

USA: California: Bair Island Restoration Project (San Francisco Bay)



Overview

Bair Island Restoration Project, San Francisco Bay, California. Bair Island is located in the southern part of San Francisco Bay and is now owned by the State of California as the Bair Island State Ecological Reserve. Donated by the Peninsula Open Space Trust after they purchased it from a company whose housing development plans fell through, it was passed on to and is now managed by Don Edwards San Francisco Bay National Wildlife Refuge in Redwood City. A geographical aspect of San Francisco Bay-Delta Estuary, Bair Island is considered an ecological treasure that supports enormous biodiversity and consists of three islands; Inner, Middle, and Outer Bair. However, prior to being considered ecologically valuable, Bair Island resources had been utilized for an economical purpose through-out the last century. Between 1946 and 1952, the Leslie Salt Company partitioned Bair Island with dirt levees for use as salt-making evaporation ponds, creating three islands separated by Smith and Corkscrew sloughs. After 1965, these salt ponds on Bair Island were abandoned by the Leslie Salt Company, and were soon drained. However, the land has tolerated human encroachment since the early 1800's when farmers first converted the salt-marsh to agricultural land. Until the 1940's, Bair Island was an area known for its unspoiled tidal salt-marsh, tidal sloughs, and mudflats. Although it is hard to know the ecological biodiversity of the area during this time and before impairment, Bair Island now provides critical habitat for a variety of species. The reserve is home to approximately 120 fish species, 255 bird species, 81 mammal species, 30 reptile species, and 14 amphibian species - all of which rely on the wetlands for food, shelter, and breeding habitat. These species include the endangered California clapper rail (*Rallus longirostris obsoletus*), the salt marsh harvest mouse (*Reithrodontomys raviventris*), the Western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum brownii*), and the California brown pelican (*Pelecanus occidentalis californicus*). Bair Island is also an important stop for birds on the pacific flyway. Besides its ecological importance, it stands as economically viable tourist area. As a result, the U.S. Fish and Wildlife will be supporting and overseeing the Bair Island Restoration Project. The restoration of Bair Island marsh complex will return 1, 400 acres of diked marsh to tidal marsh primarily by breaching the perimeter levees to allow tidal action via surrounding slough channels. Excavations through the internal levees will reestablish historical channels to facilitate circulation and drainage. Some levees will remain in place to provide marsh-plain habitat and to prevent shoreline erosion. It is hoped that the restoration project will improve water quality, expand and enhance wildlife habitat and reduce mosquito (*Aedes squamiger*) breeding conditions by restoring tidal flow. The restoration will also give public access to the Bay shoreline and provide opportunities for public involvement and stewardship. The goals of the restoration project are: - restore a significant wetland complex to high quality tidal salt marsh - maximize tidal function and habitat values in a short period of time - enhance habitat for endangered species and native Bay wildlife - provide opportunities for the public to learn about the Island's unique resources by offering an on-going Community-Based Restoration programs at Inner and Middle Bair Island

Project Details

Lead Entity:

Don Edwards San Francisco Bay National Wildlife Refuge

Lead entity types:

- National Government
- Regional NGO

Partner Organizations:

Don Edwards San Francisco Bay National Wildlife Refuge, US Fish and Wildlife

Adaptive management

Describe adaptive management processes and mid-course corrections taken to address unforeseen challenges and improve outcomes in each of the following categories:

State of Progress:

-

Project Start:

2007-04-02

Project End:

2007-04-02

Total budgeted expenses:

- USD 5-10 million

Global Regions:

- Northern America
- Americas
- World

Countries:

- United States of America

Ecosystem Functional Groups / Biomes:

- Brackish tidal biome

Ecosystems:

- Coastal saltmarshes and reedbeds

Extent of project:

- Other

Extent of restoration:

- Other

Degradations:

- Unsustainable grazing
- Other forms of unsustainable agricultural practices

Description:

Urban encroachment Conversion from marsh to farmland Dirt levees artificially put in place to reduce salt water flow and therefore creation of salt-making evaporation ponds.

Planning and Review**Goals and Objectives****Was a baseline assessment conducted:**

unsure

Was a reference model used:

YES

How was the reference model constructed?:

- The reference model is based on historical and contemporary information about ecological attributes at the site prior to degradation.

were_goals_identified:

YES

Goals and objectives:

- Other

Goals Description::

Removing levees and allowing tidal action will eliminate prime mosquito breeding habitat and reduce the threat of mosquito-borne infection for the community. Provide habitat for endangered species, California clapper rail (*Rallus longirostris obsoletus*), the salt marsh harvest mouse (*Reithrodontomys raviventris*), the Western snowy plover (*Charadrius alexandrinus nivosus*), California least tern (*Sterna antillarum browni*), and the California brown pelican (*Pelecanus occidentalis californicus*). Public access will be maintained by a 2.7-mile levee trail on Inner Bair Island for pedestrians enhancing educational opportunities. Community-based volunteer programs will assist with restoration of the native marsh vegetation and weed removal, providing opportunities for adults and children to participate in the restoration process at Bair Island. The goals of the restoration project are: - restore a significant wetland complex to high quality tidal salt marsh - maximize tidal function and habitat values in a short period of time - enhance habitat for endangered species and native Bay wildlife - provide opportunities for the public to learn about the Island's unique resources by offering an on-going Community-Based Restoration programs at Inner and Middle Bair Island

Stakeholder Engagement



Were Stakeholders engaged?:

unsure

Description of Stakeholder Involvement:

Portions of Bair Island are owned by the State of California as the Bair Island State Ecological Reserve (California Department of Fish and Game oversees) within an agreement to manage the state's lands as part of the Refuge (Don Edwards San Francisco Bay National Wildlife Refuge).

Ecosystem Activities and Approaches



Categories of ecosystem restoration activities and approaches utilized:

- Ecological restoration

Specific type of rehabilitation and/or restoration approach implemented:

- Reconstruction or heavily assisted recovery (e.g. introduction of nearly all biota, major landform modification, major hydrological modification)

Project Outcomes



Monitoring and Data Sharing



Does the project have a defined monitoring plan?:

NO

Open Access URL:

()

Long Term Management

×

STAPER

×



A biologist watches San Pedro Rock through a scope; Credit: San Francisco Bay NWR Complex

USA: California: Common Murre Restoration Project, Central California Coast, USA
(<https://app.ser-rrc.org/api/v1/project/9087>)

Country: United States of America

Activities:

Biomes:

Abstract: Between January 28 and February 4, 1986, the oil transportation barge, APEX HOUSTON, discharged about 26,000 gallons of crude oil while in transit from San Francisco Bay to the Long Beach Harbor. The oil spill injured seabirds and other aquatic life from Point Reyes to the Big Sur coast (Map, File 1). Approximately 9,000 seabirds were killed, including 6,300 common murre (Uria aalge; Carter et al. 2003). Restoration funds