



South Bay Salt Pond Restoration Project

Restoring the Wild Heart of the South Bay



April 2008



September 2009



May 2010



October 2010

SALT POND A21 SOUTH BAY SALT POND RESTORATION PROJECT

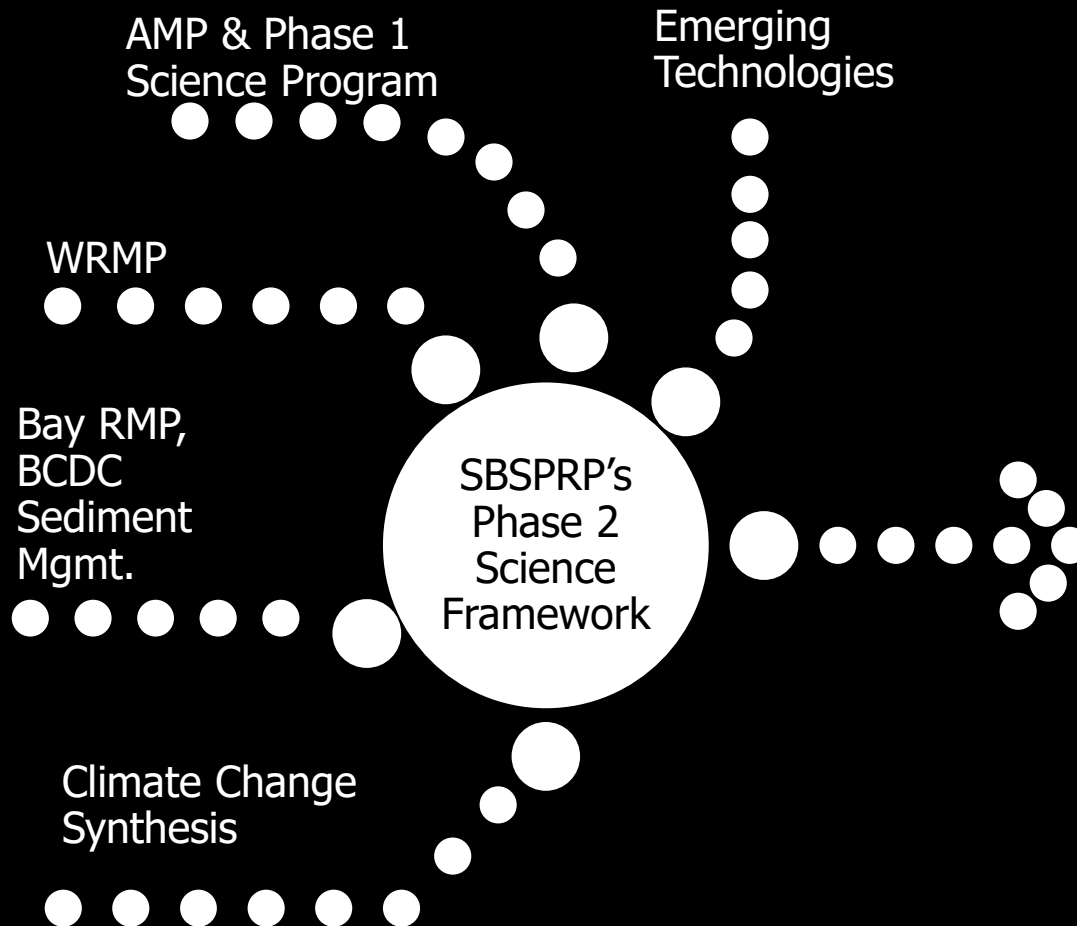
Kite aerial photographs of a small channel in the northeast corner following the 2006 breach to tidal flow. Field of view is ~ 120 feet. . C. Benton

Integrating Our Past and Future Monitoring State of the Estuary Conference

Overview

- **Link two parts of this session**
- **SBSPRP → case study of programs**
 - **How we can benefit**
 - **What we can contribute**
- **How to use this integration in Phase 2 Science**
- **Preview emerging technology talks**

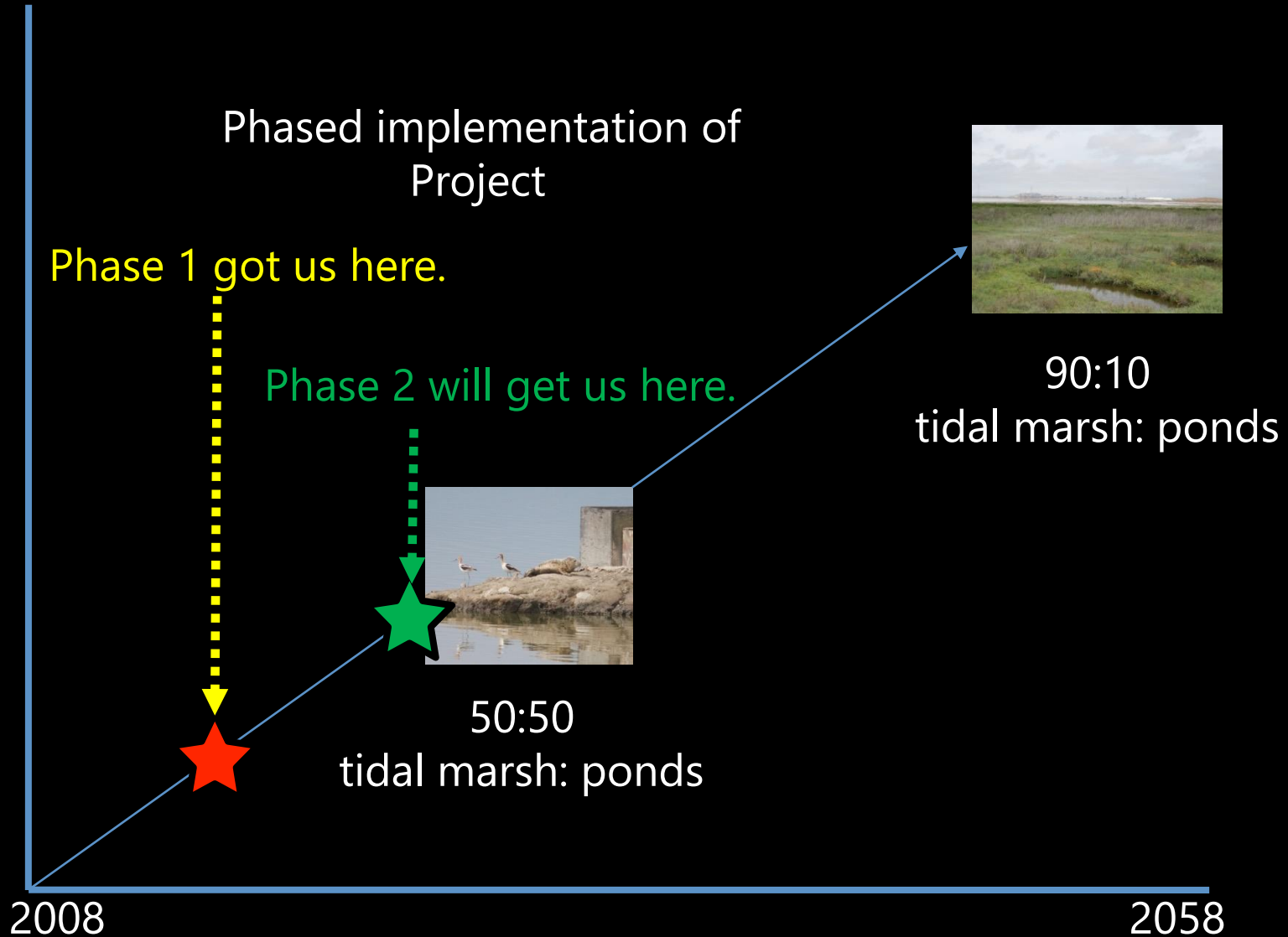
The Concept



OUTCOMES:

1. Successful Phase 2 Science Plan and AMP
2. Benefits to Other Programs
3. Better Restoration Outcomes

AMP & Science Plans




25 Biological Impacts

- Only 5 are special-status species
- Also have bird guilds
- Invasive plant species
- Migrating native fish
- Public access impacts on the biota

Monitoring Needs > Capacity


Western Snowy Plovers

Scientific Questions	Score
Will managed ponds provide breeding habitat to support sustainable densities of snowy plovers ?	





Migratory Waterbirds



Scientific Questions	Score
<ul style="list-style-type: none">• Are the numbers of diving ducks, ruddy ducks, and foraging and roosting habitat for migratory shorebirds maintained?• Will reconfigured and managed ponds significantly increase the prey base for, and pond use by waterbirds?	



Nesting Birds

Scientific Questions	Score
To what extent will the creation of large isolated pond islands maintain numbers and reproductive success of terns, avocet and stilts ?	
<ul style="list-style-type: none">• Will California gulls adversely affect nesting birds in managed ponds?• Is the number of California least terns maintained?	

- **Lost islands to tidal marsh; Phase 1 islands not widely used**
- **Social attraction successful only for some species**
- **Gulls & corvids remain serious predators**



Sediment & Marshes

Scientific Question	Score
Is current vegetated marsh maintained or increased?	
Will sediment accretion rate in restored tidal areas be adequate to create and support emergent tidal habitat ecosystems within the projected 50-year timeframe?	

New vegetation in Pond A19

(photo from Invasive Spartina Project)



Opportunities for Synergy



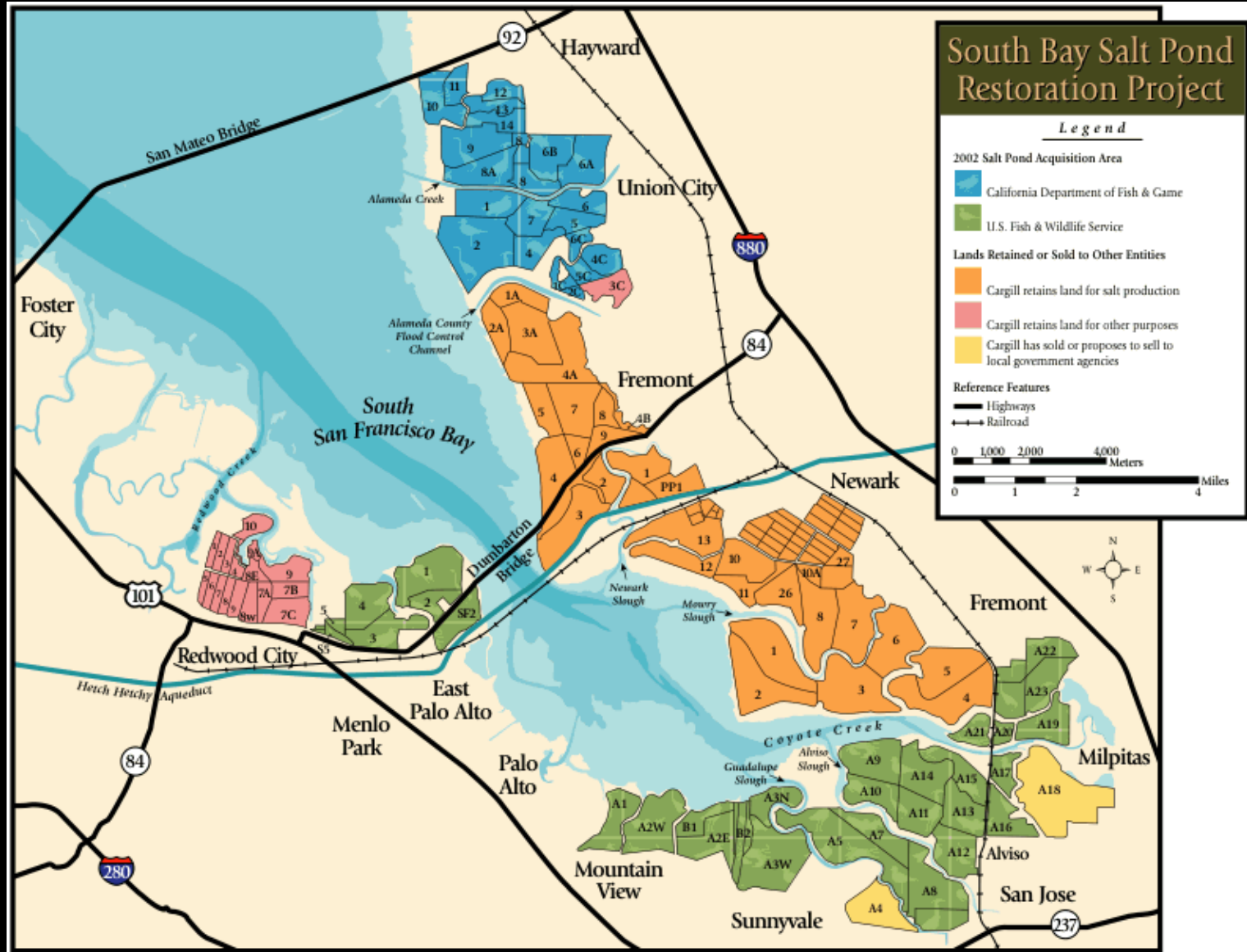
WRMP

- **Why WRMP?**
 - **No long-term wetland monitoring**
 - **No comprehensive coordinated monitoring**
 - **Monitoring tidal wetlands can be burdensome**
 - **Support regional objectives for wetlands**
- **Guiding Questions are 100% relevant to us**

Contributing to WRMP

- **Case study / pilot projects**
- **We have benchmark, reference, and project sites**
- **Spatially distributed marshes & ponds**
- **Long record of accretion rates**
- **Weigh in on methods and approaches**

Project Sites





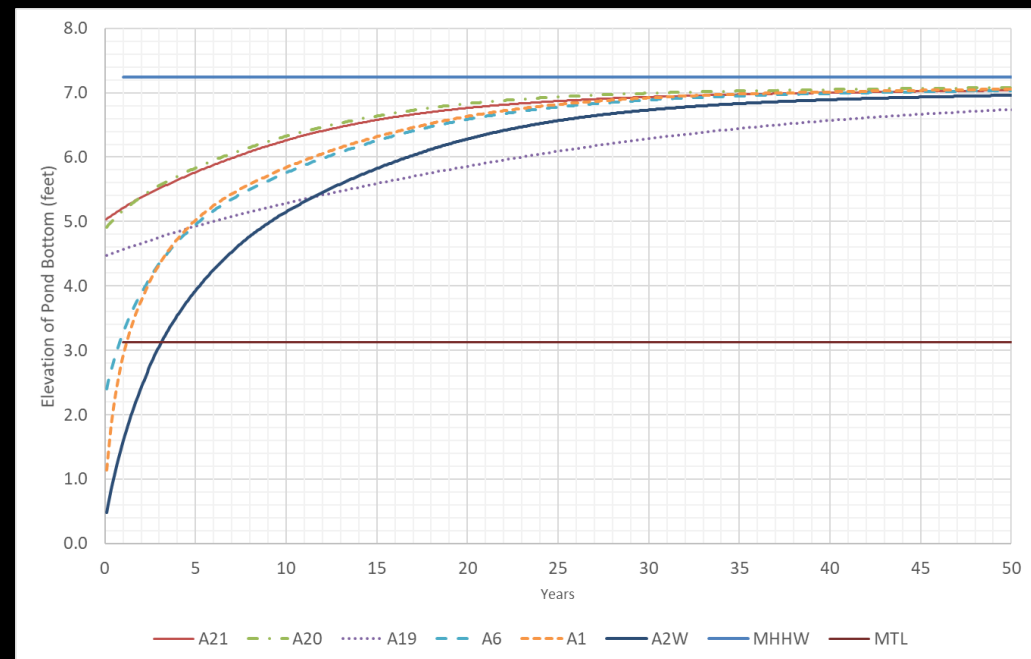
**Mature marsh at
Greco Island**

**Soon-to-be restored
marsh at
Ravenswood Pond R4**



Regional Sediment Monitoring

- Bay RMP, BCDC Sediment Program
- We have similar needs and opportunities
- Beneficial reuse of dredge material
- Strategic placement opportunities
- Pilot project sites

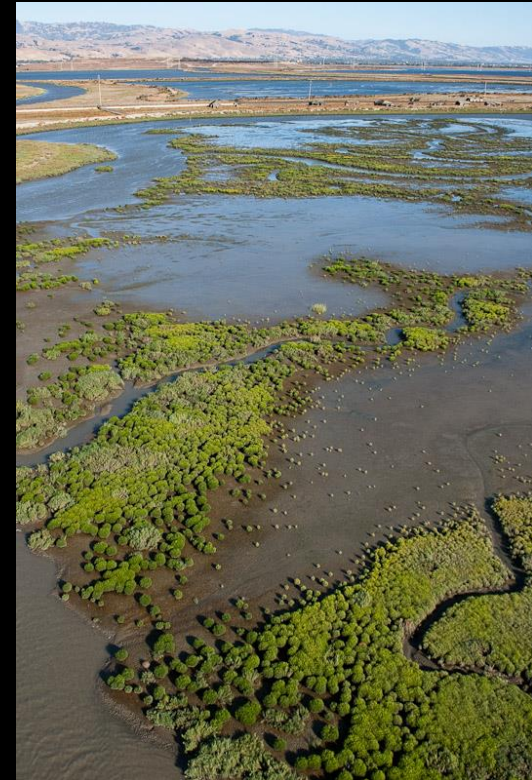


Opportunities for Integration



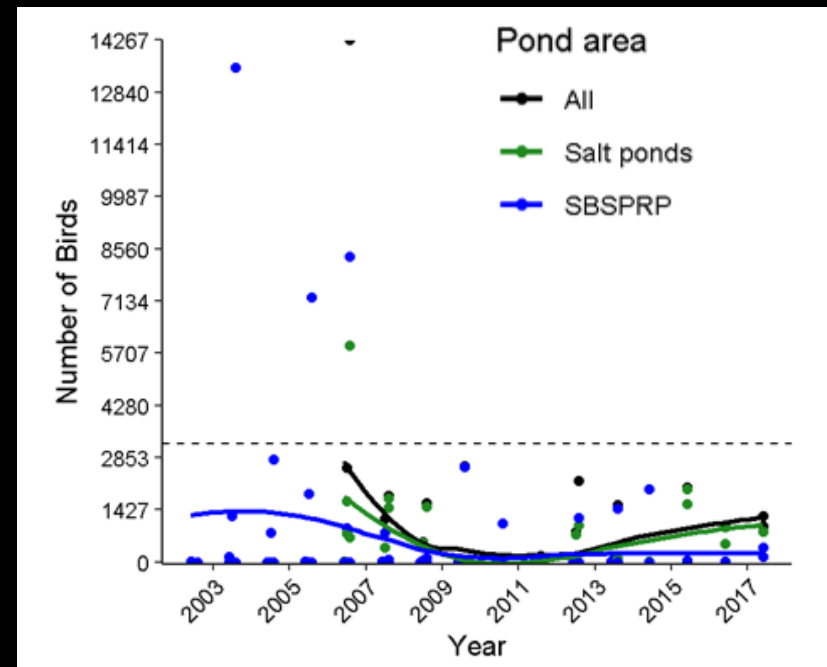
Example – Sediment & Marsh Restoration

- **Will sediment supplies be adequate?**
- **Old approach & assumptions may not hold**
- **A complete answer needs:**
 - **Regional monitoring**
 - **Sediment dynamics**
 - **Climate changes / SLR**
 - **Collaborative, novel approaches**
 - **Beneficial reuse**
 - **Strategic placement**



Example - Wildlife Response

- **SBSP monitors phalaropes as part of a guild**
- **Initially decreasing counts expected**
- **Has decline continued? Or using new ponds?**
- **Need broader look at entire South Bay**
- **Survey timing is critical**



How Can We Solve?

- **Collaborate w/ these efforts PLUS others**
- **Seek to augment funding for collaboration**
- **“Sandbox” for multidisciplinary studies in same spot(s)**
- **Expanded HEMP idea**
 - **Simultaneous field and remote data collection**
- **Cost share to enable larger, regional studies**
- **Emerging technologies (*coming up!*)**

Phase 2 Science Framework

- **Point Blue's current work**
- **Start with 'musts'**
 - **Permits & AMP triggers**
- **Select applied studies and other analyses**
- **Inform path up 'Restoration Staircase'**
- **Assess available vs needed funding**
- **Build bridges with regional monitoring programs**
- **Finalize and implement our Phase 2 plan!**

Thank You!

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