South San Francisco Bay Salt Ponds

Restoration Planning

RESOURCES AGENCY
CALIFORNIA
DEPARTMENT
FISH&GAME

Coastal
Conservancy

U.S.
FISH & WILDLIFE
SERVICE

Overview

- Acquisition
- Phase-Out of Salt Production
- Initial Stewardship
- Long-Term Restoration Planning
  - Goals, Challenges, Opportunities
  - Planning Process

Acquisition

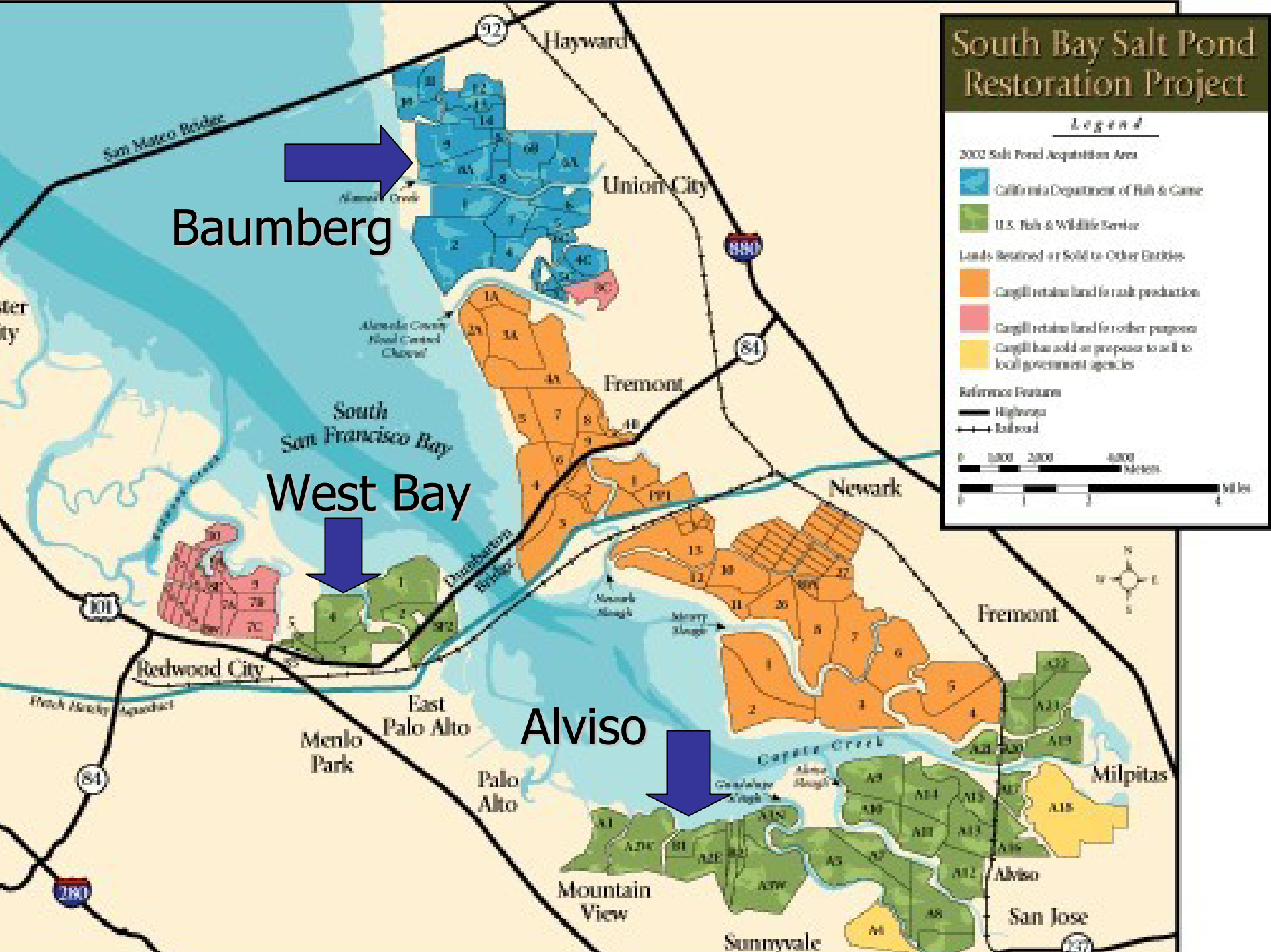
- 16,500 acres (26 square miles)
  - 15,100 in South Bay (24 square miles)
  - 1,400 along Napa River (2 square miles)
- $100 million
  - $72m from State Wildlife Conservation Board
  - $8m from U.S. Fish and Wildlife Service
  - $20m from Hewlett, Packard, Goldman, & Moore Foundations

Acquisition Milestones

- Framework Agreement – May, 2002
- Conveyance Agreement and Phase-Out Agreement – February, 2003
- Close of escrow – March, 2003
- Acquisition documents available at http://www.southbayrestoration.org/Documents.htm

Land Management

- CA Department of Fish and Game owns Baumberg and Napa River Crystallizer Ponds
- U.S. Fish and Wildlife Service owns West Bay and Alviso Ponds
- Cargill to continue salt production on Newark Ponds
- Santa Clara Valley Water District owns Pond A4 and is planning restoration
- City of San Jose is purchasing Pond A18
- Cargill retains Redwood City Crystallizer ponds and Pond 3W


South Bay Salt Pond Restoration Project
Legend
2002 Salt Pond Acquisition Area
California Department of Fish & Game
U.S. Fish & Wildlife Service
Lands Retained or Sold to Other Entities
Cargill retains land for salt production
Cargill retains land for other purposes
Cargill has sold or proposes to sell to local government agencies
Reference Features
Highways
Railroad
Miles
Baumberg
West Bay
Alviso
Hayward
Union City
Fremont
Newark
Fremont
Redwood City
East Palo Alto
Menlo Park
Palo Alto
Mountain View
Sunnyvale
San Jose
Alviso
Milpitas
South San Francisco Bay
San Mateo Bridge
Dumbarton Bridge
Coyote Creek
Hetch Hetchy Aqueduct
Alameda Creek
Alameda County Flood Control Channel
Newark Slough
Mowry Slough
Guadalupe Slough
Alviso Slough
101
84
880
237

Cargill Phase Out

- Cargill to meet permit requirements established by Regional Water Quality Control Board discharge permit
- Cargill responsible for O&M during Phase-Out of Salt Production
  - 1-2 years for low salinity ponds e.g. Baumberg (East Bay) and most Alviso (South Bay) ponds
  - 3-6 years for higher salinity ponds e.g. West Bay (Redwood City) and Alviso ponds in Fremont
  - 5-7 years for Napa Plant Site

Initial Stewardship

DFG and FWS to manage acquired salt ponds after separation from existing salt-making process by Cargill, until long-term restoration plan is completed and implemented.

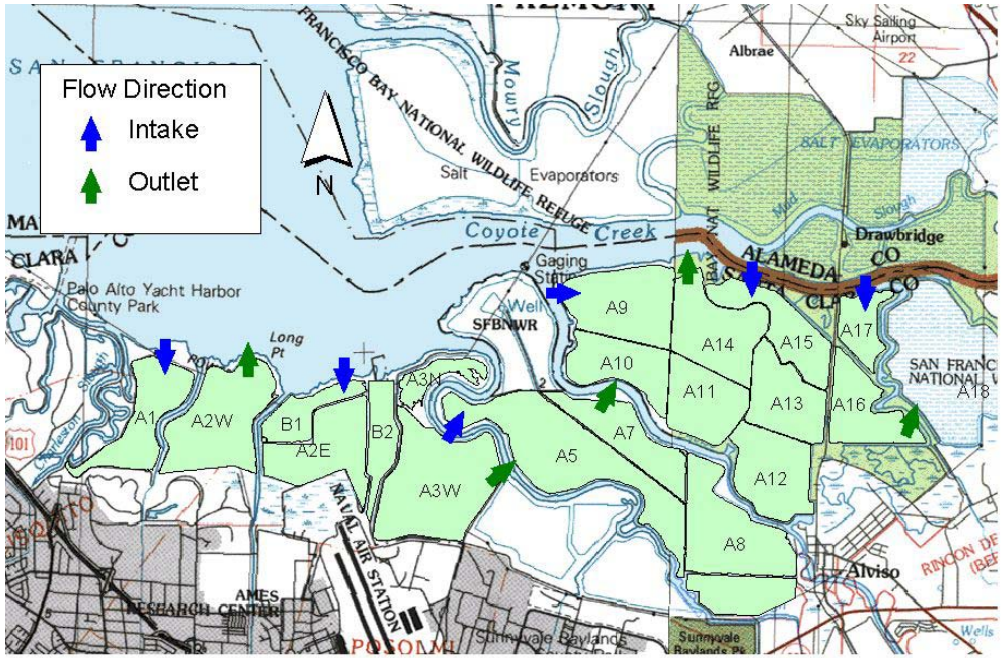
Initial Stewardship Objectives

- Maintain habitat values of acquired ponds to the maximum extent feasible
- Assure that the ponds are maintained in a restorable condition during long-term restoration planning period
- Minimize interim management costs (by using gravity/avoiding pumping)
- Maintain existing levels of flood protection
- Minimize impacts to Bay from discharges
- Where feasible, restore ponds to tidal influence (3 small ponds)

Summary of Initial Stewardship for the Baumberg and Alviso Ponds:

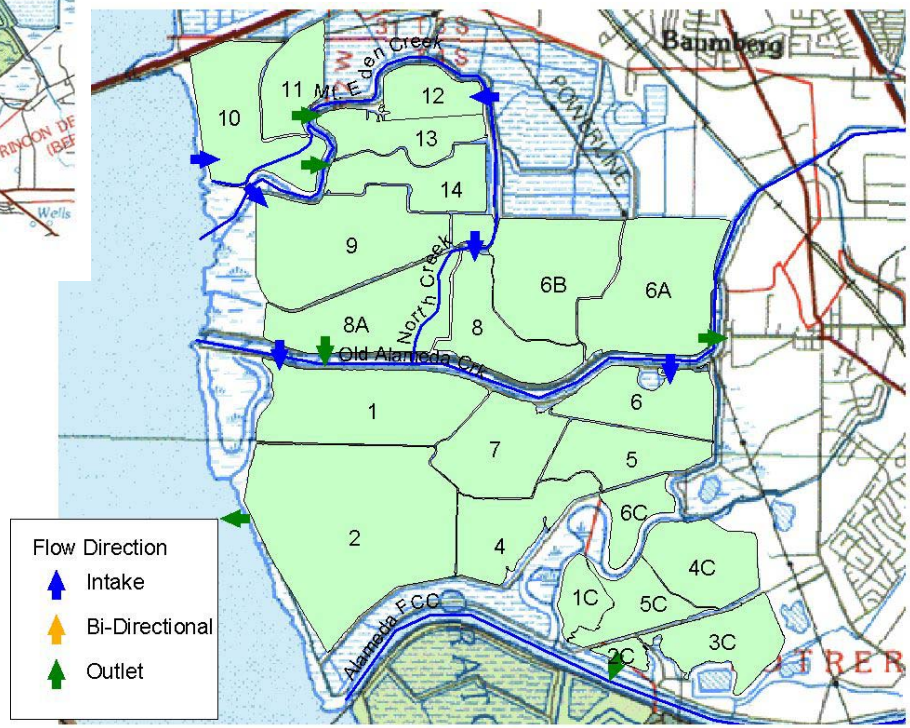
- Most ponds will be operated in subgroups.
- Additional intakes, outlets, and siphons will be constructed to move water through the ponds.
- Some ponds will intake water from the bay and some ponds will release water to bay.
- Some ponds will be managed differently in summer and winter.
- Most pond depths will be similar to existing pond depths.
- Some ponds will become seasonal wetlands – the only water added will be rainwater, which will evaporate in the summer.
- Island ponds (A18, A19, and A20) will be restored to tidal action if deemed feasible. Alternate is to manage as seasonal wetlands.

Initial Stewardship Plans



- Alviso

- Baumberg



Long-Term Restoration Planning

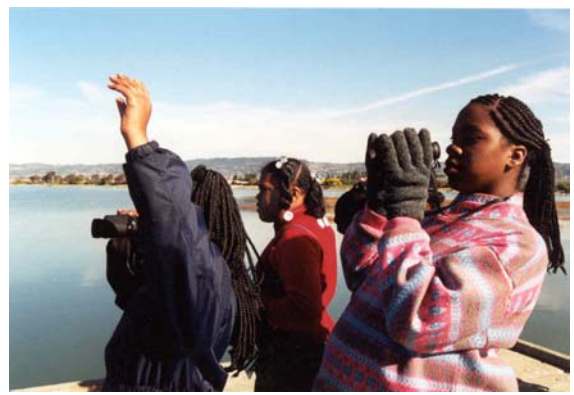
The California Coastal Conservancy, working closely with the California Department of Fish and Game and US Fish and Wildlife Service, the landowners, will facilitate the development of a restoration plan for the 15,100 acres of salt ponds acquired from Cargill in the South San Francisco Bay.

Long-Term Restoration Planning

- Planning period is 5 years with a budget of approximately $10 million
  - $2.5 m from Conservancy
  - $5 m from Hewlett, Packard, Moore Foundations
  - Other funds to be leveraged
- Restoration will be phased in over decades
- Planning, monitoring and adaptive management will continue as restoration proceeds

Long-Term Restoration Planning

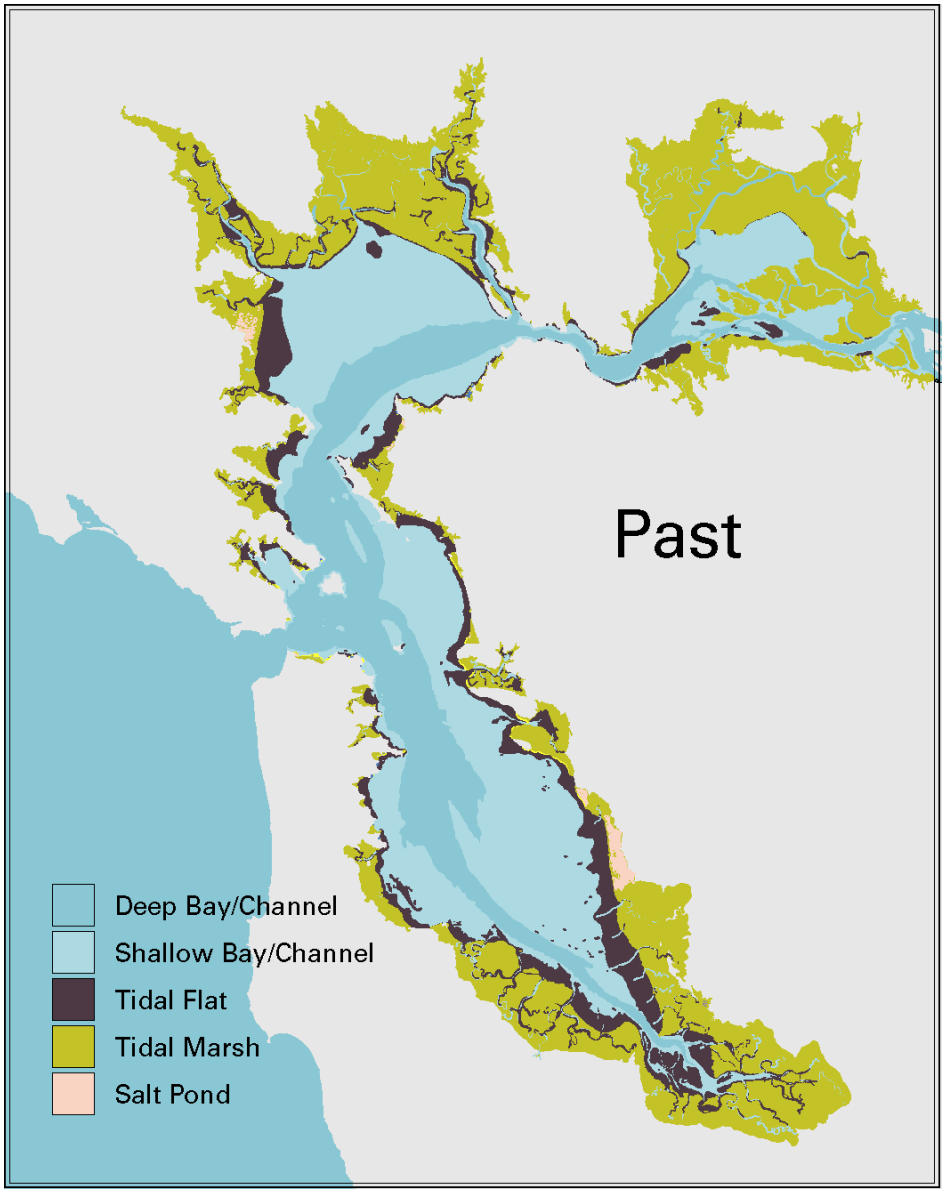
Mission: "To prepare a scientifically sound and publicly supported restoration and public access plan that can begin to be implemented within five years."

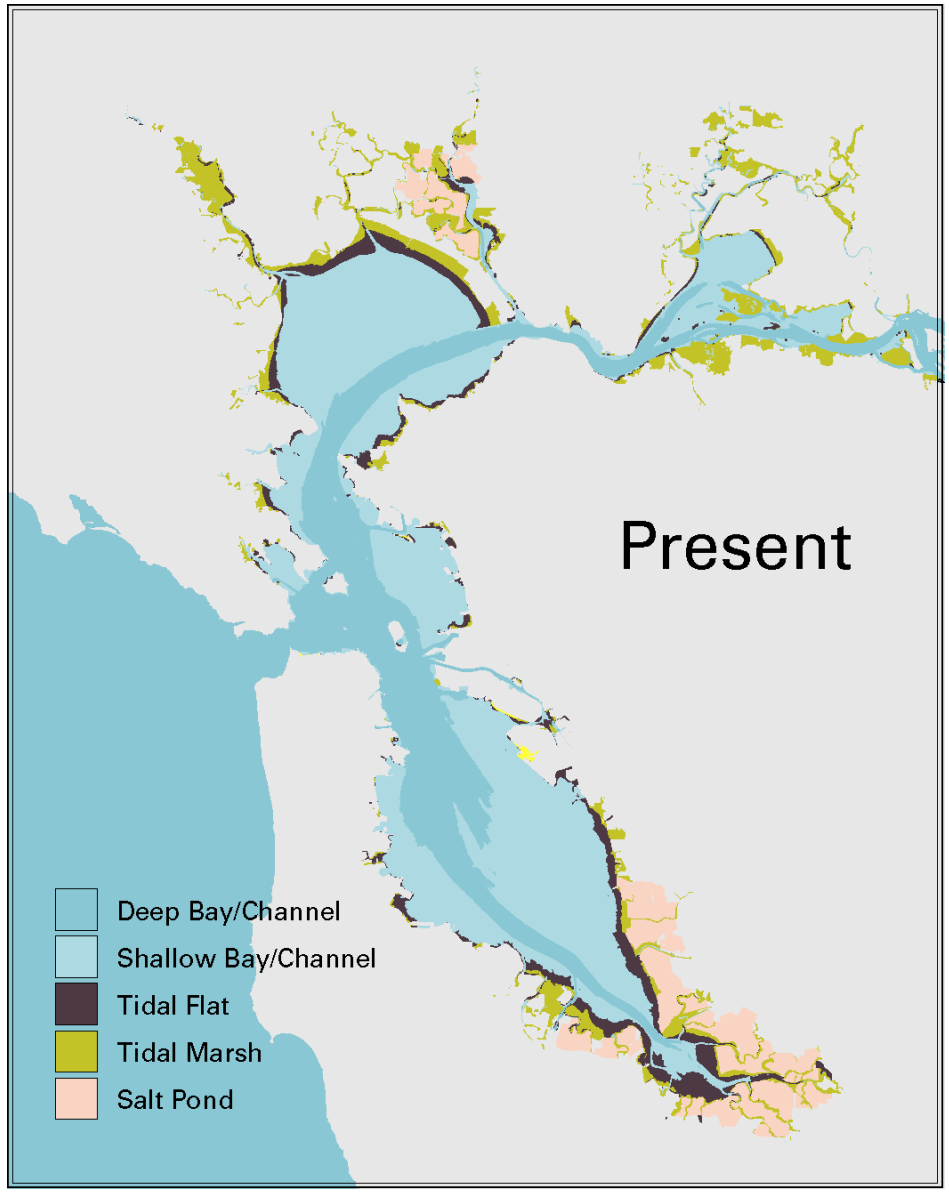


Project Goals

- Wetland restoration and enhancement
- Flood management
- Wildlife-oriented public access and recreation

Extent of Past and Present Wetlands

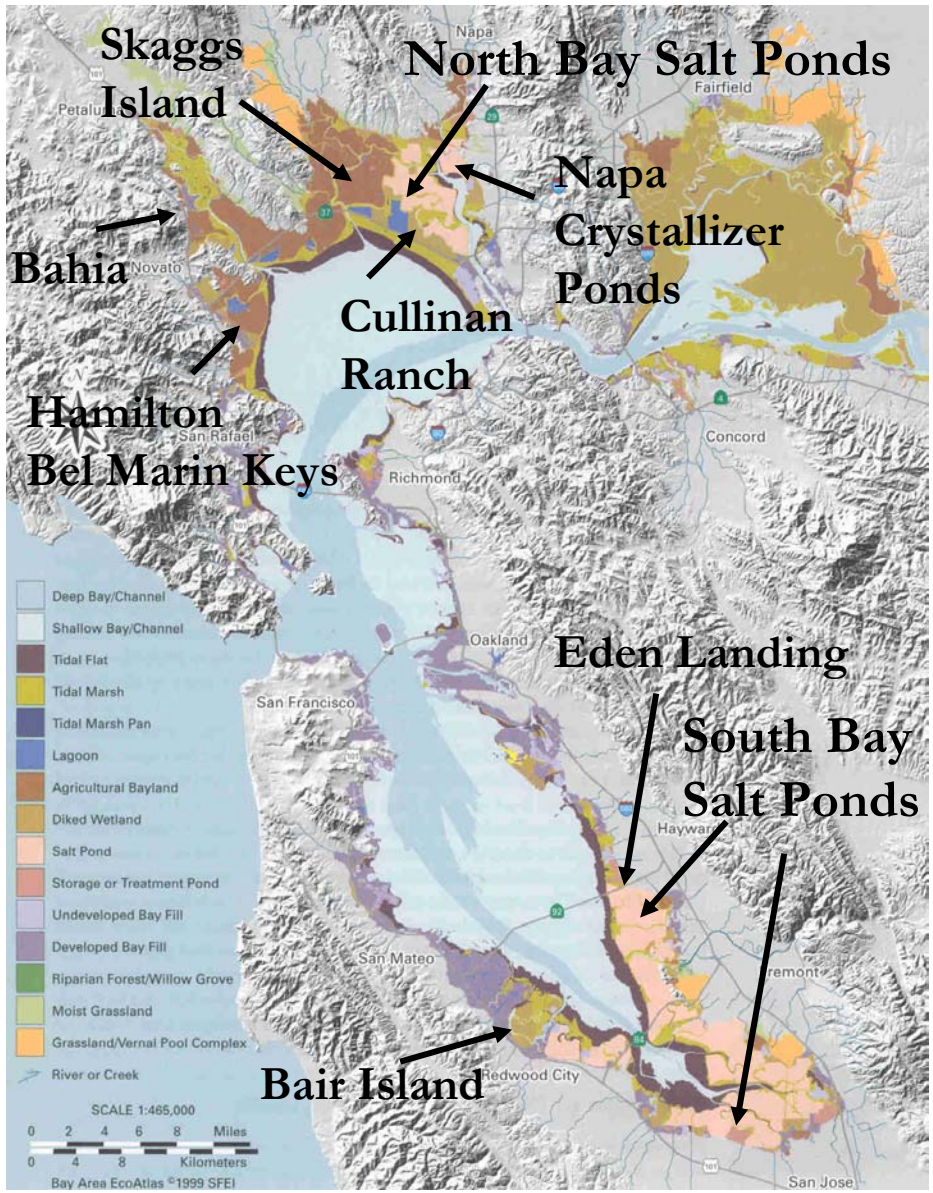




The Bay: Past and Present

- The Bay 200 years ago:
  - 200,000 acres of tidal marsh
  - 50,000 acres of mudflats
  - 80,000 acres of associated habitats: salt pans, moist grasslands, vernal pools, riparian habitat, willow groves
- The Bay today
  - 40,000 acres of tidal marsh
  - 30,000 acres of mudflats
  - 25,000 acres of associated habitats
- Wetlands replaced by:
  - Agricultural and Grazing Lands (c. 30,000 acres) – North Bay
  - Salt Production (c. 30,000 acres) – North and South Bay
  - Urban and Suburban Development
  - Transportation: Ports, Railways, Roads

Large Wetlands Restoration “Projects”



Wetlands Restoration Projects

Nearly 40,000 acres of Wetlands Restoration Being Implemented or Planned in San Francisco and San Pablo Bays

Project	Acres
• North Bay Salt Ponds	9,500
• South Bay Salt Ponds	15,100
• Napa Crystallizer Ponds	1,400
• Hamilton/Bel Marin Keys	2,600
• Cullinan Ranch	1,500
• Bair Island	1,600
• Skaggs Island	4,400
• Bahia	350
• Eden Landing	830

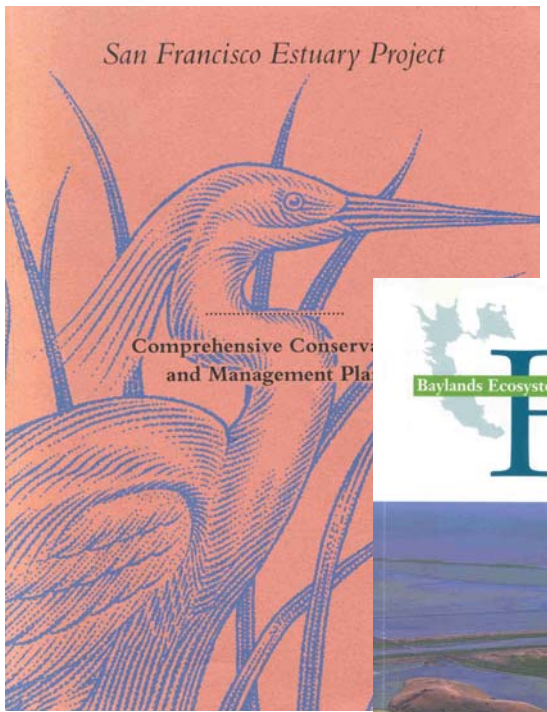
Salt Pond Restoration: LaRiviere Marsh

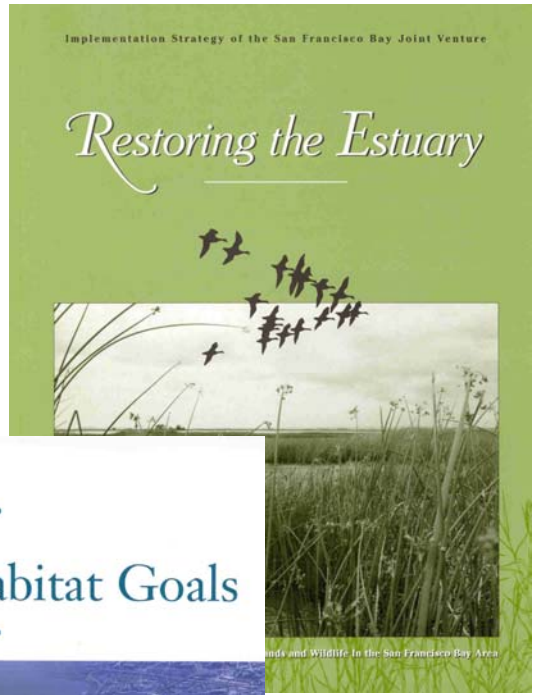
BEFORE

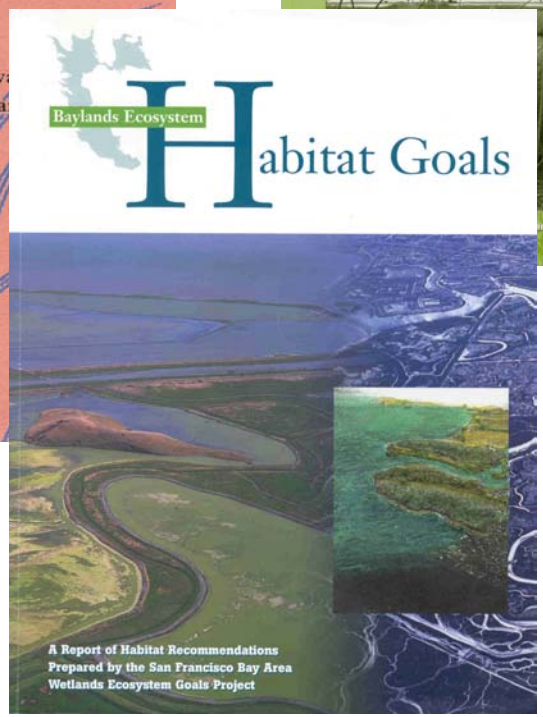
AFTER

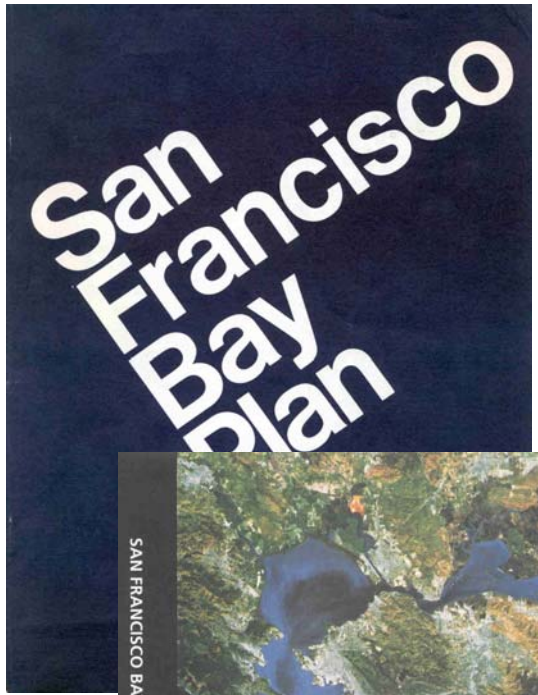
- 100 acres of former salt ponds in Fremont at Don Edwards SF Bay Refuge restored in mid-1980s

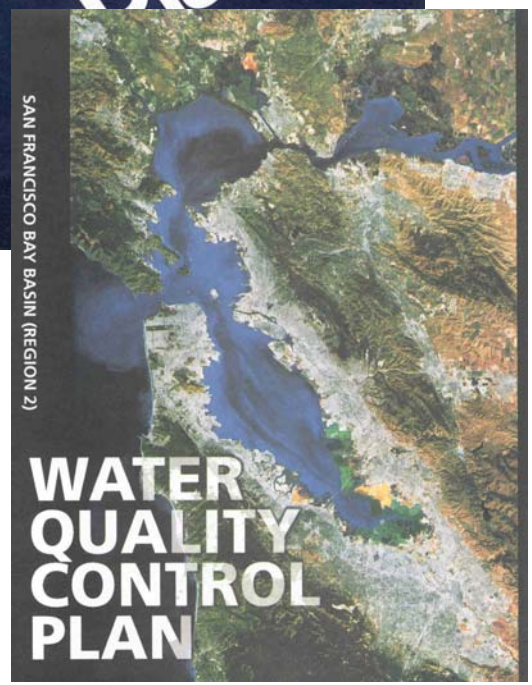
Regional Planning Efforts











Challenges, Opportunities

- Landscape Scale of project (15,100 acres)
- Urban Setting (3 million people in South Bay)

Challenges/Opportunities

- Preferred Mix of Habitats
  - Tidal wetlands, managed ponds, other habitats
  - Balance and phasing of habitat types

- Restoration of Tidal Wetlands

  Some factors that we will need to consider:
  - Subsidence of pond bottoms (minimal to over 10 feet)
  - Sediment dupply and demand
  - Source and quality of sediment
  - Possible effects on water quality and hydrology in Bay during and after construction
  - Features to enhance wetland development and wildlife habitat

- Enhancement of Managed Ponds
  - Water circulation so that salt does not accumulate in ponds
  - Optimal pond depths and salinities for migratory birds

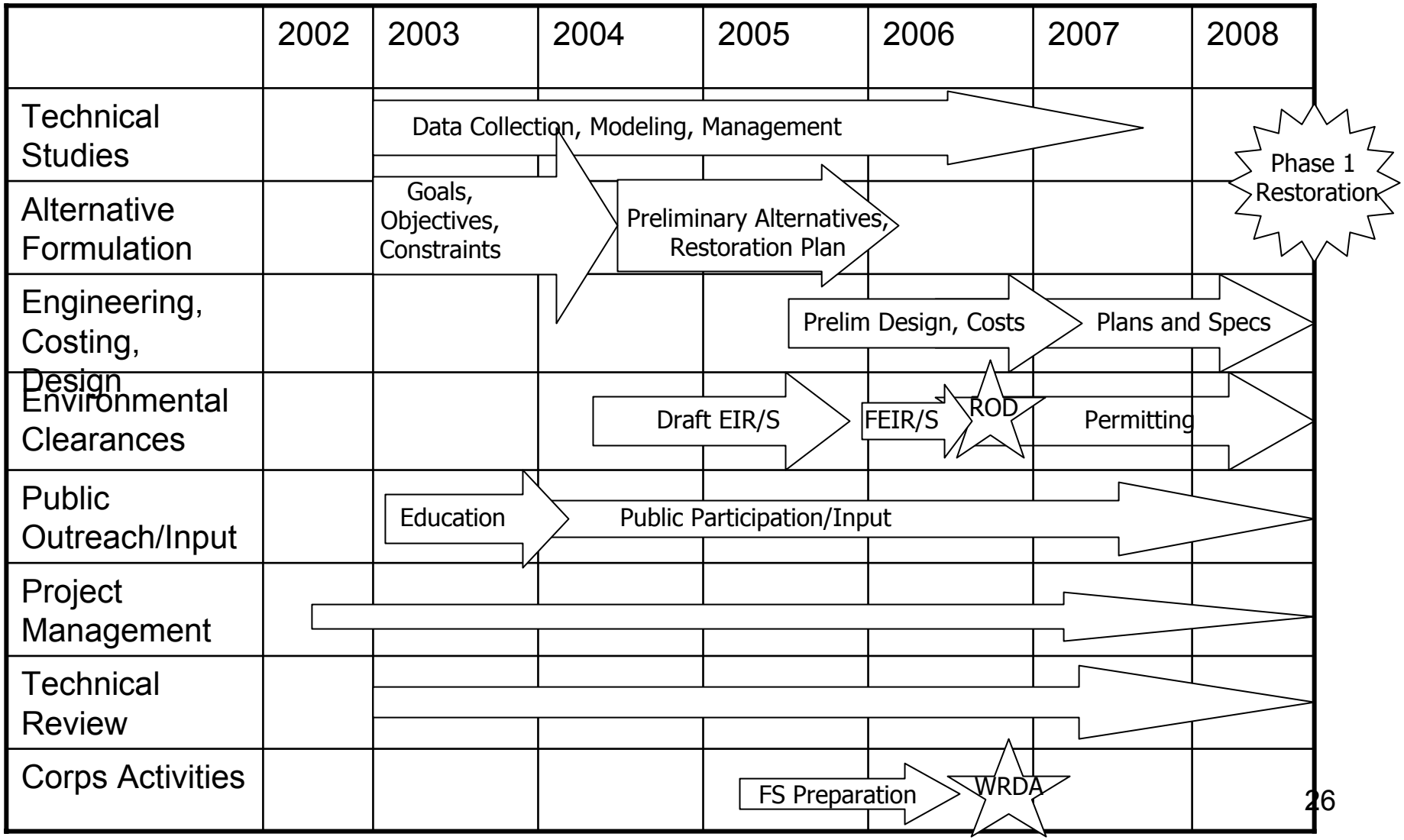
Challenges/Opportunities

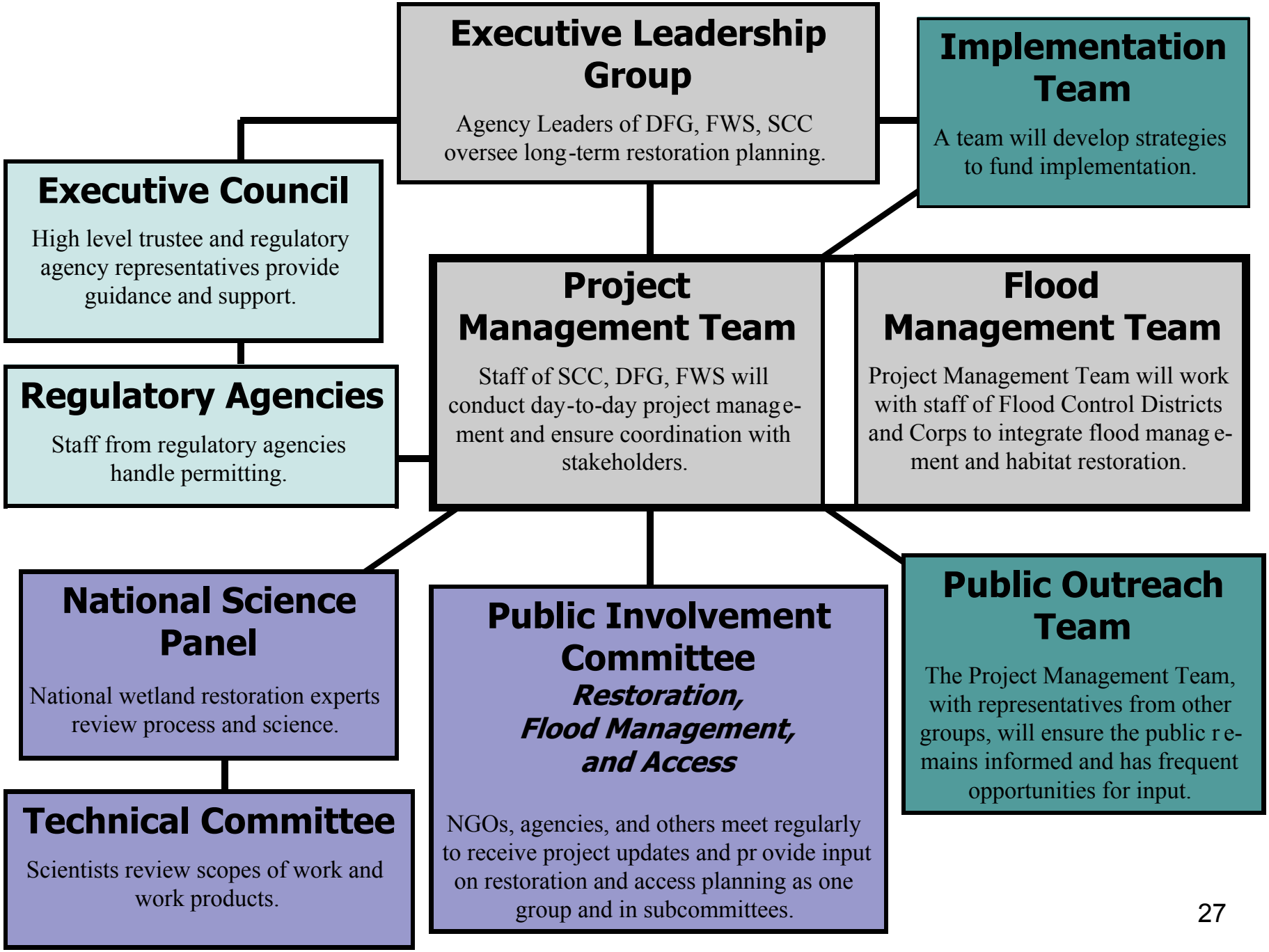
- Integrate Flood Management Features into Future Habitat Restoration
- Plan for Wildlife-Oriented Public Access and Recreation while protecting wildlife habitat
- Manage Introduced Species, e.g. *Spartina*
- Minimize the Potential for Mosquitoes
- Protect Existing Infrastructure
- Plan for Monitoring/Adaptive Management

Steps in the Technical Process

- Data collection
- Development of goals and objectives
- Modeling
- Development of alternatives (preliminary)
- Preliminary design
- Environmental review (CEQA/NEPA)
- Selection of Recommended Alternative
- Detailed design
- Permitting
- Construction
- Monitoring of restored areas
- Adaptive management

Major Milestones




Executive Leadership Group
Agency Leaders of DFG, FWS, SCC oversee long-term restoration planning.
Implementation Team
A team will develop strategies to fund implementation.
Executive Council
High level trustee and regulatory agency representatives provide guidance and support.
Project Management Team
Staff of SCC, DFG, FWS will conduct day-to-day project management and ensure coordination with stakeholders.
Flood Management Team
Project Management Team will work with staff of Flood Control Districts and Corps to integrate flood management and habitat restoration.
Regulatory Agencies
Staff from regulatory agencies handle permitting.
National Science Panel
National wetland restoration experts review process and science.
Public Involvement Committee
Restoration, Flood Management, and Access
NGOs, agencies, and others meet regularly to receive project updates and provide input on restoration and access planning as one group and in subcommittees.
Public Outreach Team
The Project Management Team, with representatives from other groups, will ensure the public remains informed and has frequent opportunities for input.
Technical Committee
Scientists review scopes of work and work products.

Contact Information

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