

Ravenswood Working Group Meeting (7-17-08)



South Bay Salt Pond Restoration Project

Ravenswood Working Group Meeting

Menlo Park Library

July 17, 2008

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South Bay Salt Pond Restoration Project

Today's Working Group Meeting

- Welcome and Introductions
- SBSP Project Schedule
- Phase I in the Ravenswood Complex
- Public Access Workshop Outcomes & Applied Studies in Ravenswood Pond Complex
- SF2 Real-Time Monitoring and Mudflat Studies
- Transfer of Remaining Ponds to USFWS
- Funding Partners
- Next Steps

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Project Schedule

- Final EIS/EIR – December 2007
- Water Board - August 13 Board Meeting
- BCDC - August 21 Commission Meeting
- Record of Decision – September 2008
- Phase 1 Implementation – 2008 thru 2011
- Future actions and phases – the next 30+ years

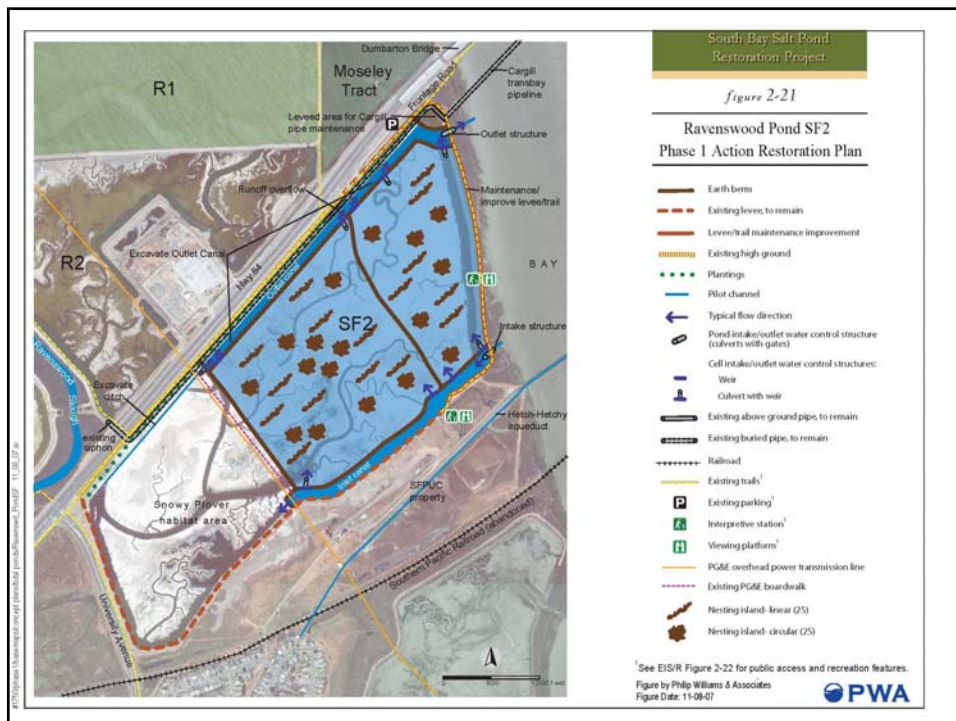
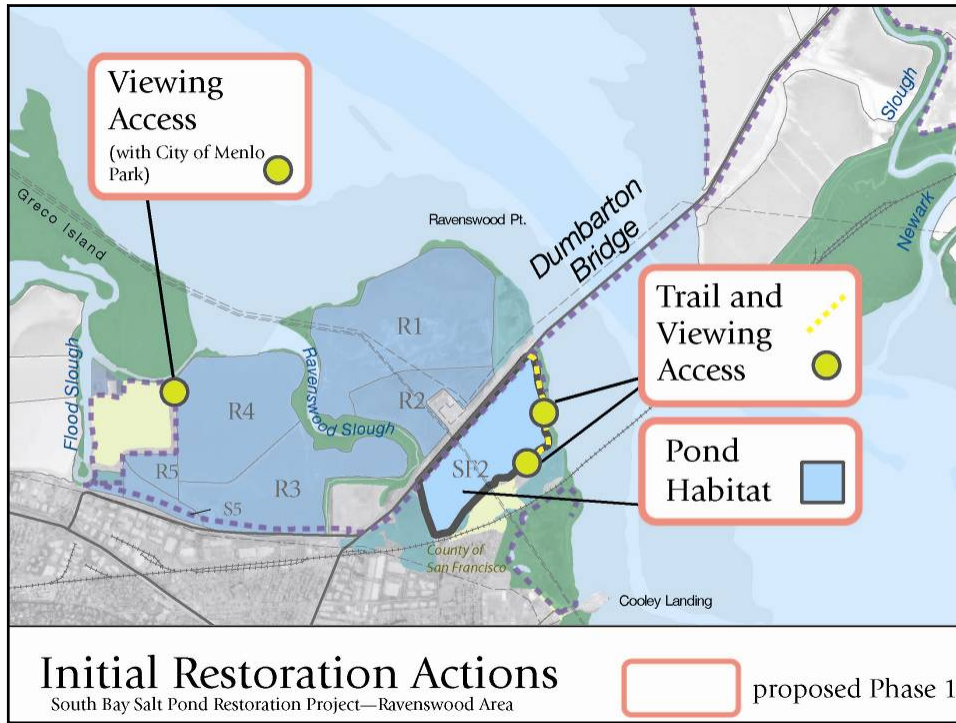
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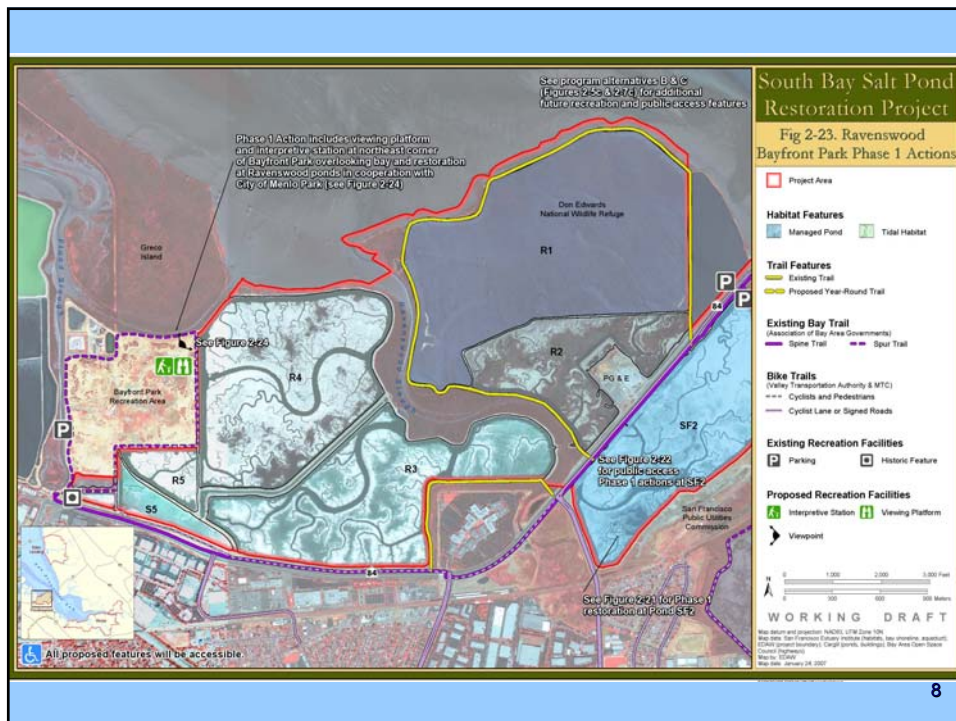
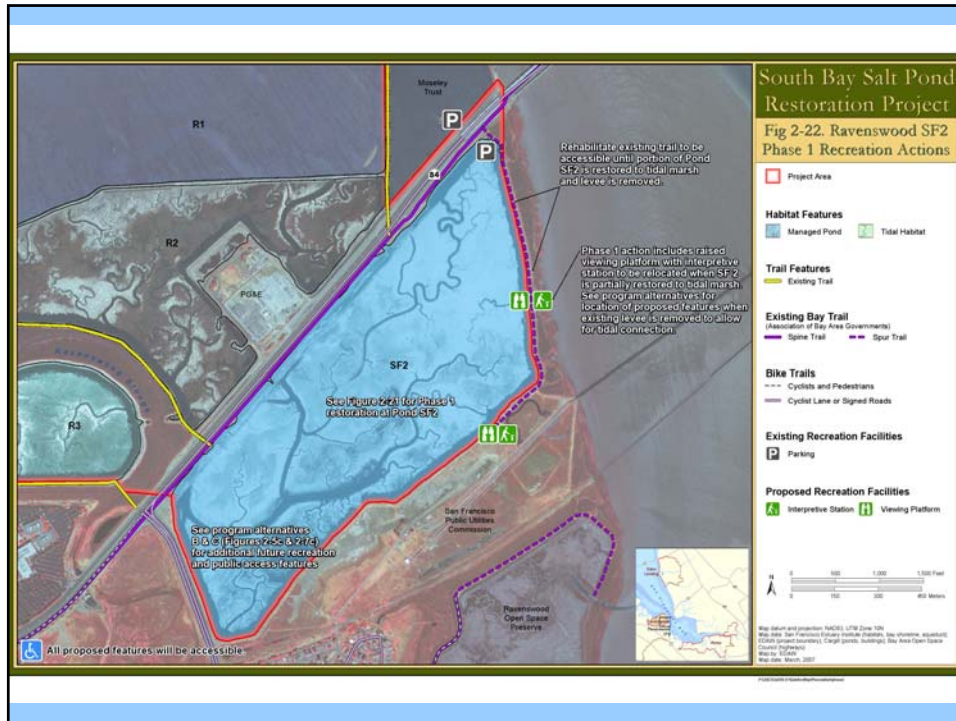
Phase 1 in the Ravenswood Pond Complex

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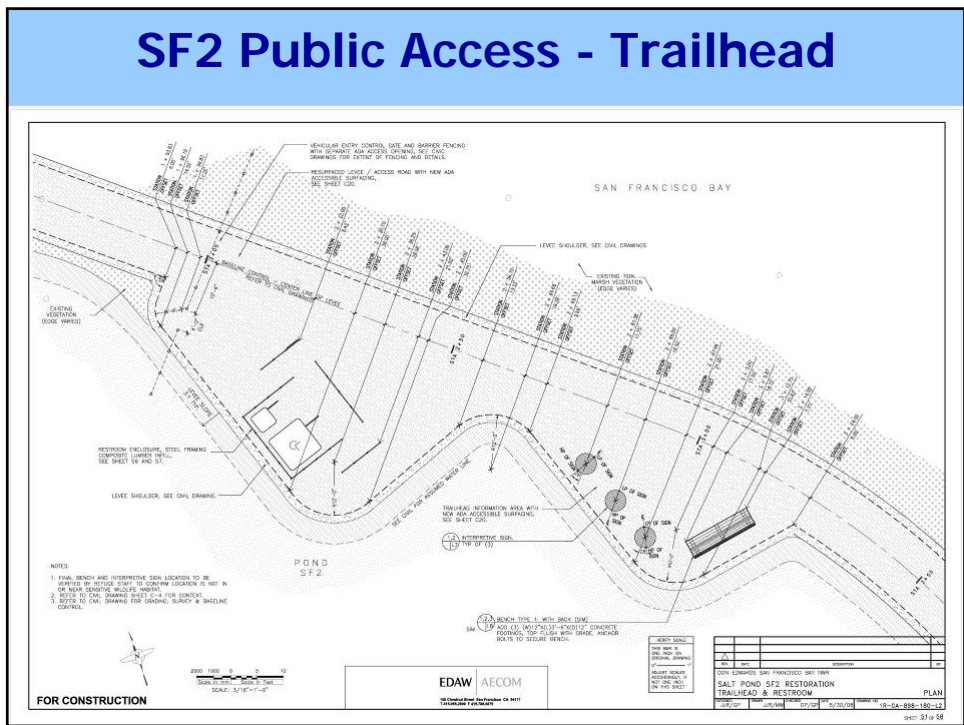
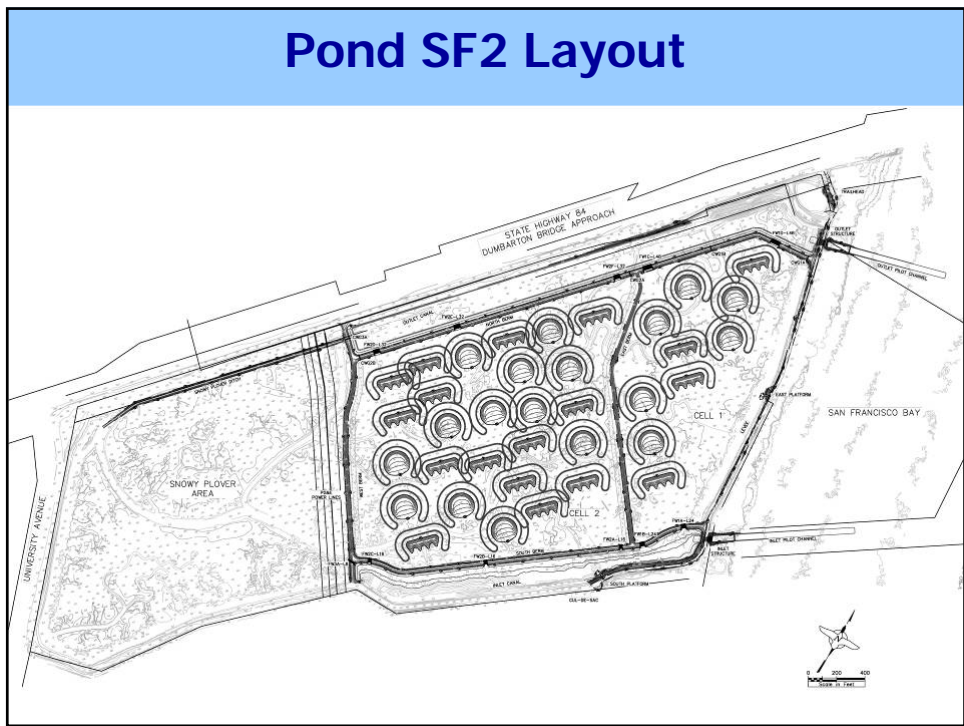
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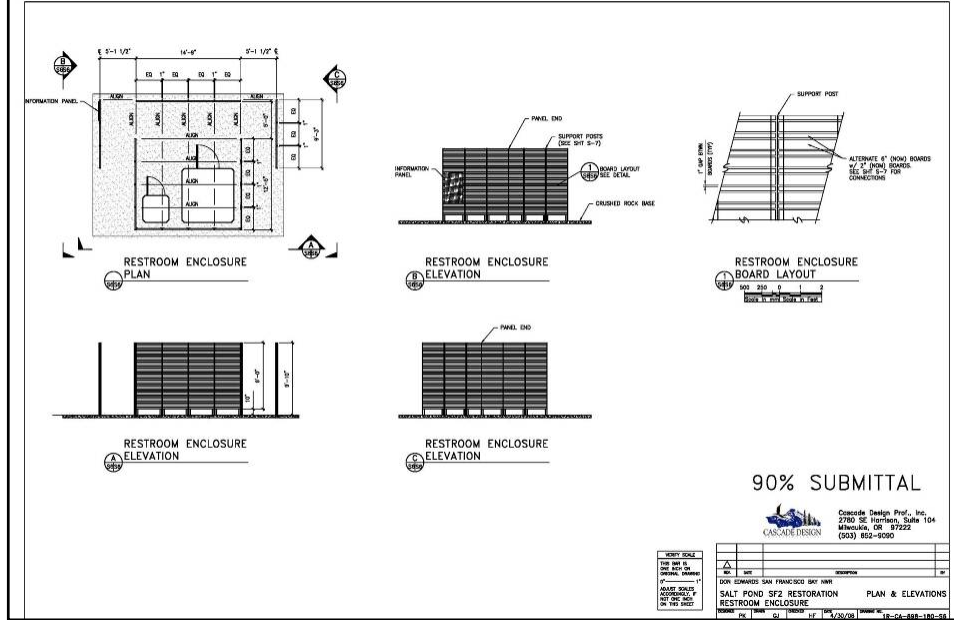


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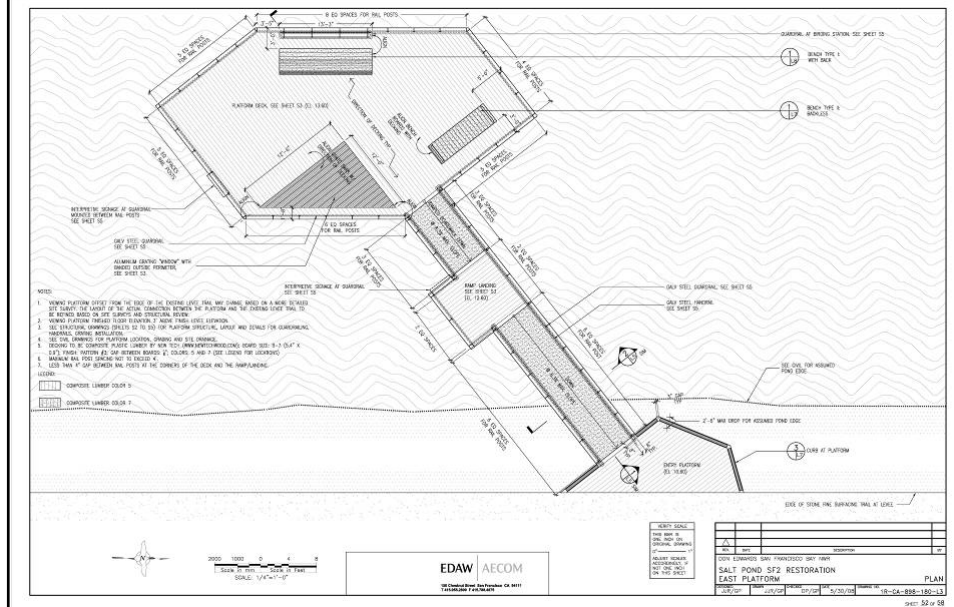


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SF2 Public Access – Trailhead Detail

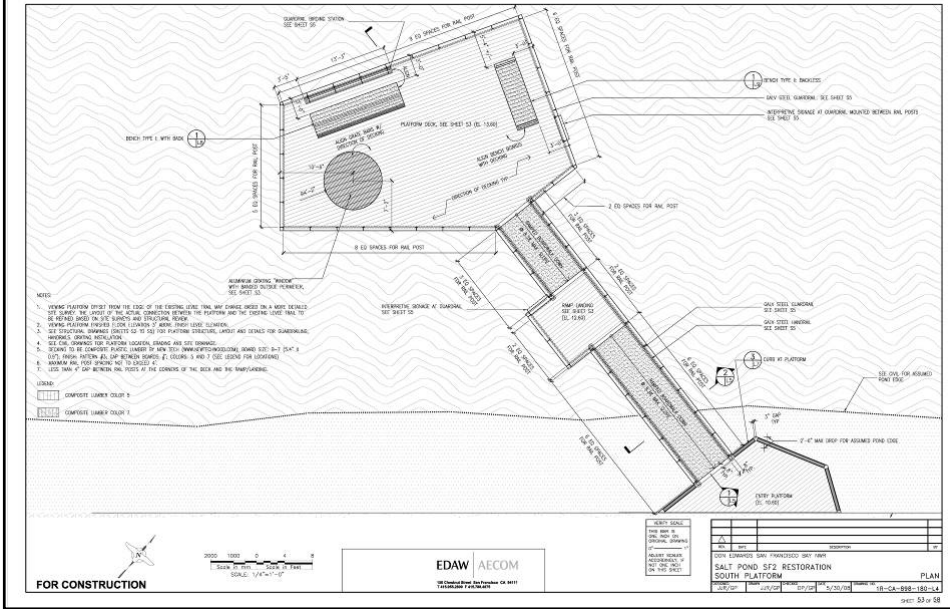


SF2 Public Access – East Platform

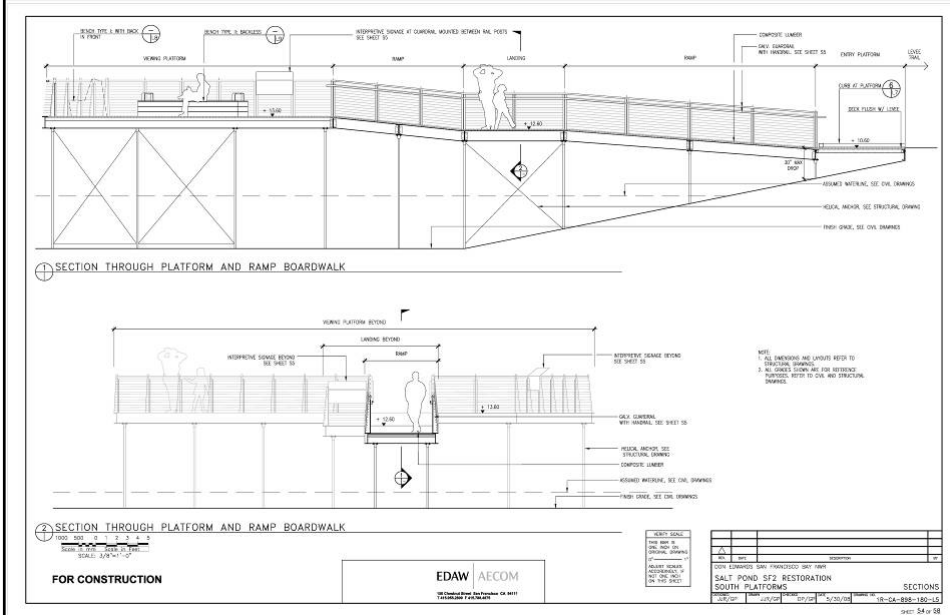


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SF2 Public Access – South Platform

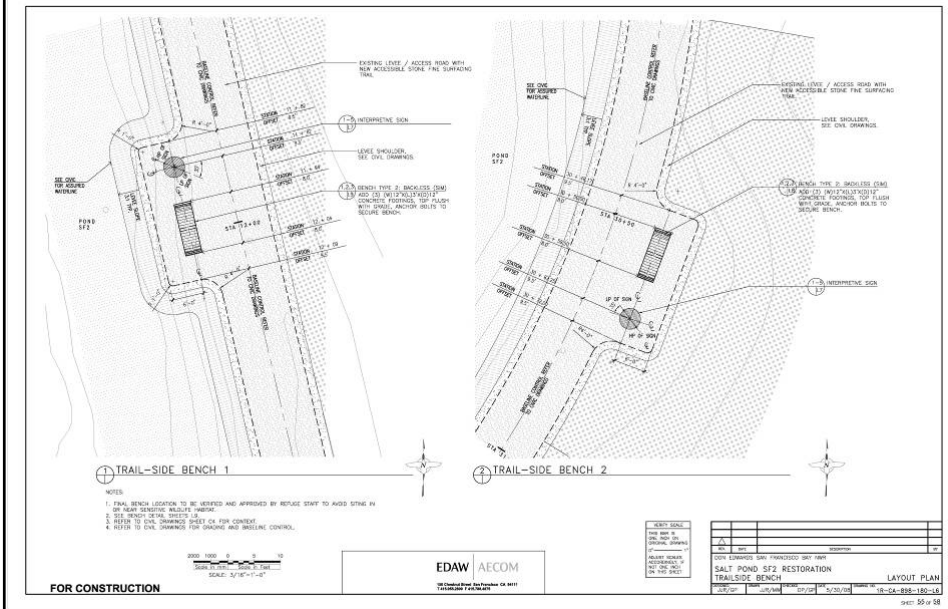


SF2 Public Access – Platform Detail

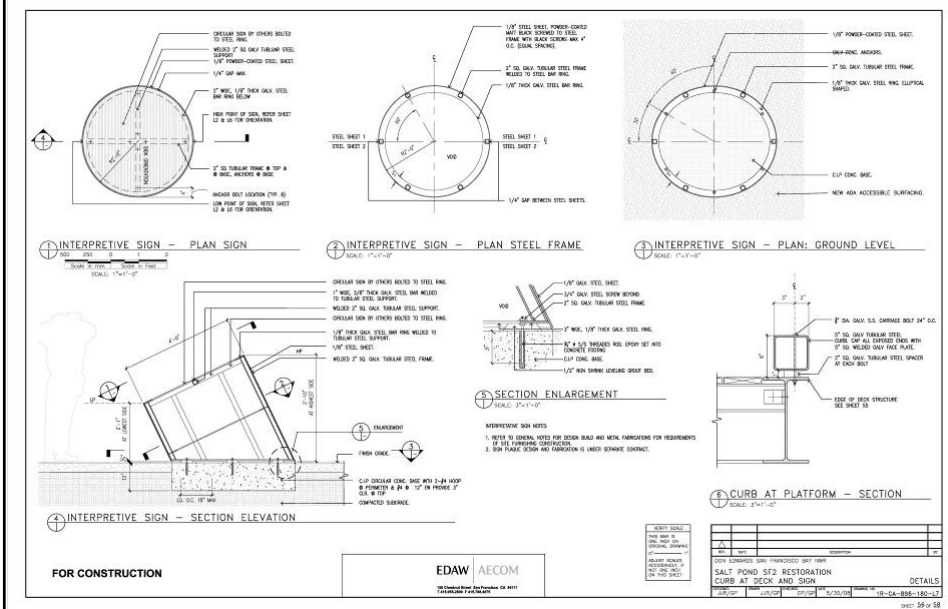


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SF2 Public Access – Trilside Benches

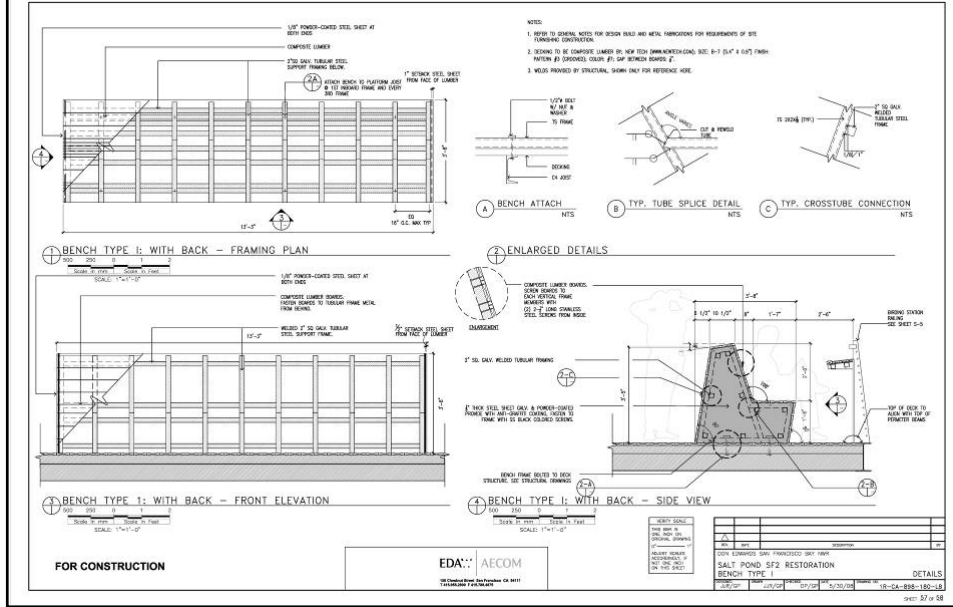


SF2 Public Access - Interpretation

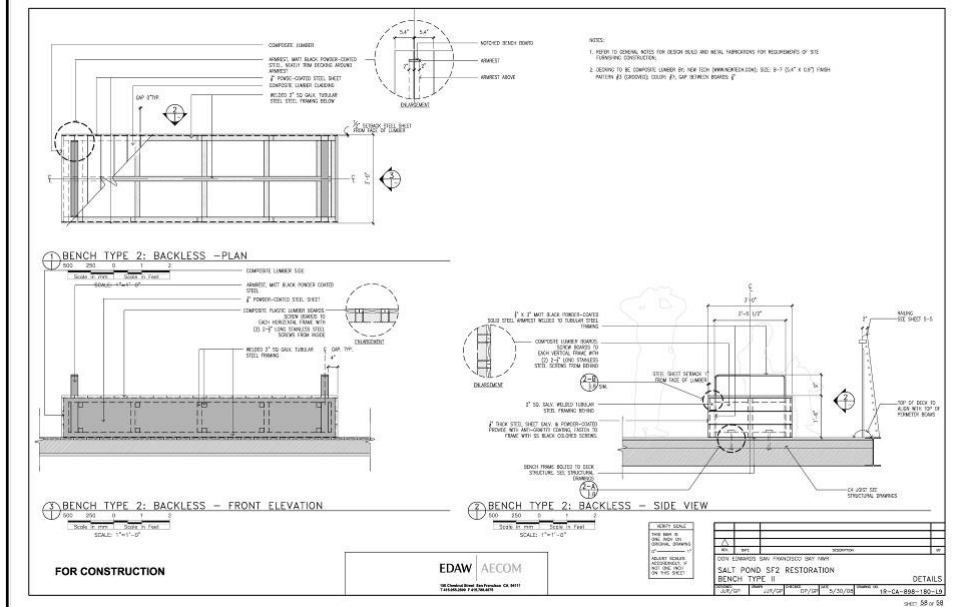


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SF2 Public Access – Platform Bench



SF2 Public Access - Platform Bench



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South Bay Salt Pond Restoration Project

Public Access and Wildlife Workshop

May 20, 2008



Lynne Trulio
Lead Science Team

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PAW Workshop Agenda

- **Summary of knowledge on key issues**
 - Jules Evens—Boating and waterfowl
 - Lynne Trulio—Trails and foraging shorebirds
 - Kevin Lafferty—Public access and snowy plovers
- **Phase 1 public access and wildlife studies**
- **In-put from Workshop participants**
- **Comments from observers**



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Questions Addressed

- What do we know about the interaction of key species and recreationists?
- Given the goals of the SBSP Project, what key public access and wildlife interaction issues need study?
- How should the Phase 1 studies be designed to provide the most relevant information?

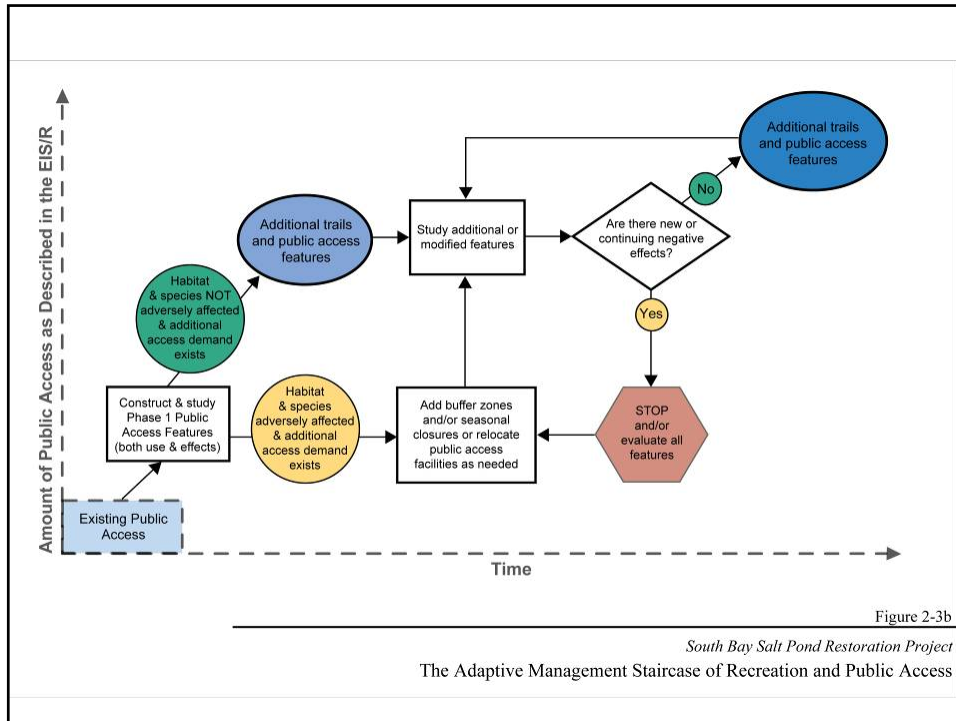


Panel Members

- Joy Albertson, USFWS
- Joe DiDonato, EBRPD
- Jules Evens, Avocet
- Kathy Fox, SJSU
- John Krause, DFG
- Kevin Lafferty, USGS
- Danielle LeFer, Jones and Stokes
- Caitlin Robinson, SFBBO
- Cheryl Strong, USFWS
- John Takekawa, USGS
- Lynne Trulio, SBSP Restoration Project
- Nils Warnock, PRBO Conservation Science
- Heather White, SJSU



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Public Access Applied Studies

- | | | |
|---------------------------------------|---|------------------------------|
| • Trails and shorebirds | ➔ | • Migratory & resident |
| • Boating and waterbirds | ➔ | • Nesting, loafing, foraging |
| • Boating and harbor seals | ➔ | • Haul-out and pupping sites |
| • Trails and California clapper rails | ➔ | • Nesting, loafing, foraging |



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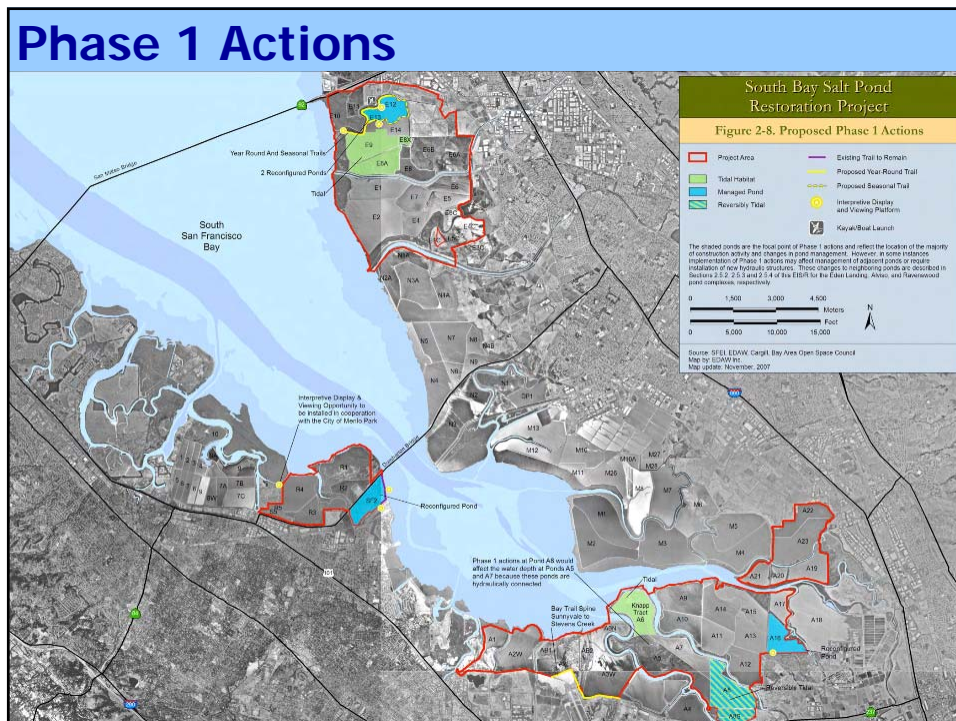




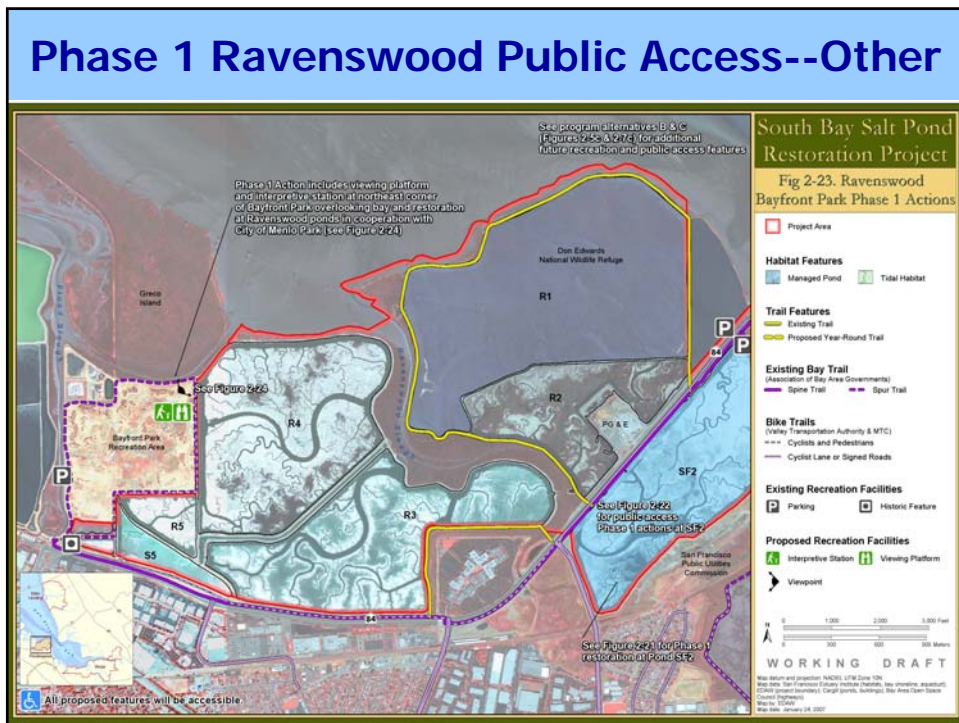
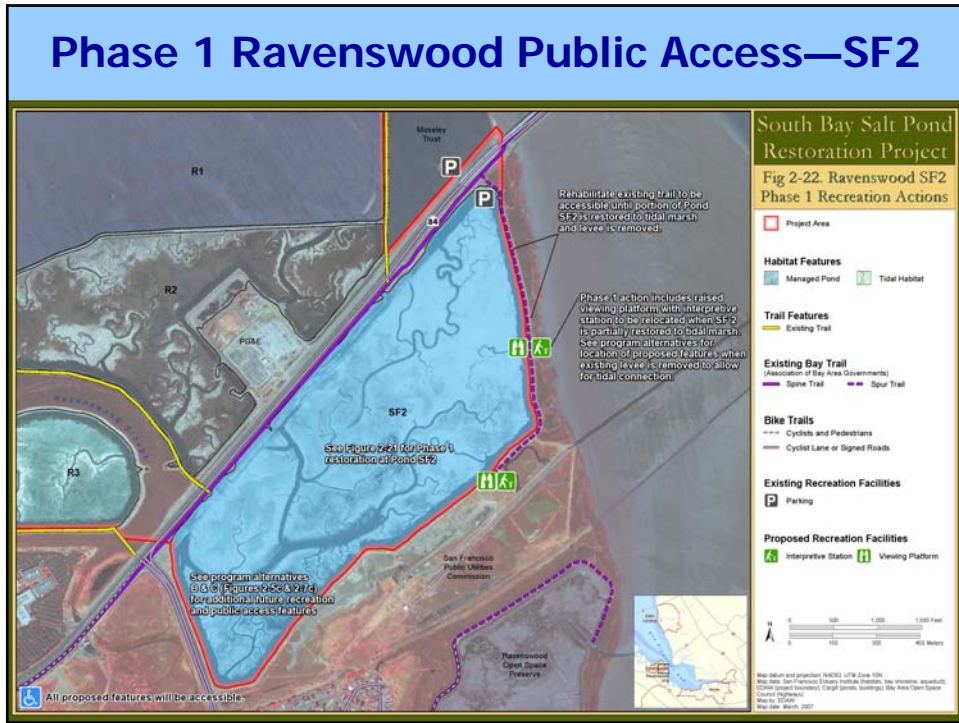
Public Access Features—Phase 1

- Trails, kayak launches, overlooks, interpretive signs, hunting
- Project managers committed to Phase 1 public access
- Information on access impacts on wildlife and access preferences needed for adaptive management
- So, each Phase 1 action requires study

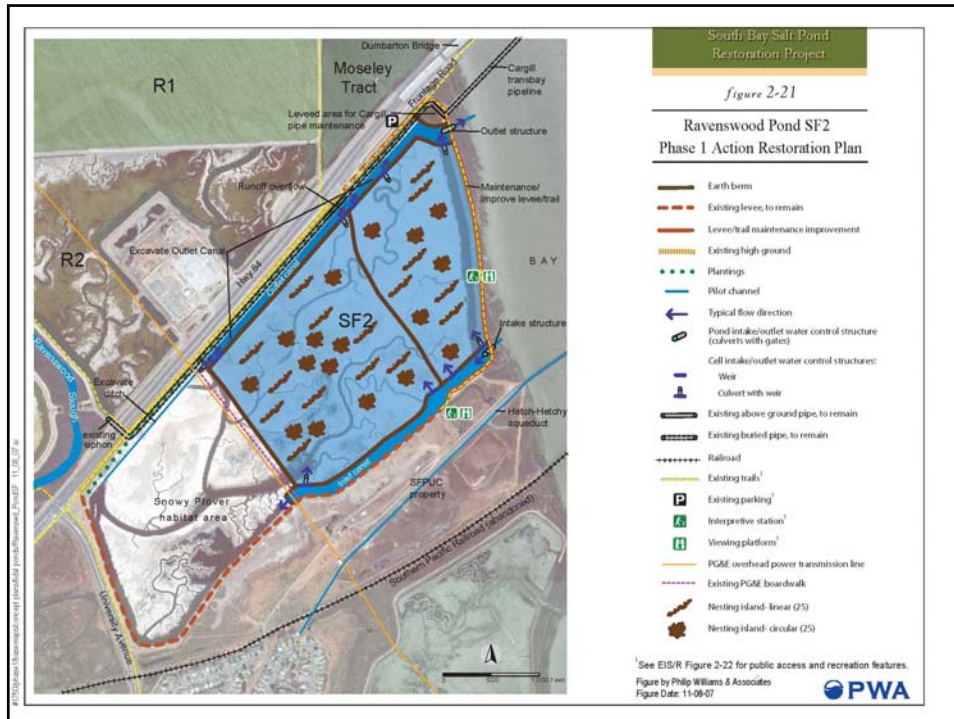
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Some Workshop Outcomes

- Good discussion on metrics to measure, i.e., “disturbance probability” metric
- Other good metrics, depending on situation are species composition and breeding success
- Need good baseline data, both at study sites and at reference sites
- Study public demand as well as wildlife responses to public access features



Some Workshop Outcomes

- How much disturbance is "too much"?
 - Hard question to answer
 - Demographic parameters best
 - Compare to baseline (control)
 - Statistical significance
 - Identify management thresholds
 - Make small changes that have big benefits to species
 - Be cautious with rare or declining species



Pond SF2 Real-time Monitoring and Mudflat Studies

David Schoellhamer
Research Hydrologist
US Geological Survey, Sacramento
SBSRP Lead Science Team

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Science Question from Science Team:

To what extent will the creation of large isolated islands in reconfigured ponds maintain numbers (and reproductive success) of terns and other nesting birds in the South Bay, while increasing densities of foraging birds over the long term compared to ponds not managed in this manner?



Bird use depends on available habitat (islands) and access to food, which depends on water depth, temperature, dissolved oxygen, and salinity.

Study design: Measure bird use, water depth, and water quality in Pond SF2.

Challenges: Microhabitats and spatial gradients require measurements in many places. Tidal pulses, wind, sunlight, and bird movement require continuous measurement.

Partial solution: Continuously deploy many expensive instruments that measure water depth and water quality.

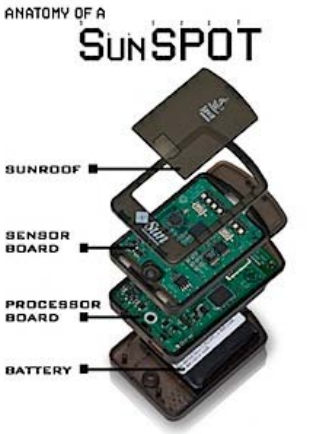
Problems: Getting data, knowing when an instrument needs servicing, and counting birds continuously.



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Sunspot collaboration

- Sun Labs, USGS, NOAA
- Wireless network of sensors and cameras for monitoring Pond SF2 restoration



ANATOMY OF A
SUNSPOT

- SUNROOF
- SENSOR BOARD
- PROCESSOR BOARD
- BATTERY



MAPQUEST

San Francisco Bay

Sun Labs

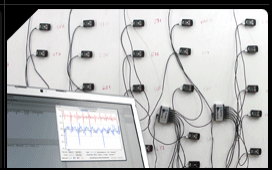
Pond SF2

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Union Pacific

MAPQUEST

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Sunspot test



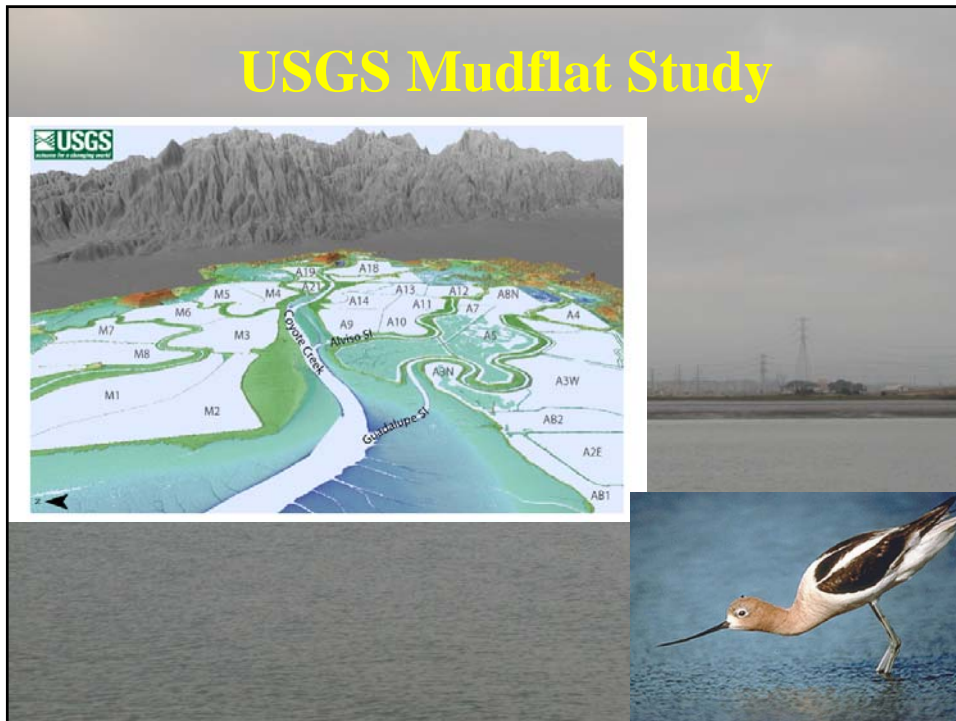
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Collaboration opportunities

Sun would transmit and serve data given:

- No additional funding: Deploy spare USGS sensors in pond.
- Project funds USGS or someone else to continuously monitor Pond SF2.
- NOAA proposal for Pond SF2 monitoring: 10 water quality instruments, 10 optical accretion/erosion sensors, 1 acoustic elevation sensor, 6 digital cameras.
- USGS mudflat study starting summer 2008: Link data from Dumbarton Bridge and mudflat adjacent to Pond SF2.

USGS Mudflat Study



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USGS Mudflat Study

Science Question from Science Team:

Is there sufficient sediment available in the South Bay to support marsh development without causing unacceptable impacts to existing habitats?

Need to know: amount of sediment entering and leaving Project area, storage/erosion from mudflats



USGS Mudflat Study

Science Question from Science Team:

Can the existing number and diversity of migratory and breeding shorebirds and waterfowl be supported in a changing (reduced salt pond) habitat area?

Need to know: Bird foraging on mudflats



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USGS Mudflat Study

- Sediment supply to lower South Bay: add Dumbarton Bridge and Coyote Creek
- Mudflat elevation including near a restored pond (Jaffe)
- Wind waves, sediment concentration, tidal erosion & deposition
- Mudflat food resources (Takekawa)
- Bird foraging on mudflats (Takekawa)



Acknowledgements

USGS Sacramento: Paul Buchanan, Neil Ganju, Megan Lionberger, Tara Morgan, Greg Shellenbarger, Jessica Wood

USGS colleagues: Nicole Athearn, Kathleen Henderson, Bruce Jaffe, Keith Miles, Mike Saiki, Steve Schwarzbach, John Takekawa, Jan Thompson

2003-2007 Science Team colleagues

Fellow Lead Science Team members: Cheryl Strong and Lynne Trulio

NOAA: Greg Baker

Sun Microsystems: Arshan Poursohi

California State Coastal Conservancy: Ann Buell, Amy Hutzell, Steve Ritchie


US Fish and Wildlife Service: Clyde Morris, Eric Mruz, Mendel Stewart

USGS Priority Ecosystem Science Program

USGS Federal/State Cooperative Program

USGS National Water Quality Monitoring Network Pilot Study

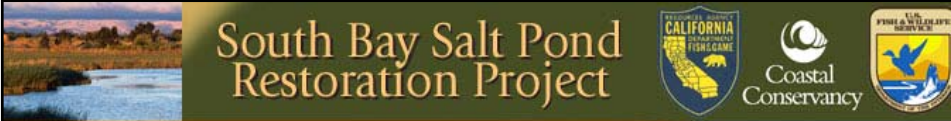
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Transfer of Ravenswood Ponds To USFWS

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Transfer of Ponds to USFWS

- Ponds were acquired in 2003, but Cargill retained management responsibility
- Pond SF2 was donated to USFWS in 2007
- For the remaining ponds:
 - Cargill has done extra levee maintenance
 - Transfer of responsibility will occur over the next few months
 - After transfer, USFWS will be monitoring ponds and levees at least weekly

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SF2 Funding Partners

- **Construction**
 - US Fish and Wildlife Service
 - State Coastal Conservancy
 - Caltrans
 - Menlo Park/Peninsula Open Space Trust
- **Studies**
 - US Geological Survey
 - Resources Legacy Fund (private foundations)
 - State Coastal Conservancy
 - Sun Microsystems

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Other Funding Opportunities

- State Coastal Conservancy
- Federal FY '09 Budget Requests

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