



Delta Restoration Projects

Delta Independent Science Board Meeting

Presented by

Wayne White, Director of Business Development
Retired FWS

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Presentation Overview



- Overview of Wildlands
- Overview of Wildlands' projects in legal Delta
- Specifics of Projects
- Questions & Answers



Who is Wildlands?



- Established in 1991
- Mitigation Projects in CA, OR, WA, GA, NC, VA
- 55,000 acres permanently protected
- 85 active mitigation projects
- 30 active projects in California covering 40 counties
- Approximately 40 projects in due diligence



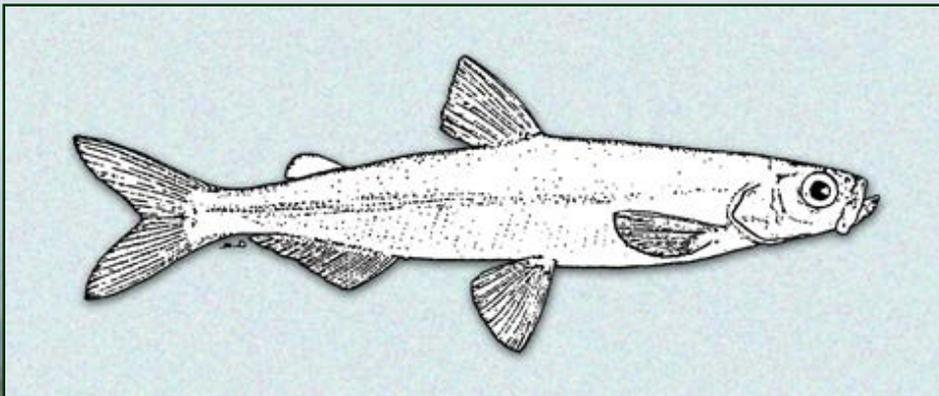
The Banking Concept



- **Mitigation/Conservation Banks Are:**
 - Large areas of restored, created, enhanced, or preserved wetlands or endangered species habitat set aside to compensate for unavoidable impacts
- **Ecological Advantages:**
 - No temporal loss
 - Large preserve size
 - No-net loss/conservation/recovery
 - Vested interest in conservation success
 - In perpetuity with funding

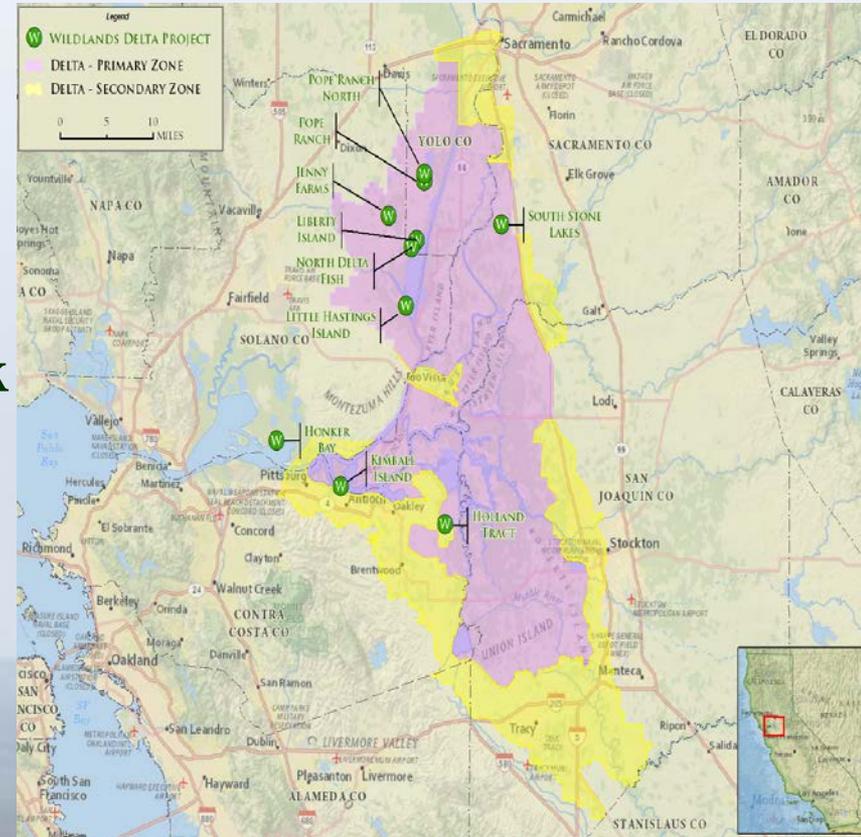
Agency Oversight

- **Conservation Bank Review Team**
 - California Department of Fish & Wildlife (formerly Fish & Game)
 - U.S. Fish & Wildlife Service
 - National Marine Fisheries Service
- **Interagency Review Team (wetland mitigation banks)**
 - U.S. Army Corps of Engineers
 - U.S. Environmental Protection Agency

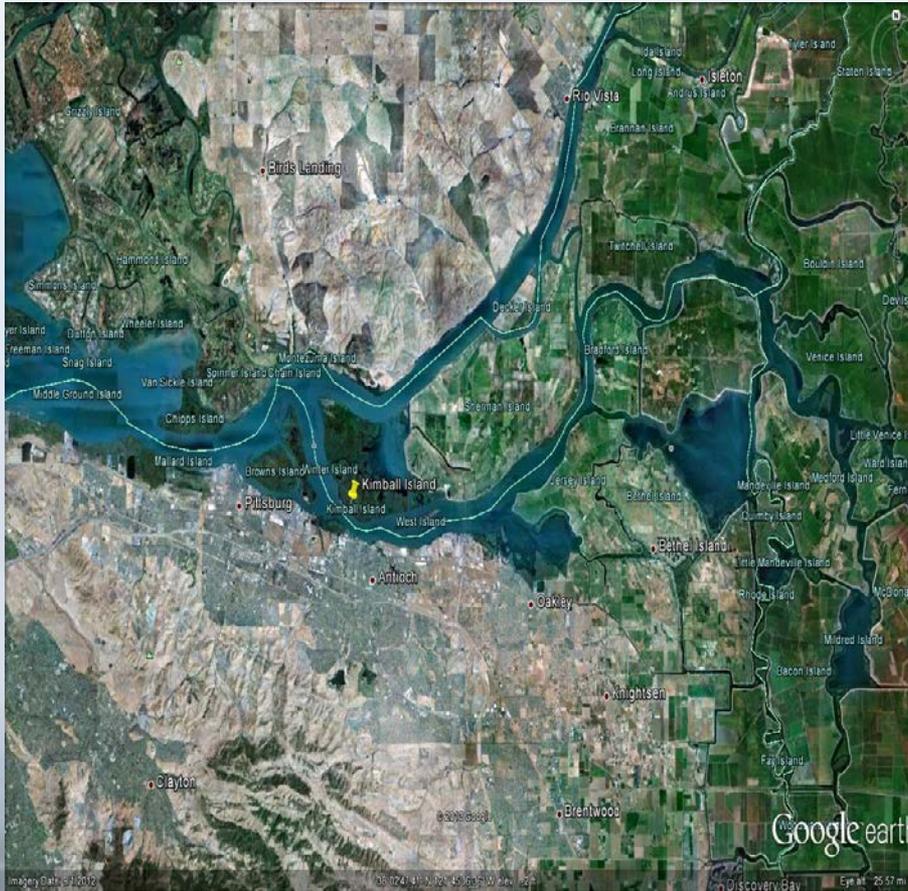


Wildlands' Delta Projects Overview

- 10 Projects within Legal Delta. Will cover:
 - Kimball Island Mitigation Bank
 - Liberty Island Conservation Bank
 - North Delta Conservation Bank



Kimball Island



- Southwestern Sacramento County
- North of Antioch
- South of Sherman Island Waterfowl Management Area



Site History

- 109-acre leveed island
- Perimeter levee, groundwater pumping
- Historically farmed, 2 home sites, airstrip
- Fallowed in 1970's
 - Levees dominated by non-native vegetation
 - Interior reverted to shallow water marsh without groundwater pumping



Planning Efforts

- **Local Planning Efforts/Goals**
 - CALFED-Bay Delta Program
 - USFWS – Habitat requirements for Delta smelt
 - CDFG – Central Valley Action Plan
- **Studies**
 - **Biological Resources Studies**
 - Wetland Delineation
 - Fisheries Assessment
 - Wildlife & Plant Surveys
 - Hydrology Analysis

Ecological Goals

- Improve wetland and fisheries habitats
 - Develop network of interior channels
 - Breach perimeter levees
 - Connect existing shallow water marsh to sloughs
 - Develop shaded riverine aquatic habitat



Regulatory Coordination

■ Approving Agencies

- U.S. Army Corps of Engineers
- U.S. Environmental Protection Agency
- U.S. Fish & Wildlife Service
- National Marine Fisheries Service
- California Department of Fish & Game

■ Timing

- 1998 – Bank Approved
- 1998-1999 – Initial Habitat Construction
- 2000 – Levees Breached

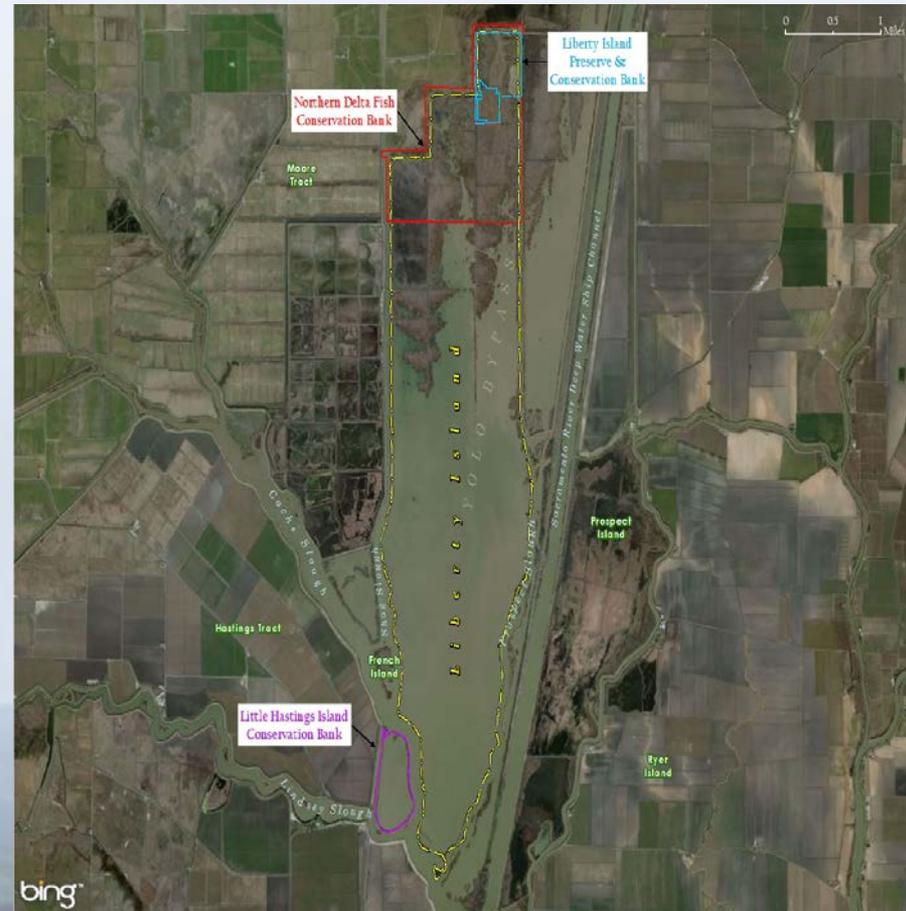
Monitoring



- Years 1-5
 - Habitat Monitoring – vegetation/channels
 - Fish Monitoring
 - Wildlife monitoring
- Long-term management
 - Funded through non-wasting endowment fund

Liberty Island

- Liberty Island – 5,000 acre partially flooded island
- Southern Yolo bypass
 - Historically farmed
 - 1997 Levee failure



Liberty Island Conservation Bank

- 186-acre Bank/Preserve
 - Dominant Habitats
 - Fallow field
 - Upland levee & riparian
 - Emergent Marsh



Planning Efforts

- CALFED - *Future restoration plans for Liberty Island are envisioned to be passive restoration approaches that would allow wetland and riparian vegetation to establish naturally. Restoration may also include **creating additional breaches in the levees**, filling agricultural water delivery and drainage ditches, leveling an existing road bisecting the property, and **excavating meandering sloughs to improve habitat quality and native fish access and to prevent fish stranding**. Liberty Island already supports significant existing wildlife and has outstanding potential for restoration, floodplain management, and endangered species recovery.”*

Ecological Goals

- Improve fisheries habitats
 - Develop network of interior channels
 - Breach perimeter levee
 - Create and connect existing emergent marsh to sloughs
 - Protect existing shaded riverine aquatic habitat



Habitat Development



■ Habitat Goals

- Lower northern east-west oriented levee
- Create network of sub-tidal channels
- Create additional tidal emergent marsh and re-connect existing marsh habitat
- Increased flooding of upland areas (seasonally inundated floodplain)

Regulatory Coordination

- Bank Review Team- Approved 7/2010
 - U.S. Fish and Wildlife Service
 - California Department of Fish & Game
 - National Marine Fisheries Service
- Permitting Agencies
 - U.S. Army Corps of Engineers
 - U.S. Fish & Wildlife Service
 - National Marine Fisheries Service
 - California Department of Fish & Game
 - Central Valley Flood Protection Board
 - Yolo County

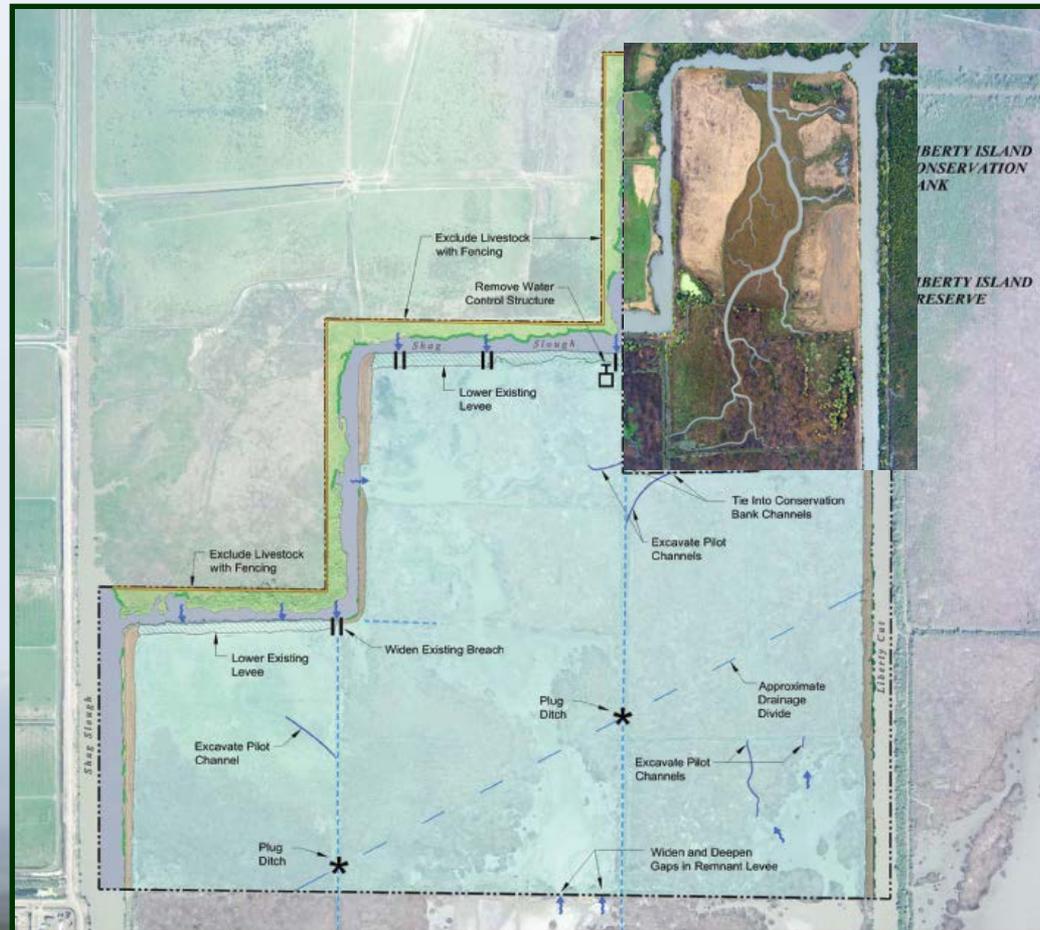
Short-term Monitoring

Table 1. Monitoring Schedule													
Biological Resource <i>Component</i>	Monitoring Frequency	January	February	March	April	May	June	July	August	September	October	November	December
		Channel Connections											
<i>Hydrology</i>	Years 1, 3, 5							X					
Emergent Marsh Vegetation													
<i>Vegetation</i>	Years 1, 2, 3, 4, 5,				X								
Invasive Plant Species													
<i>Vegetation</i>	Years 1, 2, 3, 4, 5							X					
Zooplankton/Phytoplankton													
<i>Plankton</i>	Years 1, 3, 4				X								
Fish¹													
<i>Juvenile Surveys</i>	Years 2 through 5					X		X					
<i>Spawner Surveys</i>	Years 2 through 5		X										X
Aerial Photographs	Years 1, 3, 5							X					

Long-term Monitoring

- Twice annually qualitative assessment of habitat condition and biological health
- Every 10 years aerial and photo points for hydrology established habitat persists
- Annually monitor non-native invasive plant against baseline map; if increase implement invasive removal plan
- Annually monitor woody vegetation and remove woody vegetation detected outside designated areas and remove cottonwoods and oaks from levee breaks over dbh over 4 inches

North Delta Conservation Bank



Monitoring and Management

- Submitted to agencies and Central Valley Flood Protection Board as the same as Liberty with condition to remove all volunteer trees and woody vegetation prior to one year growth
- Waiting for bank approval (FWS and CDFW approved; waiting for NMFS signature)
- Permit applications submitted

Questions & Comments?

Thank You!





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Contact:

www.wildlandsinc.com