

**HAMILTON ARMY AIRFIELD WETLAND RESTORATION
FEASIBILITY STUDY
NOVATO, MARIN COUNTY, CALIFORNIA
EXECUTIVE SUMMARY**

Introduction

This study, prepared with the non-Federal sponsor California State Coastal Conservancy (SCC), identifies a feasible project to use dredged material to restore wetland habitat on 988 acres of former Hamilton Army Airfield (HAAF) and the adjacent State Lands Commission (SLC) property. HAAF has been in the Base Realignment and Closure (BRAC) process since 1988. A Final Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) accompanies this Feasibility Study.

Location and Study area

The study area is located 25 miles north of San Francisco in the City of Novato, Marin County, California on the west side of San Pablo Bay. The study area consists of three parcels of land (988 acres including 6 acres levee easement from City of Novato); the 644-acre airfield parcel, the 18-acre Navy ballfields, and the 319-acre SLC property. (See Figure 2.1) The remainder of the original 2,184-acre air base has been sold for private development (except for one area retained by the Coast Guard).

Objectives

Diking or filling has destroyed most of the tidal wetlands that fringed San Pablo and San Francisco Bay 200 years ago. The project site, historically dominated by tidal salt marsh habitat, was converted over the last 150 years to agricultural and then airfield use. This project is part of the growing effort to restore a portion of these former salt marshes to tidal action. The project also furthers the goal of resource agencies as expressed in the Long Term Management Strategy (LTMS) for San Francisco Bay to minimize in-bay disposal and maximize the beneficial reuse of dredged material. The HAAF site has a capacity to accommodate 10.6 million cubic yards (mcy) of dredged material from navigation projects to raise the elevation of subsided diked lands. Several nearby new work (deepening) projects could provide large quantities of dredged material. These include Port of Oakland 50-foot Project (10 to 12 mcy), Concord Naval Weapons Station deepening (5 to 7 mcy), and Southhampton Shoal Deepening (2 to 2.5 mcy). Maintenance dredging projects could generate 2.2 million cy each year.

There are three project objectives: (1) create a diverse array of wetland and wildlife habitats that benefit a number of threatened, endangered and other species, (2) reduce in-water disposal of dredged material and beneficially reuse dredged materials as feasible, and (3) facilitate the base-closure and reuse process.

The project fulfills both the Federal interest requirements and the needs of the non-Federal sponsor, SCC. Wetland restoration plan formulation involved extensive coordination with SCC, the Bay Conservation and Development Commission (BCDC), the City of Novato, various agencies, organizations, and the public from 1996 through 1998.

Planning constraints

As part of the BRAC program, twenty acres of HAAF considered contaminated with low levels of contaminants are presently being investigated. Investigation and cleanup of the SLC parcel is part of the Formerly Utilized Defense Sites (FUDS) process. Needed contaminant remediation would be implemented prior to wetland creation.

Two endangered species, the California clapper rail and salt marsh harvest mouse, may be present on portions of the site. While the project would greatly increase habitat for both species, measures will need to be taken during construction to minimize disturbance near the salt marsh fringe on the bay side of the levees.

Another concern is chemical suitability standards for use of dredged material for wetland creation. Only dredged materials that have chemical concentrations and sediment toxicity below levels that could harm wetland biota will be accepted for this project.

The Novato Sanitary District (NSD) outfall pipeline runs through a 20-foot wide easement for two miles along the north boundary of the airfield and south boundary of the SLC property. Currently, along this pipeline on the SCC parcel is a dechlorination facility. This facility will be relocated out of the project area. The New Hamilton Partners (NHP) stormwater discharge outlet must be protected.

Alternatives considered

1. No action

Under the No Action Plan, a Federal project would not be constructed to restore habitat in the study area boundaries. Pumps would continue to remove runoff water from the airfield. The environmental benefits of the proposed project would not be realized.

2. Natural Sedimentation to restore Wetlands at the Airfield and Navy Ballfields

This would result in 668 acres of habitat. Once outboard levees are breached, tidal sedimentation would fill the tidal portions of the project.

3. Reuse of Dredged Material to restore Wetlands at the Airfield and Navy Ballfields

This would result in 668 acres of habitat. Dredged material would be used to accelerate marsh establishment and raise elevations for seasonal wetlands.

4. Natural Sedimentation to restore Wetlands at the Airfield, Navy Ballfields, and SLC Property

This would result in 988 acres of habitat. Once outboard levees are breached, tidal sedimentation would fill the tidal portions of the project.

5. Reuse of Dredged Material to restore Wetlands at the Airfield, Navy Ballfields and SLC Property.

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Comparison of alternatives

Table 4.1 compares features, acres, and levee lengths of the alternatives. Section 4.2 provides an incremental analysis of restoration alternatives. Section 4.3, System of

Accounts, considers National Economic Development (NED), Environmental Quality (EQ), Regional Economic Development (RED), and other social effects. Associated evaluations included those for completeness, effectiveness, efficiency, and acceptability. The trade-off analysis compares action v. no action and trade-offs between action alternatives.

The analyses show that beneficial use of dredged material would provide faster wetland restoration (31 years) than natural sedimentation (48 years). In addition, the use of dredged material would provide a greater diversity of habitat. The project is cost-effective at maximizing outputs, meeting objectives and fulfilling both the Federal interest requirements and the needs of the non-Federal sponsor.

Selected Plan

Alternative 5, Wetland Restoration at the Airfield, Navy Ballfields and SLC Property Via Beneficial Reuse of Dredged Material, was selected because it creates a natural gradient of habitats from upland through mudflat, without internal levees and water control structures. The plan will restore 570 acres of salt marsh habitat, considered especially valuable due to its scarcity, and benefit Federally listed threatened and endangered species that depend on salt marsh habitat. This alternative offers the best option for sustaining ecological functions over time and meets the habitat objective of 80 percent tidal and 20 percent non-tidal habitats. 10.6 million cy of dredged material will be beneficially reused to raise elevations to support the tidal and seasonal marsh restoration. Both the Corps and the non-Federal sponsor, SCC, support Alternative 5 because it maximizes environmental benefits and is most consistent with regional plans.

The plan includes infrastructure features, including perimeter levees, to support the wetland habitat areas. To import dredged materials, a hydraulic off-loader mounted on a barge would remove material from barges (scows) positioned in the off-loading area. Dredged materials would then be transported through a pipeline in a water slurry onto the site. The plan includes a monitoring and adaptive management plan.

Summary of costs

The total final cost to construct the selected plan for the Hamilton Wetland Restoration Project (October 1998 price levels) would be \$55,100,000 (75% Federal, \$41,325,000, and 25% non-Federal, \$13,775,000) cost sharing for wetland restoration using dredged material. The total annual operations and maintenance (O&M) cost would be \$200,000.

List of Acronyms

APE - Area of Potential Effects
BA - Biological Assessment
BCDC - San Francisco Bay Coastal Conservation and Development Commission
BRAC - Base Realignment and Closure Act
BO - Biological Opinion
CAR - Coordination Act Report
CDFG - California Department of Fish and Game
CEQA - California Environmental Quality Act
cfs - Cubic feet per second
Corps - US Army Corps of Engineers
cy - cubic yards
CZMA - Coastal Zone Management Act
DCAR - Draft Coordination Act Report
DMMO - Dredged Material Management Office
EIR - Environmental Impact Report
EIS - Environmental Impact Statement
EIS/R - Environmental Impact Statement/Report
 DEIS/R - Draft Environmental Impact Statement/Report
 FEIS/R - Final Environmental Impact Statement/Report
EO - Executive Order
EPA - Environmental Protection Agency
EQ - Environmental Quality
ER - Engineering Regulation
ERA - Ecological Risk Assessment
ESA - Endangered Species Act
FCSA - Feasibility Cost Sharing Agreement
FUDS - Formerly Utilized Defense Sites
FWS - Fish and Wildlife Service
FY - Fiscal Year
HAAF - Hamilton Army Air Field
HEC - 1 - Hydraulic Engineering Center flood hydrograph package which includes rainfall runoff modeling
HEC-RAS - Hydraulic Engineering Center River Analysis System, which includes flood hydraulic modeling
HEP - Habitat Evaluation Procedure
HRG - Hamilton Restoration Group
HTRW - Hazardous, Toxic and Radiological Waste
HU - Habitat Unit
IDC - Interest during construction
IDIQ - Infinite delivery, infinite quantity
LERRDS - Lands, easements, rights of way and relocations
LGVSD - Las Gallinas Valley Sanitary District
LTMS - Long Term Management Strategy
MCACES - Corps of Engineers Micro Computer Aided Cost Estimating System

Acronyms Continued

MCFCWCD - Marin County Flood Control and Water Conservation District
mcy - million cubic yards
MHW - Mean High Water
MHHW - Mean Higher High Water
MLW - Mean Low Water
MLLW - Mean Lower Low Water
MPOND - a hydrologic routing model with simulates flows and resulting changes in water surface elevations in a network of ponds connected by one or multiple hydrologic control structures
NED - National Economic Development
NEPA - National Environmental Policy Act
NGVD - National Geodetic Vertical Datum
NHP - New Hamilton Partnership
NOAA - National Oceanic and Atmospheric Administration
NMFS - National Marine Fisheries Service
NSD - Novato Sanitary District
O&M - Operations and Maintenance
OMRR&R - Operation, Maintenance, Repair, Replacement and Rehabilitation Requirements
OSE - Other Social Effects
PCA - Project Cooperation Agreement
PED - Pre-Construction Engineering and Design
PSP - Project Study Plan
RED - Regional Economic Development
RWQCB - San Francisco Bay Regional Water Quality Control Board
SCC - California State Coastal Conservancy
SHPO - State Historic Preservation Officer
SLC - California State Lands Commission
USACE - United States Army Corps of Engineers
WRDA - Water Resources Development Act