-lying. The ocean shoreline extends in a north/south direction, bordered by a moderately sloping beach that varies seasonally. The larger summer beach, approximately 100-200 feet wide, narrows in the winter. A ridge of sand dunes separates the beach from both the campgrounds and McGrath Lake. These foredunes vary in height, rarely exceeding 26 feet above sea level.

The hydrological characteristics of the area most significantly define the local ecosystems within McGrath State Beach. The dominant surface feature is the Santa Clara River, which drains a watershed of approximately 1,600 square miles. Within the park unit, the Santa Clara River Estuary has been designated a Natural Preserve, affording recognition and protection of this rare and valuable resource. Historically the estuary spread over a wide coastal delta, extending from McGrath Lake on the south through present-day Ventura Harbor on the north and several miles inland. Over the past century, growth and development in the flood plain have reduced the river to a narrow channel. Today, flood control levees restrict meander patterns and flood flows. Overland flows from the river to McGrath Lake have been virtually eliminated. As a result, McGrath Lake now receives surface runoff from a sub-watershed of around 1,500 acres of primarily agricultural land.

Groundwater in the McGrath Lake sub-watershed is found at two distinct elevations. The deep aquifer (below 200 feet) has little direct influence on local habitats, while a shallow, perched aquifer exerts significant influence. The shallow groundwater is associated with an underlying clay or clay/sand layer that prevents surface infiltration from seeping to lower elevations. This shallow water table is generally found four to eight feet below the ground surface, at an average elevation of three to four feet mean sea level. McGrath Lake represents an elevation low point where this shallow groundwater is exposed, forming a back-dune coastal lake.

The hydrology of McGrath Lake has been modified over the past century to meet the needs of agricultural development. In addition to flood control levees, surface and underground drainage systems have been constructed in the sub-watershed to facilitate crop production. Decades of agricultural drainage to the lake has negatively affected water and sediment quality and increased sedimentation (see also Section 4.0). Water elevation in the lake is also artificially controlled to protect adjacent farmlands. A pump-pipeline system is currently used to convey lake water to the dunes/beach, where it ponds or flows to the ocean.

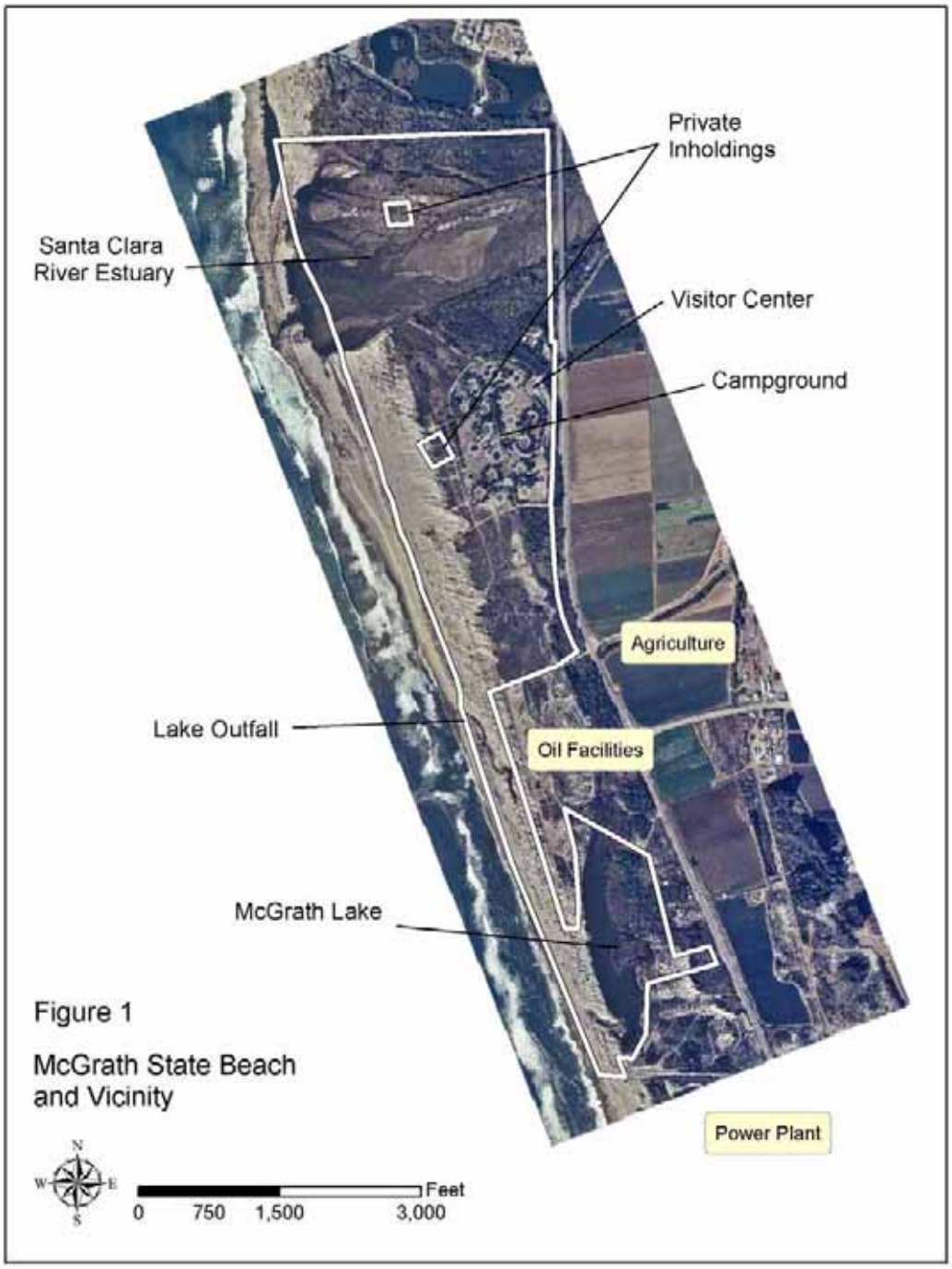


Figure 1

McGrath State Beach
and Vicinity

2.2 Biological Environment

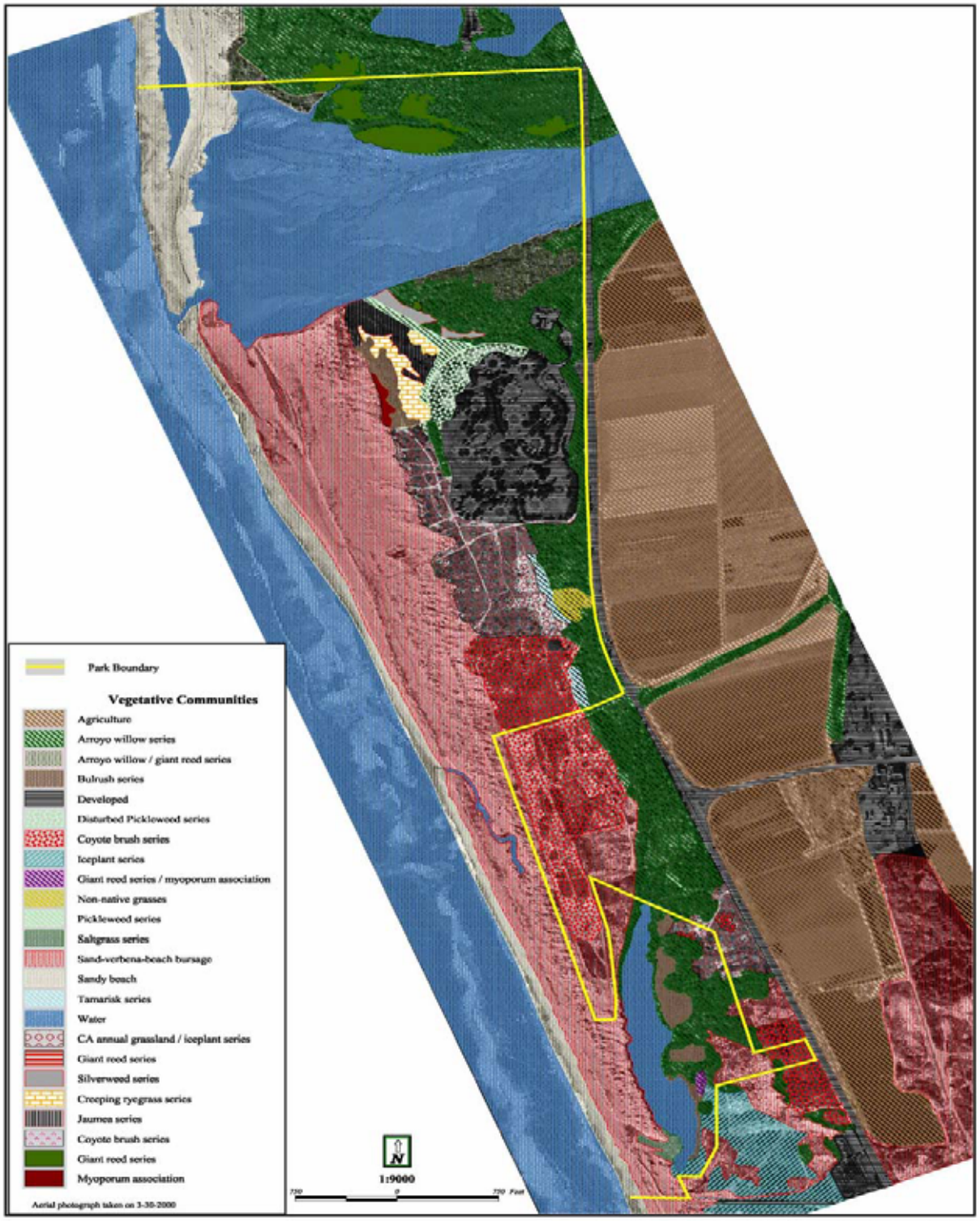
McGrath State Beach is uniquely situated at the intersection of nine important habitats. These habitats include the Pacific Ocean, sandy beach, coastal dunes, Santa Clara River and estuary, coastal back-dune lake (McGrath Lake), riparian woodland, freshwater marsh, and brackish marsh. While each of these habitats is individually noteworthy, the convergence of such a variety of habitats within one area creates the added values of high biological diversity and species richness.

Habitats are not distinct features that can be considered in isolation from each other. More common wildlife species, such as red-shouldered hawk (*Buteo lineatus)*, great-horned owl *(Bubo virginianus)*, northern flicker *(Colaptes auratus)*, raccoon (*Procyon lotor)*, and western toad (*Bufo boreas)*, frequently use more than one habitat type. They may use riparian habitat for breeding,
resting, and thermal cover or cover while moving from one area to another, and range into upland scrub or over open water to forage. Frequently it is at the edges of habitats, where they transition from one type to another, that the greatest number of these more common wildlife species will be found.

Above: Coastal dune, fresh emergent marsh & willow riparian habitats converge at McGrath Lake

Within McGrath State Beach, the following native habitats are found in the McGrath Lake area (see Figure 2—Vegetative Communities).

Riparian woodland—This wetland habitat, found north and east of the Lake, is composed of a dense willow canopy dominated by arroyo willow (*Salix lasiolepis)* in association with red willow *(S. laevigata).* Areas with tree canopy and mixed scrub are common that include coyote brush (*Baccharis pilularis)*, mulefat *(Baccharis salisifolia*) and poison oak *(Toxicodendron diversilobum)*. Non-native giant reed (*Arundo donax)*, Myoporum *(Myoporum laetum)* and tamarisk (*Tamarix* spp.*)* are also found. Many species of wildlife use this habitat type for



SOURCE: CA Dept of Parks and Recreation, 2001 and ESA 2002.

McGrath State Beach / 201476 ■

FIGURE 2

Plant Communities of McGrath State Beach

movement corridors, foraging, cover and breeding. Native riparian habitats have been recognized as the most important habitat for terrestrial bird species such as the endangered least Bell's vireo.

Fresh emergent marsh—This wetland habitat occurs along the edge of McGrath Lake and along the riparian corridor that flows into the Lake. It is dominated by hardstem bulrush (*Scirpus acutus*) and common tule *(Scirpus californicus)* in association with lesser components of spiny rush (*Juncus acutus),* creeping ryegrass (*Leymus triticoides),* cattail *(Typha sp.),* saltgrass (*Disticilis spicata)* and yerba mansa (*Anemopsis californica).* This habitat provides important cover and nest or nursery sites for aquatic-associated amphibians and other wildlife species such as waterfowl and muskrat.

Lacustrine—Lacustrine habitat consists of open water, which is bordered by fresh emergent marsh or arroyo willow plant communities. The open water habitat of McGrath Lake supports aquatic species of fish (*Gambusia* spp.) and invertebrates and provides foraging and bathing opportunities for both local and migratory freshwater and marine bird species, including the endangered California least tern (*Sterna antillarum browni)* and California brown pelican *(Pelecanus occidentalis).*

Coastal dune—This habitat includes active coastal foredunes along with the more stable interior back dunes and dune swale. Perennial forbs, low shrubs and grasses form either open or continuous canopy in these areas. Associated species include sand verbena *(Abronia spp.),* beach bur *(Ambrosia chamissonis)* beach evening primrose (*Camissonia cheiranthifolia),* coyote brush *(Baccharis pilularis),* coast buckwheat (*Eriogonum parvifolium),* mock heather (*Ericameria ericoides)* and saltgrass (*Distichlis spicata).* Non-native iceplant (*Carpobrotus edulis, C. chilensis, Mesembryanthemum crystallinum)* is pervasive in some areas. Wildlife utilize the dune habitat for forage, nesting, cover, and thermal cover. Among wildlife dependent on coastal dune habitats are the special status silvery legless lizard *(Aniella pulchra ssp. pulchra),* California least tern and western snowy plover.

Marine— The marine habitat extends from the upper limit of the unvegetated, sandy shoreline seaward to the open ocean. The intertidal zone extends from the area exposed at the lowest low tides through the zone influenced by salt spray. This intertidal zone provides foraging opportunities for shorebirds, including the threatened western snowy plover, and habitat for marine invertebrates including shellfish.

2.3 Special Status Species

"Special status" species are defined as those species that are listed, or are candidates for listing, as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) or California Department of Fish and Game (CDFG). Special status species that are known to occur or may occur in the McGrath Lake area include the following:

California brown pelican *(Pelecanus occidentalis)*—Federal endangered, State fully protected. California brown pelicans utilize McGrath Lake for bathing and resting. Large numbers also use the Santa Clara River Estuary for roosting and bathing.

Western snowy plover *(Charadrius alexandrinus nivosus)*—Federal threatened, State endangered and fully protected. This species nests and forages in intertidal and foredune habitats at McGrath State Beach, including the beach and dunes west of McGrath Lake.

Above: California least tern foraging at McGrath Lake

California least tern *(Sterna antillarum browni)*—Federal endangered, State fully protected. California least terns nest on the foredunes throughout McGrath State Beach, including the dunes immediately west of McGrath Lake. This species has been observed foraging in McGrath Lake during the nesting season.

Other special status species that potentially may have been impacted include the following:

Least Bell's vireo *(Vireo bellii pusillus)*—Federal endangered, critical habitat.
Pairs of least Bell's vireo have been observed in riparian habitat adjacent of the Santa Clara River Estuary. Potential habitat is found in the Riparian Corridor northwest of McGrath Lake.

Long-billed curlew *(Numensius Americanus)*—State special concern.
The intertidal marine shore provides foraging habitat for this species at McGrath State Beach.

Northern harrier *(Circus cyaneus)*—State special concern.
These raptors nest on the ground in shrubby vegetation, often at the edge of a marsh or in wetland areas. Both foraging and nesting habitats are found in the McGrath Lake area.

Silvery legless lizard *(Anniella pulchra pulchra)*—State special concern
This species has been recorded in Ventura and potential habitat occurs in much of McGrath State Beach, especially in the riparian area at the mouth of the Santa Clara River and near McGrath Lake.

White-tailed kite *(Elanus leucurus)*—State fully protected
The riparian areas near McGrath Lake provide potential nesting habitat, and upland areas provide potential foraging habitat.

3.0 RESOURCE INJURIES

As authorized by federal and state law, a damage assessment was conducted by the Trustees following the Spill to determine the injuries to natural resources resulting from the Spill. The Trustees determined that petroleum contamination and cleanup activities resulted in injuries to birds, fish, invertebrates, and vegetation within riparian, lake/wetland and modified sand dune areas.

Lake/Wetlands: McGrath Lake was heavily oiled during the Spill, contaminating the surface waters, the water column and bottom sediments. Wildlife, including vertebrates and invertebrates, and plants were adversely affected by the oil.

Riparian Corridor: The creek flowing into McGrath Lake and adjacent wooded area were heavily oiled during the Spill. Native riparian vegetation, including but not limited to mature willows, were removed during cleanup. Various types of birds and mammals as well as insects and other invertebrates were killed or otherwise adversely affected.

Modified Sand Dunes*:* Portions of the sand dunes were oiled during the Spill, and heavy foot and vehicle traffic during the response effort altered dune structures and vegetation.

Above: Heavy vehicle traffic during the response effort altered dune structures and vegetation

At the time of the settlement, the Trustee agencies developed a Restoration Scoping Document to assist the Trustee Council in its restoration planning efforts. The Restoration Scoping Document summarizes the documented and quantified natural resource impacts as follows.

Habitat Impacts:

- Contamination of Lake sediments
- Contamination of waters in both fresh and marine environments
- Loss of nesting, forage, and protective habitat by removal of vegetation to aid clean-up response.

Bird Impacts:

« Direct deaths (166 carcasses; actual mortality is estimated to be at least 20% higher)
• Interim loss of habitat use during response and cleanup
• Apparent loss of one breeding season (Beach is used by Least Tern, Snowy Plover, Avocet and other shore birds for nesting.)
• Reduced food availability
• Altered migratory patterns caused by Spill and response activities that were expected to persist 2-3 years
• Adverse change in portions of coastal strand/dune habitat structure, including loss of plant cover, for endangered Snowy Plover
• Adverse change in riparian habitat for songbirds

Fish Impacts:

• Expected decline in lake population numbers of finfish (e.g., Gambusia)

Invertebrate Impacts:

• Expected decline in lake population numbers of snails and crayfish
• Petroleum contamination of marine shellfish and possible decline in local population numbers

Vegetation Impacts:

» Measured loss of riparian vegetation along creek corridors (e.g., 20+year old willows)
• Expected short-term loss of lakeside vegetation (sedges, rushes, grasses and some aquatic plants)
• Expected impacts to dune vegetation caused by disturbances to native plants and potential invasion by exotic species

Other types of injuries were expected, based on the observations in case studies from other Spill incidents, but were not documented prior to reaching a settlement.

4.0 RESTORATION PLANNING

4.1 Background

Prior to undertaking the development of a draft restoration plan, the Trustee Council gathered and solicited information on the natural resources of the area. A broad range of experts was consulted with at a Forum in January 1998. The purpose of the Forum was to provide the Trustees with a greater understanding of the natural resources of the area, including the importance of unique and special resources. The following spring, a plant inventory was conducted by a multi-agency group of experts. A compendium of data related to wildlife was also prepared by the California Department of Fish and Game.

4.2 Restoration Constraints

During this period several constraints to restoration options were identified. The Trustee Council collaborated with other public agencies and private landowners in order to clarify or resolve those constraints before proceeding with the publication of a draft Restoration Plan.

Lake Water Level

When McGrath State Beach was purchased by the State for use as a public beach/park in 1961, the prior owners retained the right to deposit agricultural drainage into McGrath Lake and to maintain lake levels within a specified range to protect adjacent farmland from crop damage. The lake level is maintained in part by pumping water from the north end of the lake through a pipeline to the dunes/beach and into the ocean. During storm events, when the pumps were insufficient to keep up with inflows and maintain the lake level, the dunes were mechanically breached during low tide to drain lake water directly to the beach/ocean and prevent flooding of nearby farmlands.

The Trustees recognized that continuation of this practice could interfere with dune restoration alternatives. In August 1998, a meeting focusing on water level and flood season management of the Lake was held with all property owners and representative of agencies having an interest or regulatory responsibilities. Subsequent meetings were held with Coastal Commission and Los Angeles Regional Water Quality Control Board (RWQCB) staffs. A final recommendation was not made, pending completion of a watershed-level planning effort.

Water and Sediment Quality

In the spring of 1998 the RWQCB, in partnership with the Trustee Council, funded a study of water and sediment in McGrath Lake. The study investigated residual oil along with metals, nutrients, pesticides, and toxicity in water and sediment. The lake characterization study (Biological and Chemical Measurements of Sediment Quality in McGrath Lake) was completed in February 1999. The study found that PAH (Polynuclear Aromatic Hydrocarbon) compounds/residuals from the Oil Spill were not evident in significant levels to register concern. However, the study did reveal that high levels of "historic" chlorinated pesticides, PCBs, heavy metals, and other toxic substances were present in lake sediments.

In June 1999, in part due to the findings of this study, the State Water Resources Control Board placed McGrath Lake in the State's Consolidated Toxic Hot Spots Cleanup Plan as a high priority site. High toxicity of Lake sediments, apparently due to agricultural runoff, was the critical concern supporting this placement. It was the clear opinion of all experts that no restoration actions should take place to encourage use or improve lake habitat values until appropriate corrective actions were taken. Such actions included assessment and, if needed, clean-up of agricultural runoff flowing into the Lake and removal or remediation of contaminated Lake sediments.

Watershed Evaluation and Planning Process

In the Fall of 1999, due to the number of constraints limiting restoration alternatives, the Trustee Council chose to delay publication of a draft Restoration Plan while it engaged in a collaborative process with property owners and agencies who were involved with the McGrath Lake Watershed. The purpose of this process was to develop and implement a comprehensive water/sediment clean-up and natural resources restoration program within the McGrath Lake Watershed that would integrate the following three components:

- Development of a watershed plan to address water and sediment quality of McGrath Lake and inflows to the Lake, and development of an approach and Plans & Specifications for

cleanup/remediation of contaminated Lake sediments. This action would also include activities to secure funding for implementation**.**

- Natural system restoration planning and development of a Restoration Plan for the habitats impacted by the McGrath Oil Spill.

- Integrated implementation of the Watershed Plan, Lake sediment clean-up/remediation project, and natural system restoration projects/Restoration Plan.

The McGrath Lake Watershed Action Committee was convened in March 2001 to address issues of watershed system health and function and sustainable business practices. The Committee included property owner and public agency representatives. Members shared information and participated in studies to increase mutual understanding of the watershed system health and function and sustainable business practices. Working collaboratively, committee members identified Best Management Practices (BMPs) in the eastern watershed to improve water quality at McGrath Lake and secured grant funding to offset a portion of the implementation costs. These BMP implementation actions began in 2003, with completion anticipated in 2005.

With funding provided by the RWQCB, the Trustee Council also partnered with the United States Army Corps of Engineers (Army Corps) to produce a McGrath Lake Watershed Management Study, which is on-going at this time. The original scope of the study included:

- Assess current hydrology in the watershed
- Assess erosion/sedimentation in the watershed
- Identify on-going contamination, if any
- Design a suite of appropriate BMPs to mitigate any ongoing contamination
- Identify target clean-up/remediation levels for lake sediments
- Develop plans & specifications for BMP implementation and lake sediment cleanup/remediation, and
- Complete permitting for implementation

Due to funding limitations, the scope of the McGrath Lake Watershed Study was subsequently limited to an assessment of current hydrology, erosion/sedimentation and water quality in the watershed.

The Trustee Council also worked with state and federal agency representatives to identify and secure funding for a lake sediment cleanup/remediation project. Due to the high cost of sediment cleanup/remediation, no funding for such a project has been identified. The Trustee Council is therefore moving ahead with the Restoration Plan at this time, based on the expectation that no lake sediment cleanup/remediation project will occur over the next decade that would potentially disrupt any habitat enhancement projects in areas adjacent to McGrath Lake.

McGrath Beach Pathogen TMDL

An additional constraint for restoration alternatives is the potential effect of the RWQCB's McGrath Beach Coliform TMDL (Total Maximum Daily Loads) on lake/watershed system function. A December 2002 draft RWQCB staff report (Total Maximum Daily Loads for Santa

Clara River Estuary Beach/Surfer's Knoll, McGrath State Beach, and Mandalay Beach Coliform and Beach Closures) identified the discharge of water from McGrath Lake to the ocean as a significant source of high levels of total coliform bacteria in the ocean along McGrath Beach. In July 2003, the RWQCB issued a Cleanup and Abatement Order (No. R4-2003-0065) that requires a reduction in total coliforms discharged from McGrath Lake to the beach/ocean in order to meet ocean water quality standards. This reduction might be accomplished by reducing the concentration of total coliform bacteria in the discharged water, and/or by reducing the volume of water discharged. A resolution of the issue has yet to be identified. The Trustee Council has committed to implementing restoration alternatives that will be successful regardless of potential changes in lake hydrology that may result from resolution of the TMDL.

4.3 Criteria for Evaluating Restoration Alternatives

The Trustee Council developed two categories of criteria for the evaluation of restoration alternatives, the first being "threshold" criteria and the second "additional" criteria. The criteria were developed based on state and federal laws and guidelines, including the Oil Pollution Act regulations. Restoration alternatives must achieve a minimum level of acceptance on the threshold criteria in order to receive further consideration under the additional criteria. The Trustee Council used the evaluation criteria listed below to consider the restoration project alternatives presented in this Restoration Plan. The criteria are not ranked in any order of priority.

4.3.1 Threshold Criteria

- Nexus to Injured Resources – Restoration efforts must be directed at projects that restore, rehabilitate, replace, enhance or acquire the equivalent of the resources and services impacted by the Spill.

- Feasibility - Based on past experience or studies, the restoration projects must be technically and procedurally sound.

- Public Health and Safety – The possibility that a proposed alternative would create a threat to the health and safety of the public will be part of the evaluation process.

- Legality - The projects must comply with all applicable laws

4.3.2 Additional Criteria

- Degree of Nexus – The Trustees will evaluate the strength of the nexus between a restoration alternative and the injured natural resource to be restored. Projects with a stronger nexus are preferred.

- No Duplicate or Replacement Funding - The Trustees will not fund projects that are to be funded or accomplished by other means or should be funded by more appropriate sources.

- Likelihood of Success – Projects will be evaluated for their potential for success, including the level of expected return of natural resources and/or resource services. Performance criteria of projects will have to be clear and measurable.

- Cost Effectiveness – The projects will be evaluated by considering the relationship of expected project costs to the expected resource/service benefits from each project alternative.

- Multiple Resource Benefits – Benefits can be increased if proposed projects benefit more than one natural resource or resource service.

- Duration of Benefits – Long-term benefits are the objective of the restoration projects, and the Trustees will evaluate project alternatives according to their expected duration of benefits.

- Likelihood of Adverse Impacts – Evaluation of projects will include examination of potential adverse impacts on the environment and the associated natural resources.

- Opportunities for Collaboration – Cost effectiveness can be enhanced by matching funds, in-kind services, or volunteer assistance as well as coordination with on-going or proposed projects.

- Total Cost and Accuracy of Estimate-The Trustees will evaluate the estimated total cost of each project alternative and the validity of the estimate. The total cost estimate should include costs to design, implement, monitor, and manage the alternative. The validity of cost estimates are evaluated based on the completeness, accuracy, and the reliability of methods used to estimate costs, as well as the credentials of the person or entity submitting the cost estimate to accurately estimate costs.

- Comprehensive Range of Projects- The Trustees will evaluate the extent to which a project contributes to a more comprehensive restoration package. Proposed project alternatives are evaluated for the degree to which it benefits any uncompensated Spill injuries.

5.0 RESTORATION ALTERNATIVES AND ANALYSIS

Geographic Area: The McGrath State Beach Area Trustee Council has identified the geographic area of highest priority for potential restoration activities as the area most immediately impacted by the Oil Spill. That area is bounded by the Pacific Ocean to the west, Harbor Boulevard to the east, the power plant to the south, and the north bank of the Santa Clara River to the north (see Figure 3). This area includes properties owned by the State of California and the McGrath Family Trust.

The Trustee Council has committed to identifying projects that will deliver long-term improvements and protection of resources within this specific area. To the extent that funds remain following restoration within this area, the Trustee Council will fund off-site restoration projects that benefit the same or similar resources as those injured by the Spill.

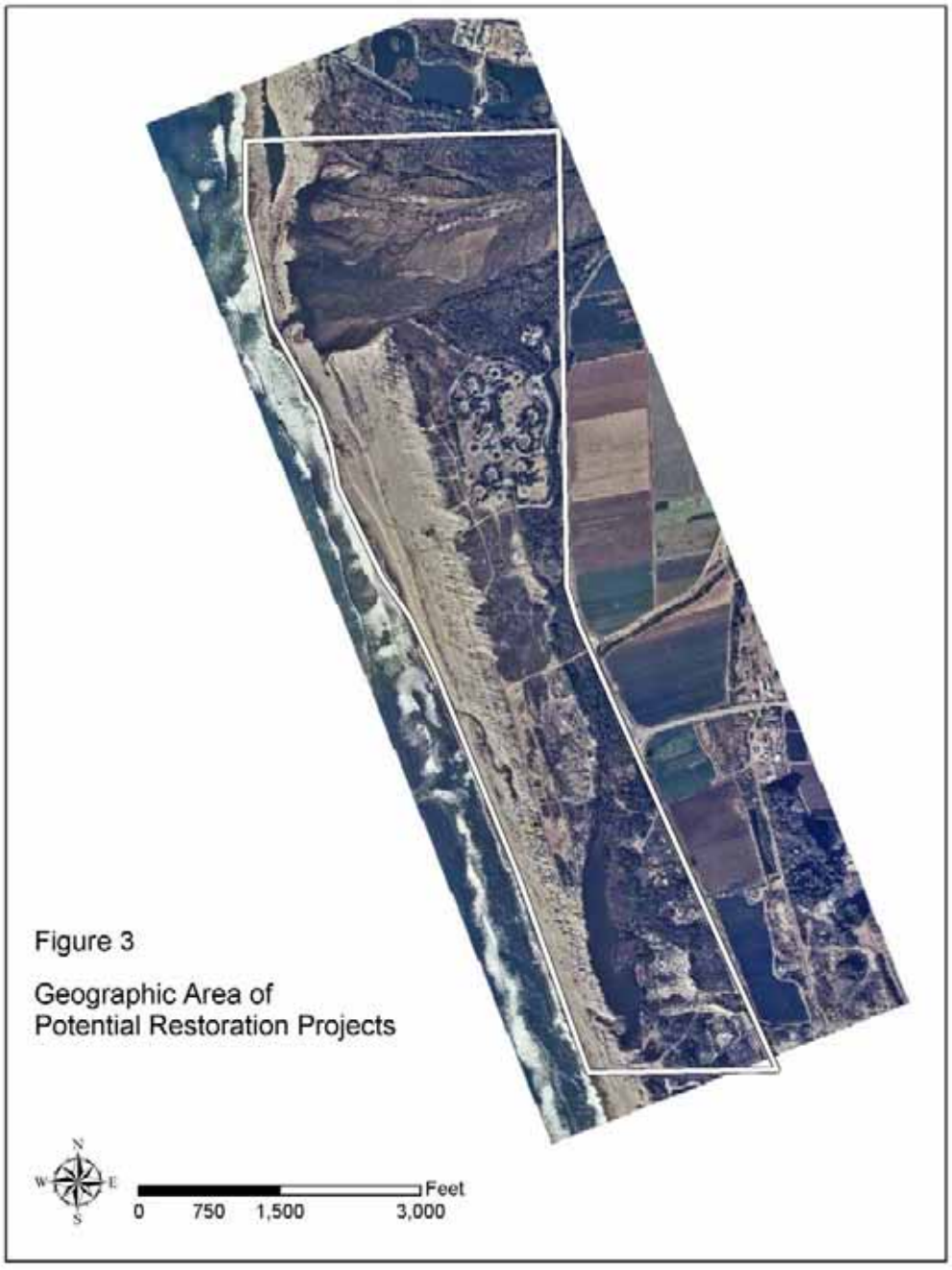


Figure 3

Geographic Area of
Potential Restoration Projects

Habitat Categories: At the time of the settlement, the Trustee agencies developed a Restoration Scoping Document to assist the Trustee Council in restoration planning efforts. Besides documenting and quantifying natural resource injuries, the document identifies three habitat categories (lake/wetland, riparian/wetland, modified sand dunes) and potential restoration activities within those categories to restore the types of resources injured by the Spill. The following alternatives include restoration actions that address injuries to biota associated with these three habitat categories. The alternatives are not ranked in any order of priority.

5.1 No Action Alternative

Under the "no action" alternative, restoration or rehabilitation of injured resources would occur solely through natural recovery. No additional actions would be taken to restore, rehabilitate, or acquire the equivalent of any of the natural resources and/or services injured, lost, damaged or destroyed by the Oil Spill. This alternative provides no benefits to the injured resources or to the public. Additionally, the settlement requires active restoration of the injured natural resources.

5.2 Land Acquisition/Conservation Easements

Nexus: The Oil Spill caused injuries to natural resources on both public and private lands in the McGrath State Beach area (see Figure 4). For example, the Riparian/Wetland Corridor and the north end of McGrath Lake, both of which were heavily oiled, are held in private ownership. Likewise, the main staging area for the Oil Spill cleanup, located within the Modified Sand Dunes, was on private land that is leased for oil and gas development.

Need: Land acquisition, through fee title or conservation easements, could enhance and/or protect resources injured by the Oil Spill in one or more of the following ways:

- Allow for “seamless” habitat enhancement/restoration across public-private property boundaries
- Protect quality habitats on private land from degradation or loss due to future land development
- Allow for future restoration of degraded/developed habitats on now private lands
- Provide a buffer around McGrath Lake to protect sensitive species

Seamless Habitat Enhancement—The complex ‘patchwork’ of public and private properties in the Oil Spill area complicates implementation of habitat enhancement projects on public lands in a manner that addresses habitat units as a whole, regardless of public/private property boundaries. Because habitats extend across property boundaries, an exotics plant control project on public land, for example, would be less effective if new sources of invasive species are left on adjacent private property. Obtaining conservation easements or fee title land acquisition over adjoining habitats could facilitate enhancement and long-term protection of habitat units that overlap property lines, thereby increasing habitat values and the likelihood of project success.

Protect Quality Habitats—Patches of quality Riparian/Wetland, Lake/Wetland and Sand Dune habitats exist on private lands in the McGrath Lake area. Acquisition of these habitats (fee title or conservation easements) would eliminate the threat of degradation or loss due to future land development.

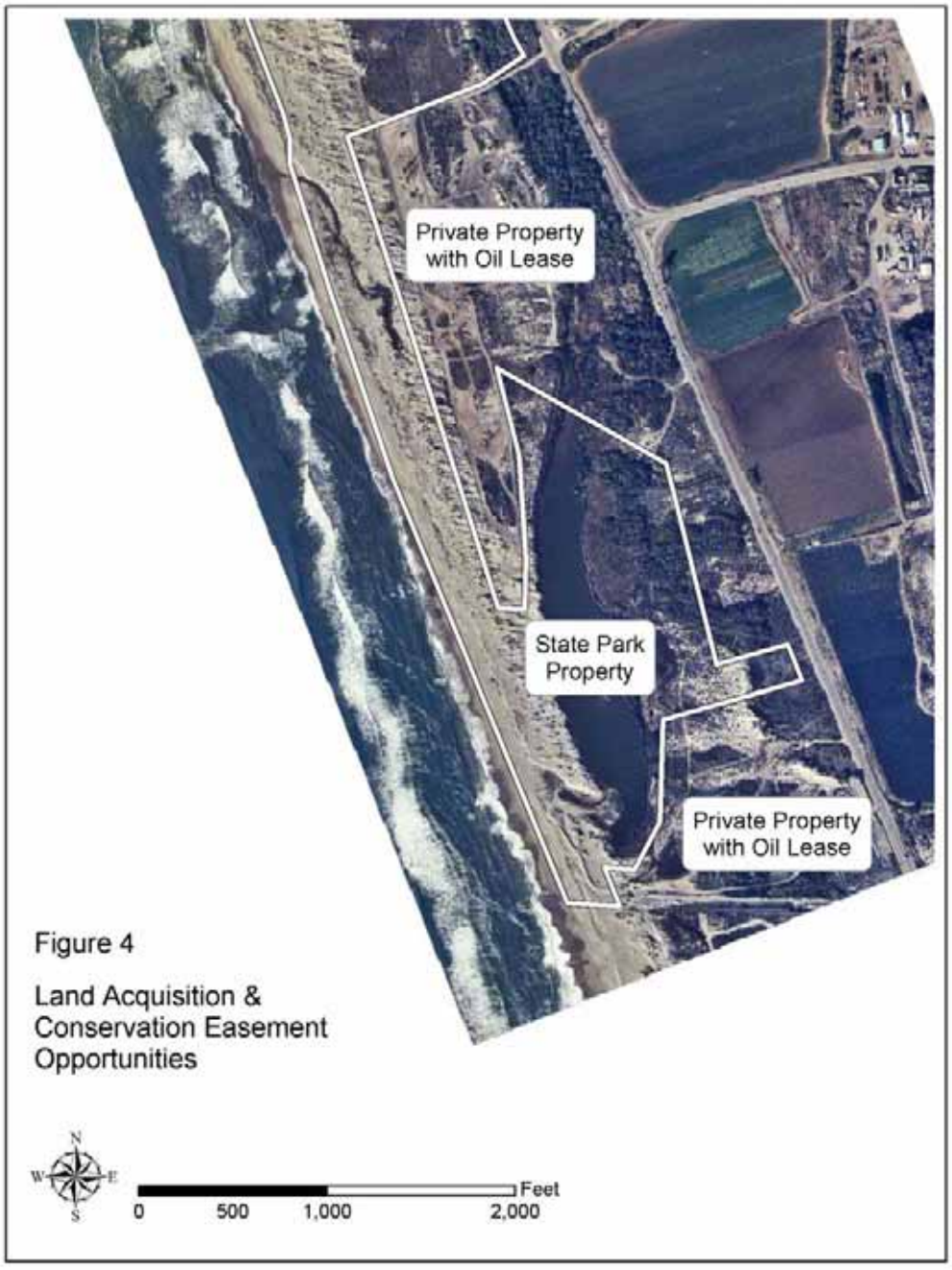


Figure 4

Land Acquisition &
Conservation Easement
Opportunities

Future Restoration—While some areas within these private lands contain high quality habitats, decades of industrial and agricultural activities have, in other areas, significantly modified and degraded these habitats. Because of this, opportunities exist to restore and/or enhance existing Riparian/Wetland, Lake/Wetland and Sand Dune habitats on lands now privately owned. Such restoration and/or enhancement could benefit both plant and wildlife species that were directly or indirectly impacted by the Oil Spill.

McGrath Lake Buffer—Human activities on lands adjacent to the Lake have the potential to disrupt sensitive wildlife species using the Lake area. Land acquisition (fee title or conservation easements) could create a buffer around the Lake to protect these sensitive species.

Project Description: This project would seek to acquire fee title or conservation easements over private properties containing, or with the potential to sustain, Sand Dune, Lake/Wetland, and/or Riparian/Wetland habitats. Any acquisition would be placed in public ownership by conveyance to the State, with management and stewardship responsibilities delegated to CDPR. CDPR would develop a plan for long-term management and protection of the natural resources.

Lands considered for acquisition must meet the following criteria:

- Located within or adjacent to the McGrath State Beach Area (Figure 3), and
- Have a willing seller.

Property currently under lease would be considered for acquisition if: lease activities do not significantly interfere with current resource values; resource values will increase once lease activities cease; or the potential exists for habitat enhancement/restoration following expiration of lease activities.

The total allocation for land acquisition is an estimated $500,000. Opportunities to leverage trust funds through public or private partnerships will also be considered. If no acquisition takes place, the Trustee Council will direct trust funds reserved for potential acquisition to alternative restoration actions. (See also: Section 8.0 Restoration Plan Implementation.)

Evaluation Criteria: The feasibility of achieving resource protection and/or enhancement goals will vary based upon the availability of suitable acquisition opportunities; the cost of restoration; and the long-term costs for monitoring, maintenance, and enforcement.

5.3 Habitat Enhancement

Lake Habitat Enhancement: When the RWQCB and Trustee Council conducted a limited investigation of sediment and water in the Lake in 1998, no residual oil contamination was found in Lake sediment samples. However, other types of sediment and water contamination were found which have the potential for negatively impacting wildlife and aquatic species. Because contamination and other issues affecting the lake (lacustrine) habitat remain unresolved, the Trustee Council will not be considering habitat enhancement actions within the open water lake or lake bottom habitat at this time. If cleanup/remediation efforts were to occur in the near future that would potentially improve water and sediment quality in the lake, the Trustee Council

reserves the option to consider alternatives for lake habitat enhancement at that time, should settlement funds remain. (See Section 4.2 for further discussion.)

5.3.1 Early Restoration Actions

Two habitat enhancement/restoration projects—Riparian corridor interim stabilization and *Arundo donax (*giant reed) control—were implemented early in the restoration planning process.

5.3.1.A—Riparian Corridor Interim Stabilization

A requirement was placed on the Trustee Council in the Consent Decree to reimburse Berry Petroleum Company for reasonable costs related to an Interim Stabilization Project within the riparian/wetland corridor that was impacted by the Spill. This project was required by the California Coastal Commission (Coastal Commission) as a condition of the Coastal Development Permit issued for the Oil Spill response.

Above: Oiled vegetation and soil were removed along riparian/woodland corridor during cleanup operations, leaving "clearing" in wooded area north of Lake.

Need/Nexus: During the Spill, oil contaminated the riparian corridor/woodland north of McGrath Lake. Oiled vegetation and oiled soil in the area were removed during cleanup. Many mature willows were also cut/removed to provide response personnel access to the waterway for oil cleanup.

Project Description: Revegetation of a 1,000 square feet area within the riparian corridor was required as a special permit condition by the Coastal Commission. An Interim Site Stabilization Plan (Plan) was submitted and approved which called for establishing approximately 450 arroyo willow (*Salix lasiolepsis)* and red willow (*S. laevigata)* cuttings on 2-3 foot centers, along with provisions for a drip irrigation system, monitoring and adaptive management. Performance

criteria identified a minimum survivorship of 70% after one year for project success. Success was achieved thirteen months after planting was initiated. The cost of the project was $60,868.51.

Evaluation Criteria: This project was required by the California Coastal Commission and was mandated in the Consent Decree. Project evaluation criteria were therefore not applied by the Trustee Council.

5.3.1.B—Arundo Control

Removal of giant reed *(Arundo donax)* from riparian, wetland and dune habitats was initiated by the Trustee Council as an early restoration project in October 1998, following a public participation process and environmental clearance. This project included a cost-sharing component with neighboring Coastal Berry Company for removal of giant reed (Arundo) from riparian habitat within the riparian corridor under a Streambed Alteration Agreement issued by the CDFG. This cooperative activity was pursued because one key to a successful Arundo eradication program involves addressing the spread of the plant throughout the watershed.

Need: The McGrath State Beach Natural Resources Management Plan (April 2003) identifies invasion by non-native species as a leading source of habitat degradation within the park. Arundo is an invasive non-native plant that decreases the amount and quality of native habitats and degrades ecosystem function by replacing native plant species. At the time of the Oil Spill, stands of Arundo were established on the eastern shore of McGrath Lake, in the riparian/wetland corridor north of the lake, and within the sand dunes and beach west of the lake.

Nexus: Arundo removal/control was implemented around McGrath Lake in beach/dune and riparian/wetland habitats that were directly impacted by, or proximal to, the Oil Spill.

Project Description: This project included the initial removal and follow-up treatment of Arundo at several sites within the riparian corridor, beach/dunes and wetlands around McGrath Lake (see Figure 5). Over 1,000 cubic yards of Arundo was initially removed from several sites covering a total area of approximately two acres. The initial project included development of an exotics removal/control plan, permitting, contractor management/oversight, restoration monitoring and reporting. Arundo removal was accomplished by cutting with hand tools and painting the cut stumps with an herbicide approved for use in aquatic ecosystems. The cut Arundo was removed by hand and disposed of off-site at an approved facility. Measures to protect breeding birds, including the California least tern and western snowy plover, were also included. An annual monitoring/maintenance program has remained in place to insure the success of this project. The combined cost for removal and control of Arundo over the six-year period 1998 through 2003 is $132,976. Monitoring and maintenance will continue to be funded for approximately four more years for a total project cost of $151,131.

Evaluation Criteria: Removal of this exotic species was recognized by the Trustee Council as the most immediate restoration opportunity. The project offered a strong nexus to the injured resources, benefited multiple types of natural resources, and offered a long duration of benefits. Based on the documented experience from other Arundo removal projects, this project was determined to be technically feasible with a high likelihood of success. The opportunity to

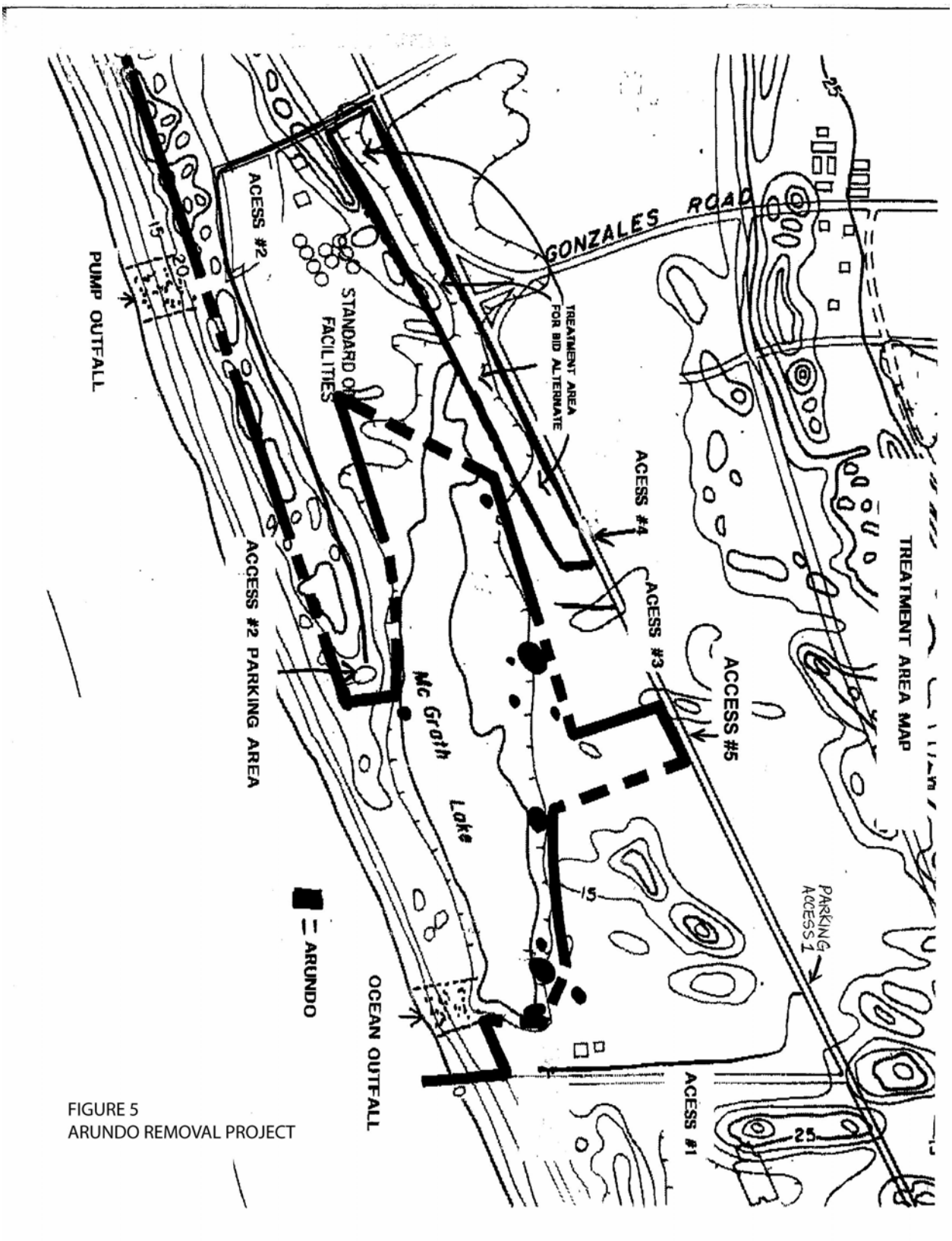


FIGURE 5
ARUNDO REMOVAL PROJECT

collaborate with private landowners increased the benefits to the natural resources, the likelihood of success (by addressing upstream sources) and the cost effectiveness of the project.

5.3.2 Sand Dune Enhancement

Need: The dunes system within McGrath State Beach is part of a larger relict coastal dunes complex that extends from the Ventura River mouth on the north to West Fifth Street in Oxnard on the south. As one of the few dynamic, functioning, dune-building systems remaining in southern California, this dune system represents a significant natural resource both locally and from a statewide perspective.

In the McGrath Lake area, these coastal dunes contain invasive, exotic plant species that reduce the potential of the area to support native plants and wildlife. The removal or control of these invasive non-natives would improve the quality, function, and diversity of the dune ecosystem. In some areas, signage and fencing would aid in reducing disturbance to dune structures and vegetation caused by undirected visitor use.

Nexus: The dunes north and west of McGrath Lake were directly impacted by the Oil Spill and cleanup response. Many species of vertebrate and invertebrate wildlife that were directly impacted by the Spill also range off-site, and utilize adjacent dune habitats.

Above: Sand dunes northwest of McGrath Lake. (Ice plant & sand verbena in foreground, Lake outfall discharge in background.)

Project Description: The proposed dune habitat enhancement/restoration actions seek to enhance habitat values first through exotic plant control (to reduce non-native plant species coverage) followed by natural recovery. Where indicated, native plant seeding and/or planting will also be used to increase native species coverage in order to meet success criteria. Protection of restored areas will be achieved using signage, fencing and/or predator control, as needed.

To facilitate implementation, Sand Dune enhancement will be divided into three geographic zones: A, B and C. (See Figure 6.) Within each zone, dune enhancement will be accomplished through a series of tasks beginning with the development of a zone-specific enhancement plan. The zone-specific plan will address: goals and approach; exotics control methods; native species enhancement methods; performance standards and success criteria; potential corrective actions (adaptive management); potential for adverse impacts and mitigation measures; scheduling of monitoring, maintenance, and reporting activities; and project budget. All monitoring plans shall include the duration and frequency of monitoring, methods of data collection and management, and level of sampling that will be necessary to detect success. Monitoring data will be utilized to determine appropriate corrective actions to be implemented if success is not being attained (adaptive management). Corrective actions will be implemented, as needed, until success criteria are met.

Above: Native sand verbena (Abronia umbellata.) in bloom near McGrath Lake

All zone-specific plans will follow accepted practices and use best available technologies, including digital data management and mapping. Each zone-specific plan will be evaluated to determine if additional environmental review is appropriate. All permitting, contract administration and contract management costs will be included in each project budget. The total allocation for all Sand Dune enhancement projects is estimated at $450,000.

Evaluation Criteria: Portions of the coastal dunes complex in the vicinity of McGrath Lake were directly impacted by the Oil Spill and cleanup response, creating a strong geographic nexus to Spill injuries. Sand Dune restoration projects that have been successfully implemented at other locations have created a body of knowledge that can be applied to this restoration, thereby providing a high likelihood of success and expectation of cost-effectiveness.

5.3.2.A—Sand Dune Enhancement - Power Plant to Lake Outfall

Boundaries—Power plant (south), Lake pump outfall (north), Pacific ocean/beach (west), Lake shore and private property (east).

Nexus: This section of the coastal dunes complex was directly impacted by the Oil Spill, creating the strongest geographic nexus to Spill injuries.

Project Description:

Exotics control—Removal of iceplant (*Carpobrotus* spp.*)* & Arundo (*Arundo donax)*. May also include cockleburr *(Xanthium strumarium),* castor bean (*Ricinus communis*), Russian thistle (*Salsola tragus)* and/or other species.

Native plant communities—Enhancement of sand verbena *(Abronia spp.)*, beach bur *(Ambrosia chamissonis)* beach evening primrose (*Camissonia cheiranthifolia),* saltgrass (*Distichlis spicata),* and/or other species through natural recovery, with additional seeding and/or planting as necessary.

5.3.2.B—Sand Dune Enhancement – Lake Outfall to Natural Preserve

Boundaries—McGrath Lake pump outfall (south), boundary of Santa Clara River Natural Preserve (north), Pacific ocean/beach (west), terminus of sand dunes (east).

Nexus: The portions of the dunes around the lake outfall were directly impacted by the Oil Spill and cleanup activities, providing a strong geographic nexus to Spill injuries. Dunes farther north of the outfall provide the opportunity to restore, rehabilitate, replace or enhance similar resources and resource services within close geographic proximity to the Spill.

Project Description:

*Exotic plants***—**Removal of iceplant (*Carpobrotus* spp.*)* & Arundo (*Arundo donax)*. May also include non-native annual grasses or other species.

Native plant communities—Enhancement of sand verbena *(Abronia spp.)*, beach bur *(Ambrosia chamissonis)* beach evening primrose (*Camissonia cheiranthifolia,* and/or other species through natural recovery, with additional seeding and/or planting as necessary.

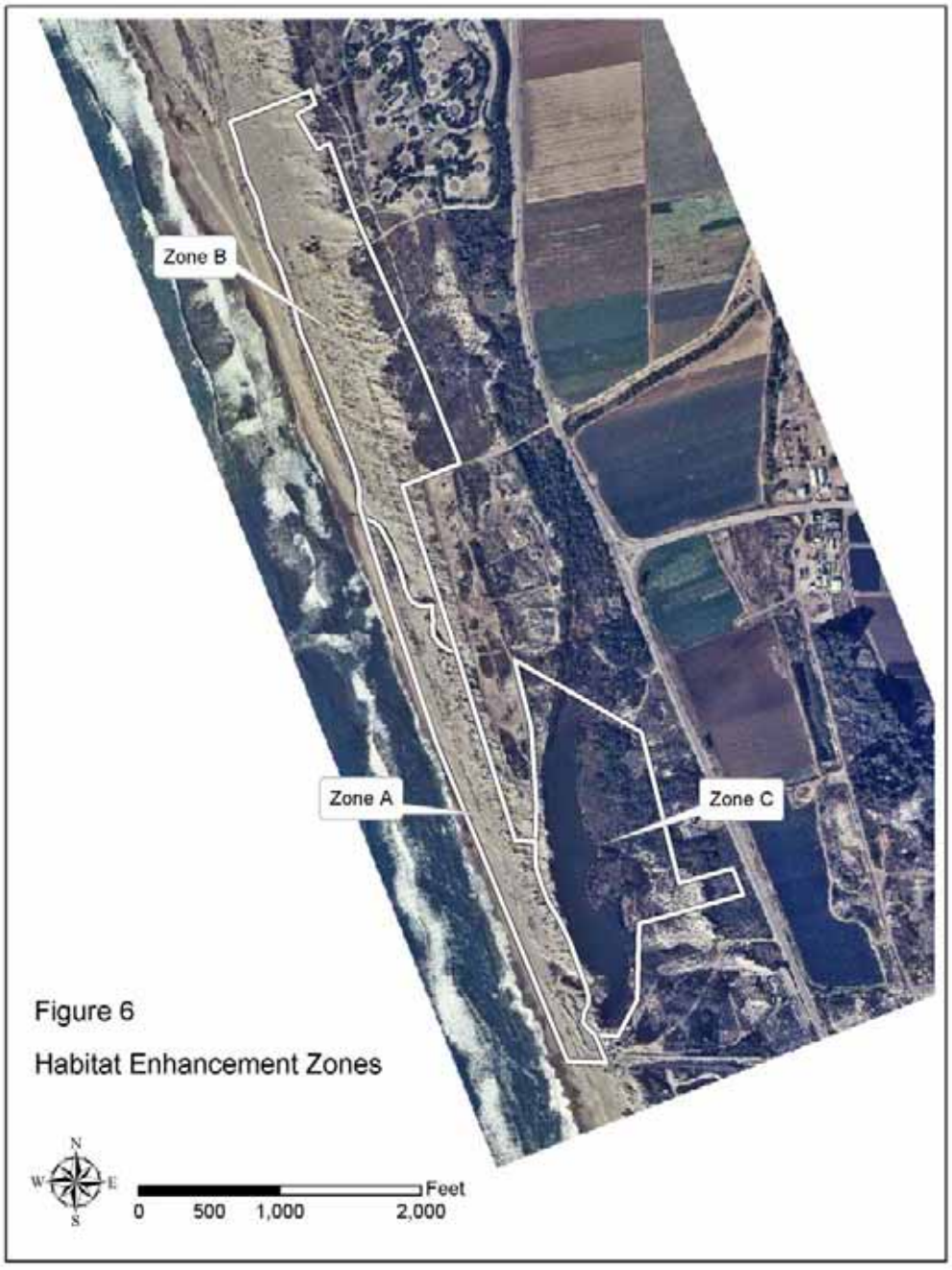


Figure 6

Habitat Enhancement Zones

5.3.2.C—Mixed Dune Scrub Enhancement – McGrath Lake to Harbor Blvd

Boundaries—Private property/power plant (south), private property/oil lease (north), McGrath Lake/foredunes (west), Harbor Boulevard (east).

Nexus/Need: This zone experienced impacts from vehicular and foot traffic during the Oil Spill cleanup response. An unrelated 16 acre wetlands mitigation project is proposed on an adjacent parcel. That project is expected to restore and enhance riparian, wetland, and coastal dune habitats on lands that have been modified (degraded) by oil and gas development. It includes habitat types that are similar in kind, and in close proximity to, those habitats/resources that were directly impacted by the Oil Spill.

Project Description:

Exotics control—Management of iceplant (*Carpobrotus s.)*, Arundo (*Arundo donax)* & myoporum (*Myoporum laetum*). May also include cockleburr *(Xanthium strumarium),* tamarisk *(Tamarix ramosissima)* and/or other species.

Native plant communities—Enhancement of sand verbena *(Abronia spp.)*, beach bur *(Ambrosia chamissonis)* beach evening primrose (*Camissonia cheiranthifolia),* coyote brush *(Baccharis pilularis)*, coast buckwheat (*Eriogonum parvifolium),* mock heather (*Ericameria ericoides)*, saltgrass (*Distichlis spicata)* and/or other species.

Evaluation Criteria: This alternative would provide multiple resource benefits (protect/enhance dune, riparian and wetland habitats) and leverage restoration dollars through collaboration and coordination with other restoration projects/programs.

Above: Mixed dune-scrub east of McGrath Lake. Willows in the background border Harbor Boulevard.

If the proposed 16 acre wetlands mitigation project is implemented, habitat enhancement within this zone would complement that project, creating a “seamless” restoration/enhancement unit around the south and east sides of McGrath Lake. The success of that project in rehabilitating/ enhancing resources similar to those injured by the Spill would, in turn, "leverage" the cost-effectiveness of trust funds invested within this zone.

5.3.3 Mandalay Beach Habitat Enhancement

Need: Separated from McGrath Lake by power-generating facilities, Mandalay State Beach (Mandalay Beach) is a mile-long park unit bounded on the north by Southern California Edison, on the south by West Fifth Street (residential development), on the east by Harbor Boulevard and on the west by the Pacific Ocean. Additional residential development is proposed on open space lands east of Harbor Boulevard.

Above: Mandalay State Beach, ½ mile south of McGrath Lake, preserves sand dune and wetland habitats adjacent to expanding residential development. (Photo copyright 2002-2004 Kenneth & Gabrielle Adelman, California Coastal Records Project, www.californiacoastline.org)

This state park unit includes open beach, coastal foredune, mixed back-dune scrub, and freshwater wetland habitats. The dunes within Mandalay Beach are part of the same coastal dunes complex that extends from the Ventura River mouth in the north through McGrath State Beach to West Fifth Street in Oxnard, where urban development has replaced the dunes system. This coastal dunes complex is notable as one of the few dynamic, functioning, dune-building systems remaining in southern California. Studies indicate that endangered western snowy plover move between the McGrath Lake area dunes and Mandalay Beach. The snowy plovers utilize the beach and dunes at Mandalay for nesting during the spring and summer, and foraging and roosting during the winter.

Opportunities exist for protection and enhancement of both sand dune and wetland habitats at Mandalay Beach. Invasive, non-native European beach grass and ice plant degrade the quality and function of the dunes habitat. The value of these habitats for wildlife can be improved through exotic plant control. Intensive recreational use of the area, due to close proximity to urban development, also creates the opportunity for enhanced resource protection through visitor education and improved management of public access. The recreational pressures on these rare

and valuable coastal resources are sure to intensify over time as population growth results in increased public use at this urban interface. Managing and directing this public use to protect dune structures, plants and wildlife will, therefore, continue to become an even more critical component of resource protection.

The County of Ventura manages Mandalay State Beach under an operating agreement with the State of California. Due to fiscal constraints, funds for resource protection at the unit are limited. Given the current tide of funding for state and local public agencies, these constraints are expected to remain for the foreseeable future.

Nexus: The Oil Spill event impacted seven miles of coastal beach, including Mandalay State Beach. This park unit also contains sand dune and wetland habitats that are the same as or similar to those at McGrath Lake that were directly impacted by the Spill and cleanup response. Since some wildlife resources that were directly impacted by the Oil Spill (such as western snowy plover) move between these two locations, it is likely that some of these same shared resources at Mandalay Beach were directly or indirectly impacted by the Spill.

Project Description: This project would implement habitat enhancement activities at Mandalay State Beach following the same procedures as those outlined in Section 5.3.2, above. Funding for enhancement at this location would depend upon the availability of trust funds remaining after implementation of projects with a stronger geographic nexus to the Oil Spill (McGrath Lake/McGrath State Beach).

Evaluation Criteria: The natural resources at Mandalay State Beach are similar to, and a continuous extension of, the coastal beach, dune, and wetlands habitats that were directly impacted by the McGrath Oil Spill. This project would provide for the protection of these increasingly rare and valuable resources as development pressures and public use increase.

5.4 Public Information and Education

5.4.1 Interpretive Signs

Need/Nexus: Protecting and managing natural ecosystems within an urban context is a complex process. Where human recreation overlaps with sensitive ecosystems, as in the McGrath Lake area, visitor education about their role in protecting these sensitive natural resources becomes critical. Instilling in park users an understanding of and appreciation for the dune, lake and riparian habitats, and the importance of observing and complying with management rules and regulations, are essential to the long-term protection of the natural resources that were injured by the Oil Spill.

For example, the route taken by beach-goers through the sand dunes near McGrath Lake has the potential to impact the structure of the dunes, viability of native plants, and nesting success of sensitive bird species such as western snowy plover and California least terns. The use of designated routes, versus random travel through the dunes and dune habitat enhancement areas, becomes important in protecting these resources. Visitors are more likely to comply with

regulatory signs instructing them to use designated routes when they understand and appreciate these sensitive resources and the potential impacts of their actions.

Park visitors entering the McGrath Lake area often walk onto Park property directly from Harbor Boulevard, near the power plant, without passing through the campground or day use areas of McGrath State Beach. There is currently no educational information available to these park visitors. Interpretive signage in this area would serve to increase these users' understanding of and appreciation for the natural resources that were impacted by the Oil Spill, and the visitors' role in protecting these sensitive natural resources.

Project Description: This project consists of the design, construction and installation of interpretive signs to inform and educate the public about the land use history; natural history and value/importance of the natural resources injured by the Spill, measures taken or needed to manage and protect those resources, and how choices visitors make can affect those resources. The signs would be installed in the McGrath Lake area. Four signs are proposed at an approximate cost of $5,000 per sign, or $20,000.

Evaluation Criteria: This project would protect and benefit multiple types of resources that were directly injured by the Oil Spill. Similar projects undertaken in other areas indicate that the project is technically feasible.

5.4.2 McGrath State Beach Visitor Center Relocation

Need/Nexus: The McGrath State Beach Visitor Center serves to inform and educate the public about the natural and cultural resources within the State Beach, including the natural resources injured by the Oil Spill, and about the visitors' role in protecting these natural resources.

The existing Visitor Center (Center) is located in an area that is subject to periodic flooding, has experienced water damage, and is in need of replacement at an alternate site. The Center is now closed pending replacement. A non-profit group associated with the park has offered to provide a new Visitor Center building. Matching funds are needed for site relocation planning, permitting, and engineering.

Once the Visitor Center is again operational, the building will assist in protecting natural resources injured by the Oil Spill by reducing the potential for conflicts between recreation and natural resources through public education and information.

Project Description: This project would assist state and private partners in replacing and relocating the McGrath State Beach Visitor Center. The new Visitor Center building would be provided by the private, non-profit group, 'Friends of Channel Coast District State Parks'. Funds provided by the McGrath Trustee Council would be used for site relocation planning, permitting, and engineering at an estimated cost of $50,000.

Evaluation Criteria: This project is technically feasible, would benefit multiple types of resources that were directly and indirectly injured by the Oil Spill, and increases cost-effectiveness through collaboration with other partners.

5.4.3 Outreach and Recovery Coordinator

Need/Nexus: Western snowy plover and California least terns were among the special status species directly impacted by the Oil Spill at McGrath Lake. One of the major causes of decline for western snowy plovers and California least terns throughout Ventura County is the abandonment of nesting sites as a result of intensive human recreational use of beaches.

Since the home range of individual birds that nest in the McGrath Lake area extends to other beaches in Ventura County, a coordinated outreach effort throughout the County would also benefit birds in the McGrath Lake area. A volunteer outreach program that informs and educates recreational beach users in the McGrath Lake area and throughout the county would increase the likelihood of successful breeding and benefit these special status species, while maintaining recreational uses.

Project Description: This project would pool funding and other resources from state and local partners to hire a full-time Ventura County program coordinator to perform or oversee the following activities for a period of three years.

- Docent Program: Recruit and train Volunteers who would educate beach users about tern and plover biology and the importance of respecting protective measures, and would deter predators.
- Infrastructure: Install interpretive signs and annually install and remove temporary fencing.
- Public Outreach: Community outreach to include: consistent signage across beaches in all jurisdictions, guided tours, presentations to interested community groups, news articles, radio PSAs, creation and dissemination of pamphlets and educational materials, tabling at community events, promotion of internships for local college students, and involvement of the Oxnard City Corps.
- Fund Raising: Secure funding for on-going financial support of the program after the initial three-year startup period.

This project is inspired by the success of the Coal Oil Point Reserve (COPR) Snowy Plover Docent Recovery Program in Santa Barbara. In the first years of that program, public education by volunteer docents and the use of symbolic fencing around core habitat areas led to a 90% drop in plover disturbance rates while still allowing for beach recreation. This reduction in disturbance coincided with the return of plover nesting at this location for the first time in 30 years.

The total budget for the three-year period is estimated between $188,000 and$218,000, depending upon salary negotiations. Thus far $100,000 has been pledged to the project by the California Coastal Conservancy. The non-profit California State Parks Foundation is considering additional financial support. In-kind donations of office space and supplies have been offered by the United States Fish and Wildlife Service. This restoration project alternative would provide funding up to a maximum of $83,000 from the McGrath Trust.

Evaluation Criteria: This project takes advantage of the opportunity for cooperation with other partners (state, local and private) in protecting sensitive resources that were directly and indirectly injured by the Oil Spill. The project is similar to other restoration projects that have demonstrated a high level of success in other areas.

6.0 ENVIRONMENTAL COMPLIANCE AND CONSIDERATIONS

6.1 NEPA-CEQA Compliance

Environmental review of the Final Restoration Plan (Plan) will be performed pursuant to the National Environmental Policy Act (42 United States Codes Section 4321 et. seq.) and the California Environmental Quality Act (14 California Code of Regulations Section 1500 et. seq.). As the federal Trustee, the United States Fish and Wildlife Service (USFWS) will be responsible for environmental review and compliance in accordance with NEPA. As a state Trustee and Lead Trustee agency for the Trustee Council, the California Department of Parks and Recreation (CDPR) will be responsible for environmental review and compliance under CEQA. If, during the course of Restoration Plan implementation, circumstances change or new information is available, additional environmental review will occur as needed.

NEPA—The preparation of a Natural Resources Damage Assessment Restoration Plan in accordance with the federal Oil Pollution Act (OPA) is considered a "major federal action" that requires environmental impact analysis and public review under the National Environmental Policy Act (NEPA). The purpose of NEPA is to encourage productive harmony between man and the environment, promote efforts to prevent or eliminate environmental damage, and enrich the understanding of ecological systems and natural resources.

The Trustees have integrated OPA restoration planning with the NEPA process in preparing this combined draft Restoration Plan and Environmental Assessment (Plan/EA). This integrated document allows the Trustees to combine the public involvement components of both these processes concurrently. Written comments on the draft Plan/EA will be considered in determining the potential for significant impacts. A EIS or FONSI document will then be prepared before a decision is made on the final Restoration Plan. If needed, additional NEPA review will take place if circumstances change or new information becomes available during implementation.

CEQA—Similar to its federal counterpart, the California Environmental Quality Act (CEQA) provides a means and process to inform governmental decision-makers and the public about potential significant environmental effects of proposed state/local government actions, and ways to prevent, avoid or reduce potential environmental damage. Public participation and disclosure is a key component of the CEQA process.

After public review of the draft Plan/EA has been completed and incorporated into the final Restoration Plan, the state Lead Agency (CDPR) will prepare appropriate documents for a CEQA determination on the potential for significant environmental impacts. This determination will receive public review in accordance with CEQA guidelines before adoption of the final Restoration Plan (Plan) by the state Trustee agencies. Additional environmental review will take

place if new information becomes available or circumstances change during the five-to-ten-year implementation process.

6.2 Adverse Effects and Mitigation Measures

The potential for environmental effects that may result during implementation of the Restoration Plan are discussed below.

Land Acquisition--No potential for significant adverse effects is anticipated in association with land acquisition. The potential effects of any subsequent habitat enhancement/restoration projects on acquired lands would be similar to those described below.

Habitat Enhancement--Control of invasive, non-native plant species in the dune, wetland and/or riparian habitats may be achieved using hand or mechanical removal, plastic tarps, herbicides or other techniques. Any of these methods may cause some degree of temporary, incidental disturbance to native plants and wildlife found in close association with the invasive exotics in the treatment area. The degree of disturbance will vary depending upon site conditions, methods used, season/timing, etc. To a lesser extent, planting, seeding, and/or monitoring activities may also result in short-term, incidental disturbance to native species in the treatment area. Temporary restrictions may also be placed on public access through the habitat enhancement areas during the course of restoration that could inconvenience visitors seeking recreational opportunities.

Low-impact techniques and mitigation measures will be identified in each zone-specific habitat enhancement/restoration plan that will be used to minimize the potential for adverse impacts. Such techniques or mitigation measures will include the following.

Arundo *(Arundo donax)* Control

- Cut-and-paint herbicide application, not foliar spray, will be used in dense Arundo stands where native plants are commingled
- If/when herbicides are to be used, only those herbicides and surfactants approved for aquatic ecosystems (such as Rodeo) will be utilized
- Arundo will be cut using hand tools only
- All cut stems, roots, and Arundo debris will be collected and disposed of off-site at an approved location where the plant material will not become established in native ecosystems
- All work will be performed under the direction and guidance of a State Park resource specialist
- Before any work begins, all workers to perform Arundo control activities will receive instruction from the resource specialist on the identification of sensitive plant and animal species that occur in the area, and ways to avoid disturbance to those species

Dune Enhancement/Restoration

- Where native and exotic plant species are intermixed, exotics will be removed by hand to minimize disturbance to native species and disposed of off-site at an approved location to prevent resprouting and seed spread.
- Where "pure" stands of exotic species such as hottentot fig (*Carpobrotus edulis)* are found, the exotics may be removed by hand or treated in place.
- Where appropriate, treated plant material will be left in place to prevent erosion and preserve limited wildlife habitat.
- All work will be performed under the direction and guidance of a State Park resource specialist.
- Before any work begins, all workers to perform restoration/enhancement activities will receive instruction from a resource specialist on the identification of sensitive plant and animal species that occur in the area, and ways to avoid disturbance to those species.

Specific protection measures for sensitive bird species (California least tern, western snowy plover) will be identified in each zone-specific habitat restoration plan following consultation with the USFWS. These measures may include:

- Avoidance of restoration activities during the nesting season, and/or
- Monitoring of sensitive bird species by a qualified biologist, and/or
- Identification of restoration/enhancement "exclusion zones" around core nesting areas

By incorporating these low-impact techniques and mitigation measures, any incidental disturbance to native species is expected to be minor and/or temporary.

Public access through the habitat enhancement areas may be managed or redirected during Plan implementation to protect restoration efforts. An alternate public access route to the beach/ocean will be maintained throughout the implementation process.

Public Education and Information--The installation of interpretive panels in the McGrath Lake area would result in temporary, minor ground disturbance. The installation will be performed under the guidance and direction of a State Park resource specialist. Restrictions will be placed on the timing and/or location of installation, route of access, type of equipment to be used, depth of disturbance, etc., as required to avoid the potential for significant adverse effects.

The installation of temporary fencing around core California least tern and western snowy plover nesting sites, as part of Outreach activities, may result in temporary restrictions to public use and recreation during the breeding season in localized areas of the beach and dunes. A public access route for beach/ocean recreation will be maintained throughout the implementation process.

6.3 Beneficial Effects

Land Acquisition—The habitats and associated species on private lands that were directly impacted by the Oil Spill would benefit from the long-term protection afforded by conservation easements and/or the public stewardship associated with fee title land acquisition. Conservation

easements or fee title acquisition could: protect existing high-quality habitats from future development; provide opportunities for habitat enhancement/restoration on developed/degraded now held in private ownership; allow for "seamless" habitat enhancement projects on public lands based on contiguous habitat units, rather than public/private property boundaries; and/or provide a buffer around McGrath Lake to minimize disturbance of sensitive species that use the Lake area. The habitats and associated resources on adjacent public lands would also benefit from any reduced development pressures and enhanced habitat values on the adjoining private lands.

Habitat Enhancement—These projects would benefit both plant and wildlife species affected by the Oil Spill by enhancing habitat quality and function. A reduction in exotic species increases the opportunity for native plant communities to expand in coverage and diversity, thereby increasing habitat value and biodiversity. Wildlife that depend on these native plant communities will benefit from the enhanced habitat value. Special status species known to utilize the proposed habitat enhancement areas, that would likely benefit, include the western snowy plover and California least tern.

Public Education and Information—The use of this section of coastline for human recreation brings with it the potential for impacts to the natural resources from recreational activities. Public education and outreach projects would help to protect the natural resources that were injured by the Spill by increasing the public's understanding and appreciation of these unique and valuable resources and how the visitors' individual choices affect these resources. The resources would benefit as visitors to the area increase their compliance with resource protection rules and regulations, and modify their actions/choices to avoid potential conflicts. "On-the-ground" protection measures, such as seasonal fencing of critical nesting areas, are also expected to result in improved reproductive success and contribute to the recovery of populations of western snowy plovers and California least terns that utilize the McGrath Lake area.

6.4 Cumulative Effects

Under NEPA, cumulative environmental impacts are defined as those combined effects on the quality of the human environment that result from the incremental impact of the considered action when added to other past, present, and foreseeable future actions (40 CFR 1508.7). The potential adverse effects that have been identified in conjunction with the proposed actions include minor, temporary, incidental disturbance to native species and temporary, localized access limitations. Mitigation measures included in the project will reduce the potential for adverse effects to an insignificant level. At this time, no significant cumulative impacts are foreseen from implementation of this suite of restoration actions. No other past or future projects have been identified in this area that would contribute to a significant cumulative impact.

7.0 PREFERRED ALTERNATIVES

The public was invited to review and comment on the tentative preferred alternatives, which are summarized in Table 1 below, or to propose additional projects that would fulfill the requirements set forth in the Consent Decree (Appendix B). (For details regarding the submission of public comments, see Section 1.1.) No new projects or substantive changes to the

tentative preferred alternatives were proposed. The Trustee Council has identified all of the tentative preferred projects (5.2 through 5.4) as preferred alternatives.

Table 1. Preferred Alternatives

Project	Protect Area/Type	Cost (Approximate)
5.2 LAND ACQUISITION Fee Title or Conservation Easements	Riparian/Wetland Sand Dunes Lake/Wetland	$500,000
5.3 HABITAT ENHANCEMENT		
5.3.1 Early Restoration Projects		
5.3.1.A Riparian Corridor Interim Stabilization	Riparian/Wetland	$ 60, 869
5.3.1.B Arundo Control	Riparian/Wetland/Dune	$151,131
5.3.2 Sand Dunes		$450,000
5.3.2.A Power Plant to Lake Outfall	Sand Dune	
5.3.2.B Lake Outfall to Natural Preserve	Sand Dune	
5.3.2.C Mixed Dune/Scrub	Dune/Riparian/Wetland	
5.3.3 Mandalay Beach Habitat Enhancement		(If trust funds remain)
5.4 PUBLIC INFORMATION/EDUCATION		
5.4.1 Interpretive Signs	Riparn/Dune/Lake/Wetland	$ 20,000
5.4.2 Visitor Center Relocation	Riparn/Dune/Lake/Wetland	$ 50,000
5.4.3 Outreach-Recovery Coordinator	Sand Dune	$ 83,000
	Total	$1,315,000

8.0 RESTORATION PLAN IMPLEMENTATION

8.1 Process and Timeframe

Following public review of the Draft Restoration Plan and Environmental Assessment, the Trustee Council considered public input and made final changes to the Restoration Plan/EA. Environmental review of the Final Restoration Plan/EA will be completed as described in Section 6 above. After completion of state and federal environmental review of the Final Restoration Plan, the Trustee agencies will adopt/approve the document.It is the intent of the Trustee Council to move forward in a timely and progressive manner to implement the approved Final Restoration Plan (Final Plan). Habitat enhancement and public information-education projects approved in the Final Plan will be implemented as soon as practical.

The Trustee Council will explore fee title/conservation easement land acquisition opportunities for one year following adoption of the Final Restoration Plan. If no potentially suitable opportunities are pending at the end of this period, the Trustee Council will decide if acquisition opportunities should continue to be explored. If no acquisition takes place, the Trustee Council will redirect trust funds reserved for potential acquisition to habitat enhancement projects.

Habitat restoration will be implemented following the steps outlined in Section 5.3.2, beginning with development of a zone-specific enhancement/restoration plan for each zone/area to be treated. The zone-specific enhancement/restoration plan will contain a comprehensive budget that estimates all implementation costs over the life of the project, including maintenance, monitoring, project management, and adaptive management costs.

Once a zone-specific habitat enhancement/restoration plan has been approved and trust funds committed, the process will be repeated for the next zone/area until all trust funds have been committed. The sequencing of zones has yet to be determined and will be influenced by many variables. It is expected that all restoration projects will be initiated within one to five years following Final Restoration Plan approval. If, during this period, outside events occur that would address the removal or remediation of Lake water/sediment contaminants, the Trustee Council may reconsider the appropriateness of directing any unencumbered trust funds toward habitat restoration actions within the open-water Lake area.

8.2 Responsibilities

The Trustee Council is responsible for administering and managing all restoration projects through to successful completion. As Lead Trustee for the Trustee Council, CDPR will have lead oversight and project management responsibilities for all implementation.

All unexpended funds will remain in Trust with the National Fish and Wildlife Foundation until directed by the Trustee Council to be expended for a specific project. The Trustee Council has the ability to modify and /or change the projects and/or allocations to assure successful completion of any of the restoration actions and fulfillment of the Trustee Council's obligations under the Consent Decree. If, after all preferred projects are completed, funds remain in the Trust, the Trustee Council will consider additional projects.