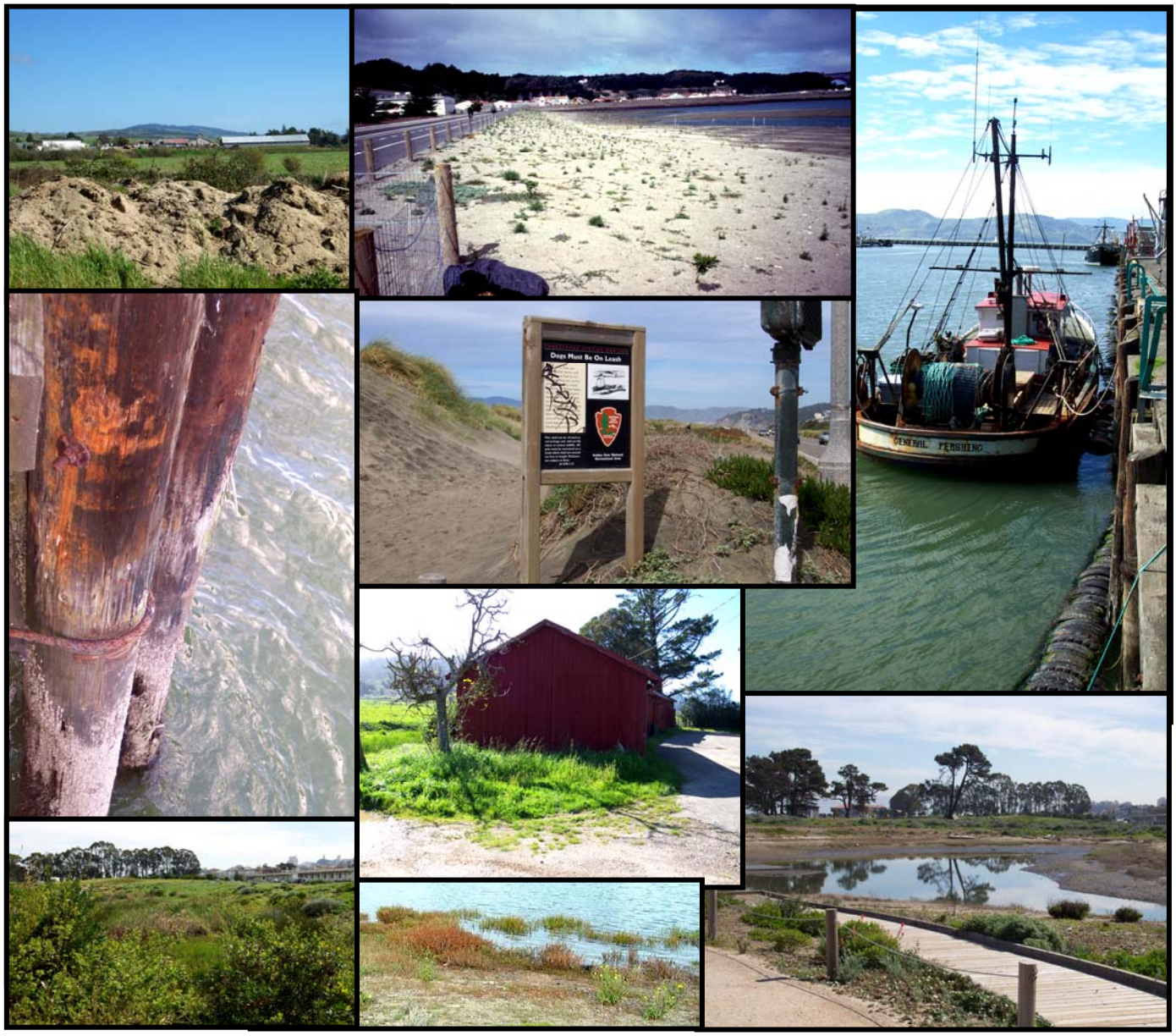
Cape Mohican Restoration Projects
Annual Report



January 2007

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On October 28, 1996, the *SS Cape Mohican* discharged approximately 96,000 gallons of heavy bunker fuel oil into a floating dry dock at the San Francisco Drydock Shipyard. Approximately 40,000 gallons spilled into San Francisco Bay. Oil spread from Pier 70 south to Hunter's Point and north into the central Bay, extending to the Richmond-San Rafael Bridge and oiling shorelines of Alcatraz, Yerba Buena, Treasure, and Angel islands. The Tiburon Peninsula and San Francisco waterfront were also oiled. Oil traveled outside of the Golden Gate into the Gulf of the Farallones National Marine Sanctuary (GFNMS), oiling beaches as far north as Drakes Beach in the Point Reyes National Seashore (PRNS) and as far south as Pillar Point.

The Cape Mohican Trustee Council is composed of representatives from the National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), California Department of Fish and Game (CDFG), and California Department of Parks and Recreation (CDPR), selected projects to mitigate or restore the injured natural resources. This report includes summaries of the status of each of the projects listed below as well as a summary of project budget data.

Bird Restoration:

- Shorebird Habitat Protection at the Golden Gate National Recreation Area (GGNRA)
- California Least Tern Habitat Enhancement at Alameda Point
- Restoration of Shorebird Foraging Habitat through Control of Exotic Cordgrass in San Francisco Bay Wetlands
- Farallon Seabird Restoration: Exotic Vegetation Control in Nesting Areas

Fisheries and Water Quality:

- Pacific Herring Spawning Habitat Enhancement in San Francisco Bay
- Wetland Restoration at Pier 98, India Basin, San Francisco
- Steelhead Stream Habitat Enhancement at San Francisquito Creek

Wetlands and Mudflats:

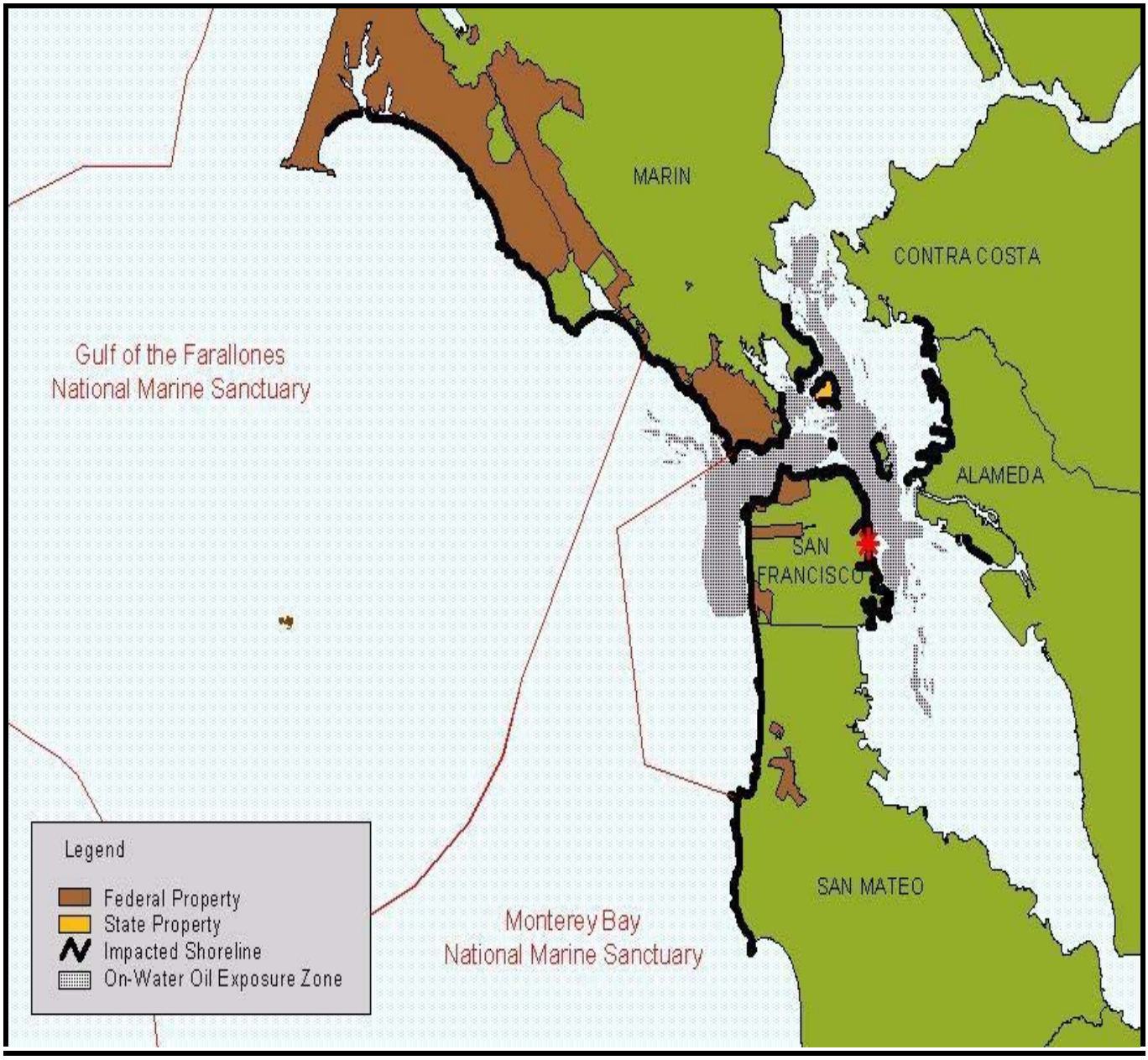
- Giacomini Coastal Wetlands Restoration

Sandy Beach and Rocky Intertidal Habitat Projects:

- Sandy Beach Habitat Restoration at Point Reyes National Seashore
- Protection of Duxbury Reef through Education

Human Use:

- Angel Island Foot Trail Enhancement
- Crissy Field Habitat Stewardship Program



Boundaries of Cape Mohican oil spill. (Red star indicates site of spill.)

Bird Restoration Projects

Shorebird Habitat Protection at GGNRA (Lead Agency: NPS)

Project Overview

Golden Gate National Recreation Area **(**GGNRA) previously installed 12 interpretive and regulatory signs at major beach entrances to inform the public of the presence of Western Snowy Plovers and other shorebirds, and the vulnerability of the birds to disturbance by humans and recreational activities. In addition, an interpretive bulletin on protecting Western Snowy Plovers, shorebirds, and sandy beach habitat was distributed to the public. This project will allow updating and replacement of damaged or missing signs and updating and re-printing of interpretive bulletins for up to 10 years.

Project Status

GGNRA has initiated review of the current signs and is working in collaboration with a larger park-wide project to design and replace interpretive and resource-protection signs. Funds will be used to develop new shorebird and snowy plover protection signs for beaches throughout the park using the same design guidelines as those for the parkwide project. Funds will also supplement the park-wide project to enhance protection of shorebird habitat. There have been some delays with the project due to complications related to a court decision on dog management in the park. However, in 2006, GGNRA began using the funds and spent $1,500 for production of a plover protection brochure that also addressed the protection of migratory shorebirds. The brochures provided information on plovers and shorebirds and why they should be protected, as well as recommendations for visitors to avoid disturbing shorebirds. About 20 park staff worked in shifts for one week providing outreach and distributing the brochures on two plover beaches in the park. During this outreach, approximately 665 visitors were contacted.

Funding

Approved project budget:	$23,500
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$7,000
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$8,000
Funds allocated in FY 2006:	$0
Funds spent to date:	$1,500

California Least Tern Habitat Enhancement at Alameda Point (Lead Agency: USFWS)

Project Overview

This project has created new nesting habitat at Alameda Point for the endangered California Least Tern by enlarging the nesting area and installing protective fences. The newly created habitat is being monitored by removing undesirable vegetation and adding pea gravel where needed.

Project Status

The nesting area was enlarged from 6 acres to 9.7 acres, and the original non-functioning electrical fence was replaced with a chain link fence in spring 2004. Fence posts and the chain link fence were angled outward to discourage mammalian predators. To prevent avian predators from perching on the fence, the tops of the fence posts are below the top of the chain link fence, and points of the chain links are exposed. A new plastic chick fence with small rounded openings was added to the bottom of the fence, replacing the old metal hardware cloth that had caused injury and death to several terns. The fence boundary was also designed to have rounded corners to allow better movement of chicks along the fence. Nesting substrate (a mixture of sand, small pebbles, and shell fragments) was spread over the new nesting area, and the monitoring grid was reestablished to encompass the entire 9.7 acres. Oyster shells and driftwood were also added to the colony to finish the beach appearance and provide cover for the chicks. Weedy vegetation was removed from the colony site by chemical and mechanical means from 2004 through 2006.

Breeding Season 2005

Cape Mohican funds were used to monitor colonization of the new area. Roughly 120 nests (22% of the total nests in the Alameda Colony) were found in the new substrate. Estimated nesting pairs in the colony increased from 379 to 424 in 2005. This represents a 12% increase from 2004. Fence construction helped prevent mammalian predation in the colony.

Breeding Season 2006

Monitoring of the new colony area continued. Roughly 110 nests (25% of the total nests in the Alameda colony) were found on the new substrate. Although the reproductive success of the Alameda colony was lower in 2006 than that in the previous year (probably due to avian predation) and the total number of nests was slightly fewer (410 compared with 424), the new substrate held a larger component of the nesting colony than in previous years. Cape Mohican funding facilitated the hiring of an intern for the first time to assist with monitoring.

Funding

Approved project budget:	$141,000
Funds allocated in FY 2002:	$88,000
Funds allocated in FY 2003:	$0
Funds allocated in FY 2004:	$19,000
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$17,000
Funds spent to date:	$99,018

Restoration of Shorebird Foraging Habitat through Control of Exotic Cordgrass in San Francisco Bay Wetlands (Lead Agency: USFWS)

Project Overview

This project involves the eradication of the invasive smooth cordgrass (*Spartina alterniflora*) from mudflats and tidal salt marshes in the central and south portions of the Bay and between the Bay Bridge and the Dumbarton Bridge. Removal of smooth cordgrass from tidal marshes and tidal sloughs will allow native plants to reestablish on the tidal marsh plain and restore shorebird foraging and fish nursery habitat in the tidal sloughs.

Project Status

In May 2005, the San Francisco Bay National Wildlife Refuge (Refuge) and California Coastal Conservancy completed Site-Specific Control Plans for each site targeted for control in 2005-2007. The Site-Specific Plans describe methods to be used at each site and summarize impacts and mitigation measures to be used during control. Information contained in the Site-Specific Plans was used to prepare an Environmental Assessment for the implementation of the Site Specific Plans, which tiered off the Programmatic EIR/EIS. An Internal Formal Section 7 consultation was also conducted with the USFWS, resulting in issuance of a Biological Opinion with a non-jeopardy determination for listed species in the project area.

In July 2006, the third consecutive year of control work was conducted in the Southeast San Francisco Sub Areas, totaling 4.2 acres of non-native Spartina treatment. In addition, the second year of consecutive treatment was conducted at two sites: West San Francisco Bay (Site 19) and Alameda/San Leandro Bay (Site 20), totaling 227 acres. A fourth site, Colma Creek/San Bruno Complex (Site 18), was treated for the first time as 5.15 acres were sprayed by ground-based crews. Habitat® herbicide, with the active ingredient imazapyr, was used for most control work this year. This herbicide was registered for aquatic use in California in early September 2005.

In 2007, follow-up control work will be conducted in all previously treated marshes under the scope of this project, and a large-scale treatment will be conducted in Colma Creek/San Bruno Complex (Site 18). In the 2007 control season, control work is planned in marshes unoccupied by clapper rails as early as July 1, conduct aerial helicopter control beginning July 15, and then perform ground control work in marshes occupied by clapper rails beginning September 1.

In spring 2007, the Refuge will purchase additional equipment, materials, and contract labor to conduct the control work in targeted control areas for 2007. Any equipment and materials purchased with funds allocated to this project will be stored at either the Coastal Conservancy or the Refuge for future use on this project. Coastal Conservancy or Refuge personnel will train land managers who conduct control work and will monitor effectiveness of control.

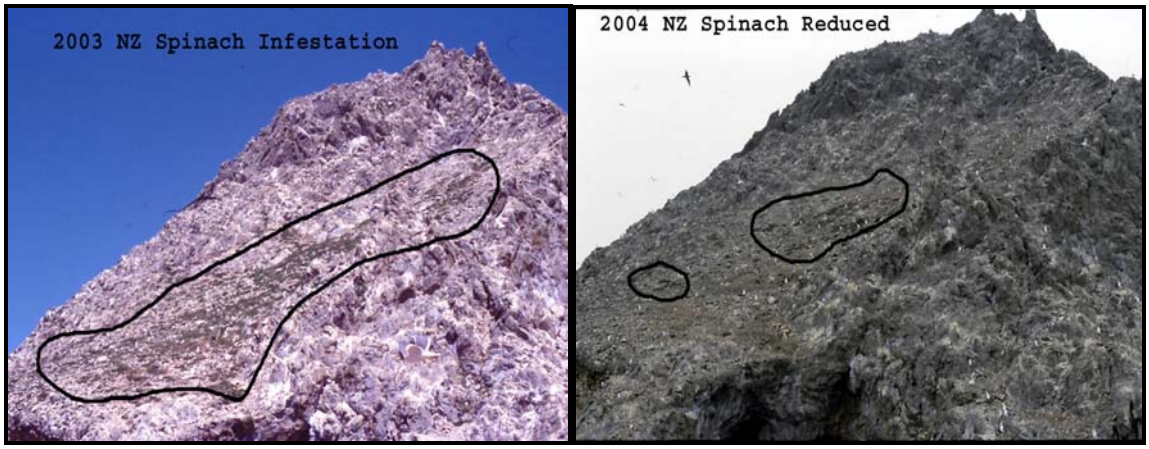
Funding

Approved project budget:	$246,000
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$50,000
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$110,000
Funds spent to date:	$157,978

Farallon Seabird Restoration: Exotic Vegetation Control in Nesting Areas (Lead Agency: USFWS)

Project Overview

This project involves restoring burrow nest habitat for Cassin's auklets (*Ptychoramphus aleuticus*), ashy storm-petrels (*Oceanodroma homochroa*), and rhinoceros auklets (*Cerorhinca monocerata)* by controlling exotic vegetation, especially New Zealand Spinach *(Tetragonia tetragonoides)* and Cheeseweed *(Malva* spp.) at Farallon National Wildlife Refuge. A combination of chemical and mechanical methods is being used to control exotic vegetation. Seeds are being collected from native *Lasthenia maritima* and used to re-seed bare soil areas created when large amounts of exotic plants are removed.



Project Status

A Farallon Refuge Operations Specialist (ROS), hired in May 2003, continues to implement the weed management plan, which was prepared in early 2004. Activities from 2003 through 2006 focused on an intense weed-pulling effort each spring just prior to the seabird nesting season, and herbicide treatment in late summer and fall after the colonial seabird nesting seasons. A combination of weed-pulling and herbicide treatment occurs during the winter, as determined by weather and plant phenology.

A re-seeding component was added in 2005, when 11 boxfuls of native *Lasthenia* plants were collected after seed set. In January 2006, these were seeded into three areas that had been heavily infested with *Malva* in 2005. The re-seeding effort was intensified in 2006 following a favorable outcome of the 2005 planting, which resulted in thick carpets of *Lasthenia* in two of the three test areas. Fifty-one boxfuls of *Lasthenia* were collected during August and September and were seeded just after the first winter rains in November 2006. Several different techniques were used in the out-planting in a further attempt to find the method and timing that result in the highest success.

Cape Mohican funds were partnered with USFWS San Francisco Bay Coastal Program funding to expand the volunteer invasive plant hand-weeding effort in spring 2006. The hand-weeding needed requires more effort than one person (the Farallon ROS) can handle, but is the only way to control non-native plants in the spring when they are intermixed with natives. The FWS Coastal Program provided transportation and per diem for the volunteers, who were recruited

and supervised by the Farallon ROS. Six volunteers pulled weeds for a total of 340 hours over 2 months, yielding dramatic results. The two most invasive weeds (*Malva* and New Zealand spinach) have been reduced 40% since 2005.

The reduced level of these two target weeds allowed us to initiate pilot efforts in December 2006 to control exotic grasses, which are taking over *Lasthenia* in some areas and also negatively impacting burrowing seabirds. Approximately 5 acres of grass were treated with a grass-specific herbicide in several different experimental plots. We are testing to see whether the herbicide can be used without damaging *Lasthenia* and whether controlling grasses increases re-seeding success.

Funding

Approved project budget: $161,888
Funds allocated in FY 2002: $25,000
Funds allocated in FY 2003: $0
Funds allocated in FY 2004: $25,000
Funds allocated in FY 2005: $37,296
Funds allocated in FY 2006: $37,296
Funds spent to date: $124,592

Fisheries and Water Quality Projects

Pacific Herring Spawning Habitat Enhancement in San Francisco Bay (Lead Agency: CDFG)

Project Overview

This project, at the Port of San Francisco's Pier 45, involves enhancing water quality by removing creosote-covered pilings and replacing them with polymer-coated wood piles, which provide a non-toxic surface for encrusting organisms to attach to and enhance spawning of herring.

Project Status

Installation of polymer-coated chemically-treated wood piles, for which the Port of San Francisco (Port) is assuming all expenses for labor, incidental equipment, and materials, began in March 2004. All of the new piles have now been installed. Over the course of the pile replacement work, the Port purchased and installed 281 new polymer-coated piles. The total cost for materials was $457,073, of which $350,145 was funded by San Francisco Bay Natural Resources Restoration Fund (a.k.a. Cape Mohican Restoration Fund) through a contract between the Port and the National Fish and Wildlife Foundation (NFWF) serving as the fiscal agent. All expenses for materials and labor in excess of the amount of the contract were paid by the Port. In September 2006, the Port and NFWF terminated the contract and de-obligated the balance of funds, which had been allocated for monitoring. In October 2006, the Port submitted a Final Programmatic Report on the project, which provided the details of the project work completed to date.

The remaining funds available for this project are budgeted for monitoring the new piles to evaluate their suitability as habitat for marine encrusting organisms and, by extension, Pacific Herring eggs. The monitoring will be conducted by the San Francisco Estuary Institute (SFEI) under contract to NFWF. SFEI's monitoring will assess the effects of untreated wood, chemically-treated wood, and polymer-coated wood on growth of encrusting organisms as an indicator of differences in toxicity between treatments and relative value as substrate for herring eggs. SFEI has completed the planning and review portion of the experimental design and has manufactured four types of test panels, each representing the type of piling being evaluated in the experiment (i.e., untreated wood, vinyl-coated, uncoated ammonium copper zinc arsenate (ACZA)-treated, and vinyl coated ACZA-treated). Wood panels of each type will be deployed at Pier 45 over one to four year periods from 2006 to 2010 to determine whether there is a consistent difference in growth among treatments that may correspond to differences in toxicity.

Funding

Approved project budget:	$456,500
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$408,500
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$16,000
Funds spent to date:	$350,145

Wetland Restoration at Pier 98 (Heron's Head Park), India Basin, San Francisco (Lead Agency: CDFG)

Project Overview

This project, at the Port of San Francisco's Heron's Head Park near Pier 98 at India Basin, will enhance a new saltmarsh with the propagation and planting of rare transition-zone native plant species. Successful revegetation will require materials and labor for at least five years to promote establishment of native transition-zone species and to remove non-native plant species.

Project Status

During August and September 2006, the Port completed a competitive process to select a contractor to execute the transition-zone habitat enhancement, maintenance, monitoring, and reporting to be funded by the San Francisco Bay Natural Resources Restoration Fund (a.k.a. Cape Mohican Restoration Fund) through a contract between the Port and the National Fish and Wildlife Foundation (NFWF) serving as the fiscal agent. This work will be conducted in conjunction with environmental education activities at Heron's Head Park. The Port awarded a 4-year contract, beginning October 1, 2006, to Literacy for Environmental Justice (LEJ), a non-profit organization with experience and qualifications in environmental education, native plant cultivation, and habitat restoration. Under the terms of the contract between the Port and LEJ, the detailed schedule and cost for specific tasks vary somewhat from the original proposal included in the Cape Mohican Final Restoration Plan (approved 3/21/02). The scope of work is consistent with the original proposal, but the fees are substantially higher. The contract includes installation of 2,000 transition-zone plants within the first two years of the contract, and ongoing maintenance and monitoring of the enhancement area over the 4-year contract term. The Port is committed to completing the scope of work and will fund any expenses that exceed funds available from the Cape Mohican Restoration Fund.

Funding

Approved project budget:	$146,920
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$96,072
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$0
Funds spent to date:	$0

Steelhead Stream Habitat Enhancement at San Francisquito Creek (Lead Agency: CDFG)

Project Overview

This project will increase the size and quality of habitat available for steelhead trout spawning in the Bay Area by rehabilitating steelhead spawning habitat in the San Francisquito Creek watershed. This will be accomplished through fish barrier removal and native plant revegetation.

Project Status

The subprojects that compose the "Steelhead Stream Habitat Enhancement at San Francisquito Creek" project include conducting volunteer-based habitat restoration workdays and completing designs, permits, and environmental reviews for fish-passage improvement projects at two sites. The Watershed Council holds about 15 habitat restoration workdays per year and conducts visual monitoring and site maintenance (weeding and watering as needed) year-round. The funding from the Cape Mohican Restoration Fund was part of the total funding needed to operate this program. Other funding sources currently include the NOAA Community-based Restoration Fund, the California Coastal Conservancy, and the Nature Restoration Trust.

The Watershed Council is also working on completing designs, permitting, and environmental review at four barriers to steelhead. Funding from this grant is partially supporting the work on two of these barriers (culvert replacement at McGarvey Gulch and installation of baffles in a box culvert on Los Trancos Creek). Other funds supporting the Watershed Council's overall fish passage improvement work include the San Francisco Bay Salmonid Habitat Restoration Fund, the California Coastal Conservancy, and the Bella Vista Foundation.

Task I: Fish Migration Barrier Modifications

Activities performed between April 1, 2005, and September 30, 2006, are summarized below.

McGarvey Gulch: 95%-level designs have now been completed. Stakeholders will be providing the Watershed Council Restoration Projects Manager with comments to convey to the design engineers by the end of November 2006. Upon submittal of these comments, the engineers will finalize the designs and deliver them to San Mateo County, which is coordinating permitting and CEQA for the project. When these designs are complete, the County will put the project out to bid. The County anticipates construction in either the late spring or early fall 2007.

Los Trancos Creek Box Culvert: 50%-level designs were completed, and a design review meeting was held. Stakeholders have provided the Watershed Council Restoration Projects Manager with comments that have now been conveyed to the design engineers. We anticipate the completion of 75%-level designs shortly. On this project, the Watershed Council is responsible for completion of designs and coordination of permitting and environmental review.

Task II: Riparian Vegetation Restoration Projects

This task has been completed; therefore, there are no new expenses. Over the course of this grant, 16 workdays were partially funded by the Cape Mohican Restoration Fund. At these workdays, almost 300 volunteers planted approximately 2,300 native creekside plants in the riparian corridor at sites throughout the watershed. This native vegetation is helping to stabilize the banks of the creek, shade and cool the water, and provide habitat structure and food for wildlife.

Funding

Approved project budget:	$40,000
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$40,000
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$0
Funds spent to date:	$31,892

Wetlands and Mudflats Projects

Giacomini Coastal Wetlands Restoration Project (Lead Agency: NPS)

Project Overview

This project proposes to restore the tidal connection and hydrologic function to 563 acres of former coastal salt marsh in Tomales Bay, which was diked in the 1940s to provide pasture for dairy cattle. Technical studies and numerous internal, agency, and public workshops have been completed to develop restoration alternatives for evaluation through the NEPA (National Environmental Policy Act) process. The draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was released in December 2006. Cape Mohican funds are being used in conjunction with funds from other sources to finalize planning, prepare construction specifications and final design, and implement the alternative selected through the environmental review process. The first phase of the full restoration project is expected to begin in late summer 2007: a separate small enhancement project was conducted in fall/early winter 2006.

Project Status

Public and agency scoping for the EIS/EIR was held in winter 2002/2003. After a series of internal and external alternative development workshops and technical studies to further analyze public access options, NPS finalized the alternatives that are being analyzed in the environmental document and has selected a preferred alternative through a Value Analysis workshop. The draft EIS/EIR was released on December 15, 2006, for 60-day public review and comment. The public comment period closes February 14, 2007. The NPS is currently in the process of preparing consultation and permit documents and seeking additional funding to implement the restoration and public access components of the preferred alternative.

Funding

Approved project budget:	$435,000
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$0
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$435,000
Funds allocated in FY 2006:	$0
Funds spent to date:	$132,038

Sandy Beach and Rocky Intertidal Habitat Projects

Sandy Beach Habitat Restoration at Point Reyes National Seashore (Lead Agency: NPS)

Project Overview

This project is increasing nesting habitat and reproductive success of shorebirds, especially Western Snowy Plover, at Point Reyes National Seashore (PRNS). This objective is being accomplished by increasing habitat for shorebird foraging and nesting through the removal of non-native European beachgrass and iceplant.

Project Status

Under Cape Mohican funding, PRNS committed to restoring 25 acres using a combination of mechanical and hand removal methods. To date, approximately 22 acres have been cleared using heavy equipment, and an additional 25 acres have been treated for resprouts using volunteers and hand crews. These 25 acres had been treated using park-funded hand crews in 2000 through 2002; additional funds from Cape Mohican were critical to completing this work. Already, the dunes are recolonizing with native species including sand verbena, beach morning glory, and beach bursage. A total of nine species of native plants appeared within the restored areas just one-year after removal. The two Federally Endangered plants *Lupinus tidestromii* and *Layia carnosa* continue to naturally recolonize these sites.

Snowy Plovers were documented using restored dune habitat for the fourth consecutive year. In 2006 they initiated 4 of 24 nests in restoration areas; 2 were in the hand removal site on Kehoe Beach and 2 in the mechanically treated area on North Beach. This compares to 2 of 19 nests in the restoration areas in 2005 when 1 was in the mechanical restoration site and 1 in the hand treated area. Of the 23 chicks fledged in 2006, 13 were raised in restoration areas─3 in the hand treated area and 10 in the mechanically treated area.

Follow-up resprout removal continues throughout the entire 50-acres of the project through volunteer efforts coordinated by a PRNS MCC AmeriCorps habitat restoration volunteer coordinator partially funded through the Sandy Beach project. The site shows excellent progress towards becoming "weed-free." Work for the remainder of 2007 consists of (1) continued monitoring of vegetation, dune formation profiles, snowy plover breeding; and (2) follow-up treatment of 50 acres to remove any remaining beachgrass resprouts (scheduled through March 2007 then resuming in September 2007 after plovers have finished breeding). PRNS has produced a one-page project description soon to be available on the web. Remaining funds will support a vehicle for the 2007 volunteer coordinator, volunteer supplies and perhaps partially fund a 2008 coordinator.

Funding

Approved project budget:	$330,000
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$60,000
Funds allocated in FY 2004	$80,000
Funds allocated in FY 2005:	$190,000
Funds allocated in FY 2006:	$0
Funds spent to date:	$318,390

Protection of Duxbury Reef through Education (Lead Agency: NOAA)

Project Overview

This project will help prevent further injury to, and facilitate the natural recovery of intertidal rocky habitat at Duxbury Reef Marine Reserve. This will be achieved through an environmental education and stewardship program aimed at increasing public awareness of this sensitive habitat and controlling the large number of visitors to the area.

Project Status

The Gulf of the Farallones National Marine Sanctuary (GFNMS) awarded a contract to Tenera Consulting for Phase I of this project. Tenera will complete a habitat and impact assessment that will guide restoration of Duxbury Reef.

The first field site visit to review the site and scope of work occurred in June 2005. Tenera collected information to prepare maps, took photos, and surveyed zones for the visitor census surveys. Carol Preston and Jan Roletto developed protocols for a preliminary visitor use study to determine the locations of high and low use and to control visitor use through sampling plots.

On October 26, 2006, staff from Tenera, GFNMS, and the NOAA Restoration Center met with local researchers, resource managers and marine educators and researchers to discuss the Duxbury Reef restoration program and potential collaborations. Presentations included:

- Review of the Cape Mohican oil spill, NRDA, and the restoration project goals and objectives.
- Review of the Duxbury Reef habitat and zonal communities, past and current data and visitor use patterns.
- Review of the Duxbury Reef Study Plan, monitoring plan, and proposed docent lead and self-guided tour program and trial system.
- Suggested collaborations: LIMPETS, California Academy of Sciences, home schooling programs, volunteers - adults and kids, resource monitoring programs - Point Reyes National Seashore, GFNMS, Marin County Open Space, College of Marin, Marin Storm Water Prevention Program, etc.
- Next phase of the restoration project - Phase II community outreach, proposed docent lead and self-guided tour program and trail system and funding requirements and opportunities.

Phase II objectives include developing docent and interpretation programs, and integrating sampling methods from various education programs (i.e. LIMPETS, California Academy of Sciences docent programs, etc.) with science information needs to address specific management

issues (i.e., assessing effectiveness of trail routing plan and stewardship program for tide pool etiquette).

The next steps for the project include developing goals for an interpretation trail-use (Phase II) program (estimated completion by end of February 2007); developing the scope of work for the Phase II contract (estimated completion by end of February 2007); and developing docent/volunteer partnership with California Academy of Sciences (estimated completion by end of March 2007).

Funding

Approved project budget:	$360,000
Funds allocated in FY 2002:	$0
Funds allocated in FY 2003:	$90,000
Funds allocated in FY 2004:	$90,000
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$90,000
Funds spent to date:	$149,838

Human Use Projects

Angel Island Foot Trail Enhancement (Lead Agency: CDPR)

Project Overview

This project involves the construction of stairways, walkways, and trail improvements to enhance public access to beaches on Angel Island that were closed to the public because of the oil spill.

Stairs to Perle's Beach.

Project Status

Quarry Beach access is complete. The additional work needed on the trail leading to the Perle's Beach stairs as well as stabilization at the top of the stairs is scheduled for 2007 in conjunction with other work in the area.

ADA ramp being constructed at Quarry Beach.

Funding

Approved project budget:	$180,000
Funds allocated in FY 2002:	$180,000
Funds allocated in FY 2003:	$0
Funds allocated in FY 2004:	$0
Funds allocated in FY 2005:	$0
Funds allocated in FY 2006:	$0
Funds spent to date:	$162,536

Crissy Field Habitat Stewardship Program (Lead Agency: NPS)

Project Overview

This project consists of developing and operating a 4-year public stewardship and biological monitoring program whereby staff and participants will visually and quantitatively measure the biological and physical changes of the newly restored habitats and participate in a variety of habitat restoration activities. Specifically, the Cape Mohican funds will support an Ecologist, as the Stewardship and Monitoring Program Coordinator, a Restoration and Public Programs Coordinator, a Field Monitoring Coordinator, and career development internships.

Project Status

Cape Mohican funds that had been used to support a four-year stewardship and monitoring program at Crissy Field have been nearly expended. Remaining funds are being used to support one career development internship at Crissy Field. This position shares responsibility (with GGNRA staff) for maintaining the community stewardship program at Crissy Field assisting with water quality monitoring. Stewardship activities included volunteer coordination, exotic plant removal, seed collection, additional planting and seeding to enhance restored areas, fence repair, trash and debris removal from restored marsh, and coordination with NPS maintenance staff on issues affecting Crissy Field (e.g., irrigation and mowing schedules in adjacent areas, removal of debris).

Funding

Approved project budget:	$850,000
Funds allocated in FY02	$200,653
Funds allocated in FY03	$215,330
Funds allocated in FY04	$213,143
Funds allocated in FY05	$220,874
Funds allocated in FY06	$0
Funds spent to date:	$841,840

Cape Mohican
Financial Summary – January 2007

Funds from Settlement	$3,625,000
Interest earnings (as of 11/8/06)	$639,590
Total	**$4,264,590**
Project funds allocated through FY2006:	
Shorebird Habitat Protection (NPS)	$15,000
California Least Tern Habitat (USFWS)	$124,000
Restoration of Shorebird Foraging Habitat/Cordgrass (USFWS)	$160,000
Farallon Seabird Restoration (USFWS)	$124,592
Pacific Herring Spawning Habitat Enhancement (CDFG)	$424,500
Wetland Restoration at Pier 98 (CDFG)	$96,072
Steelhead Stream Habitat Enhancement (CDFG)	$40,000
Giacomini Coastal Wetlands Restoration (NPS)	$435,000
Sandy Beach Habitat Restoration at PRNS (NPS)	$330,000
Protection of Duxbury Reef through Education (NOAA)	$270,000
Angel Island Foot Trail Enhancement (CDPR)	$180,000
Crissy Field Habitat Stewardship Program (NPS)	$850,000
Total	**$3,049,164**
Administrative funds disbursed for restoration planning and council activities through FY2006:	
National Park Service	$204,000*
U. S. Fish and Wildlife Service	$46,500
National Oceanic and Atmospheric Administration	$69,800
California Department of Fish and Game	$91,174**
California Department of Parks and Recreation	$8,000
Total	**$419,474**
Remaining (Unallocated) funds:	**$795,952**

* Includes $146,000 for development of RP/EA under contract to Harding Lawson/ESE.

** Includes $8,874 for newspaper reimbursement and $20,000 for land appraisal.