



**Approach to the EIS/R  
and  
Comparison of Alternatives**

Stakeholder Forum Workshop  
October 21, 2005



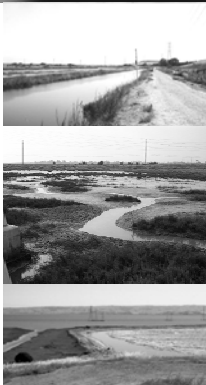
**Objectives for the Day**

- Understand the Approach to the Alternatives Development and Evaluation in the EIS/R
- Review the Revised Restoration Alternatives
- Understand How the No Action and Restoration Alternatives Respond to the Project's Objectives and Evaluation Criteria
- Understand the Role of Adaptive Management
- Review the Phase 1 Actions
- Achieve Consensus on the Above Approach




**Key Questions for Discussion**

- Do You Support the Role of Adaptive Management in Alternatives Development and the EIS/R?
- Do You Support the Range of Alternatives?
- Do You Support the Phase 1 Actions?





**Agenda**

9:00 – 9:10	Introduction and Objectives	Steve Ritchie
9:10 – 9:15	Public Comment	Steve Ritchie
9:10 – 9:30	Overview of Approach	David Blau
9:30 – 9:40	Alternatives A, B, and C – How they have changed	Michelle Orr
9:40 – 10:00	Feedback on Approach	Mary Selkirk

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### Agenda (continued)

10:00 – 10:45	Technical Ratings and Comparison of Alternatives	David Blau
10:45 – 11:00	Break	
11:00 – 11:15	ISP Update	Mendel Stewart and John Krause
11:15 – 11:45	Adaptive Management Approach	Kris May

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### Agenda (continued)

11:45 – 12:15	Phase 1 Actions	Steve Ritchie
12:15 – 12:45	Returning to the Key Questions	Mary Selkirk
12:45 – 1:00	Next Steps	Steve Ritchie

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### Overview of Approach


- Programmatic EIS/R Covering the 50-year Long-Range Plan
- Project-Level EIS/R Addressing Phase 1 Actions
- Subsequent EIS/R Supplements will be Prepared for Future Phases
- Satisfies both NEPA and CEQA requirements

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### Program Alternatives

- EIS/R Will Explore a Range of Alternatives that Respond to the Program Objectives
- Each Alternative Could Represent a Potential “End-State” at Year 50
- End-states will be analyzed as “bookends”
- Optimum configuration could be a solution somewhere in between the bookends

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### Landscape Scale Assessment

- Confirm the bookends are achievable with respect to sediment availability and bird use
- Answer the questions:
  - Is there enough sediment to restore tidal marsh in the ponds?
  - What are the effects on birds that historically used the salt ponds?
  - How well does the restoration meet the ecological objectives compared to No Action?


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### Overview of the Alternatives Development and EIS/R Approach




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### Assessment Update

- We believe there is enough sediment to restore tidal marsh within the 50-year planning horizon – the bookends are achievable
- Revised assessment, along with project phasing and adaptive management, will provide insight into the fate of South Bay mudflats
- Revised assessment will feed into impact assessment under the EIS/R


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### Program Alternatives A, B, and C

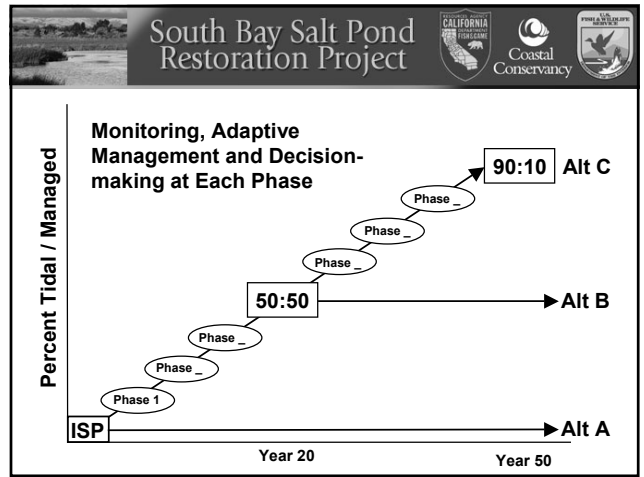
- Alternative A = No Action
- Alternative B = Managed Pond Emphasis (50:50 Tidal Habitat : Managed Ponds)
- Alternative C = Tidal Emphasis (90:10 Tidal Habitat : Managed Ponds)

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### Alternatives Approach

- Alternative B
  - 50:50 ratio is assumed to be achieved in Year 20 and evolution continues from Year 20 through Year 50
- Alternative C
  - 50:50 ratio is assumed to be achieved in Year 20, but evolves through future phases to 90:10 by Year 50




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### Adaptive Management in the EIS/R

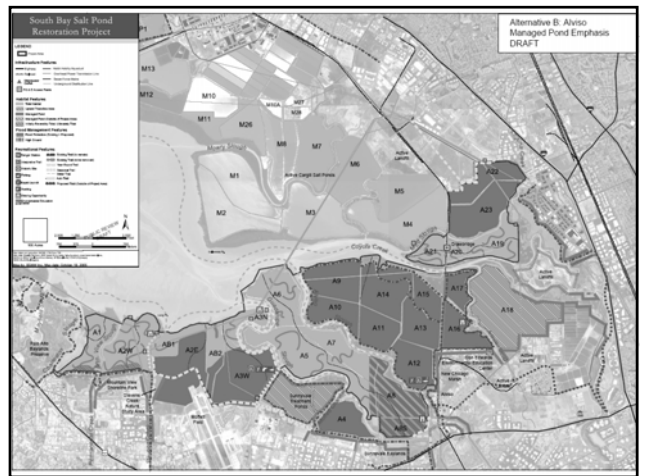
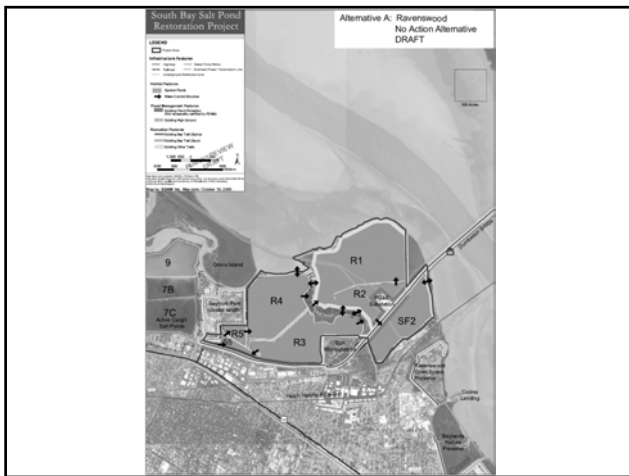
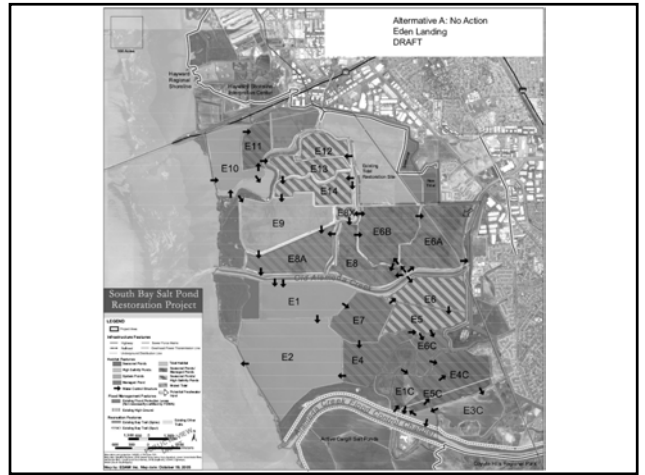
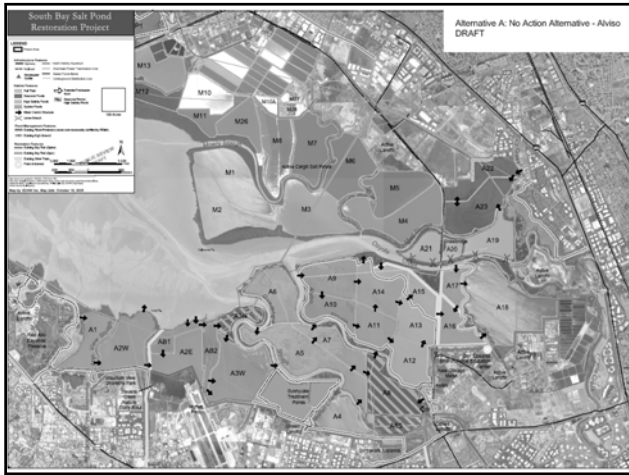
- Restoration Targets for Each Project Objective
- Monitoring to Clearly Assess Progress Towards Restoration Targets
- Generation of Data to Reduce Uncertainties
- Identification of Unexpected Outcomes
- Provision of Information in a Timely Manner

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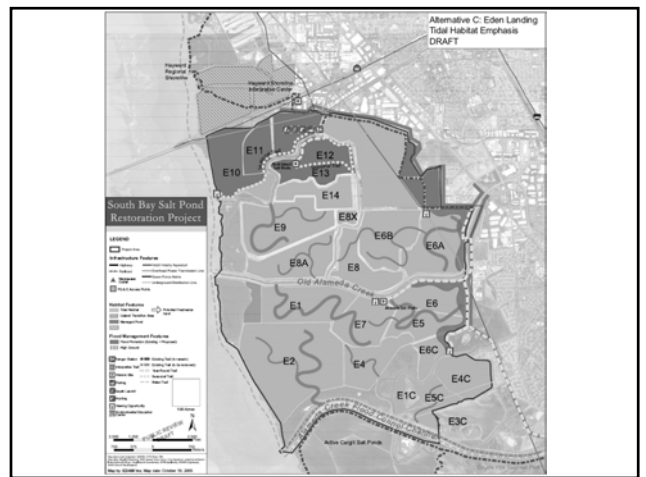
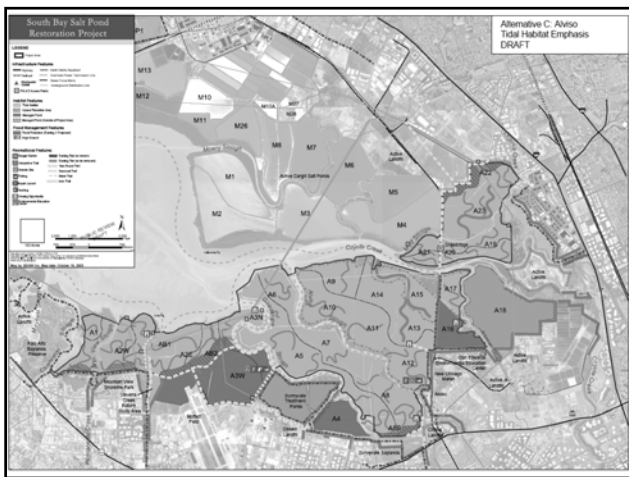
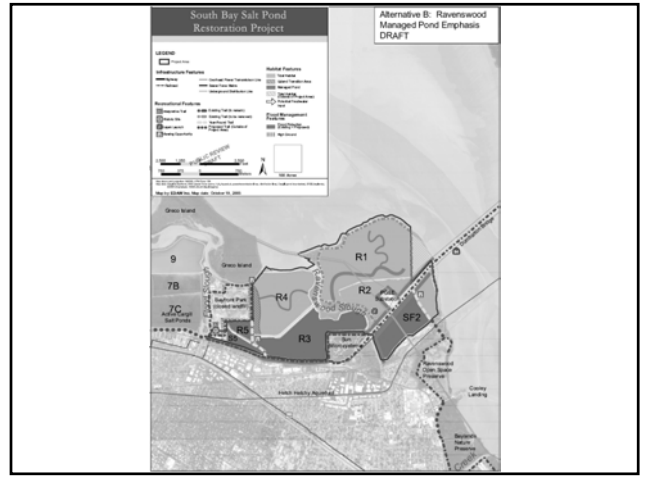
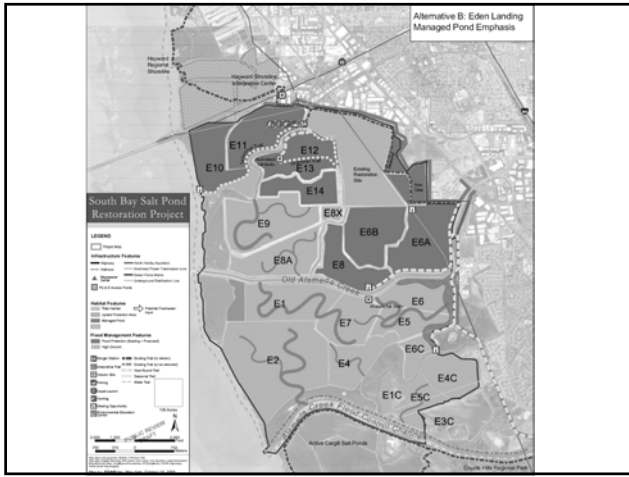


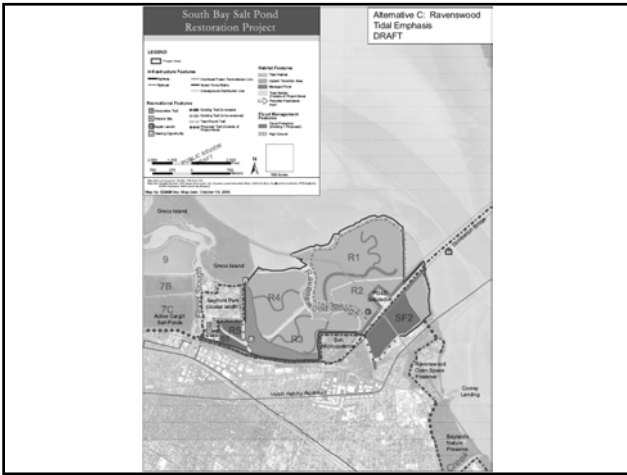
### Alternatives A, B and C: How They Have Changed

# Approach to the EIS/R and Comparison of Alternatives 10/21/2005



# Approach to the EIS/R and Comparison of Alternatives 10/21/2005





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### Feedback on Overall Approach

- Do You Support the Role of Adaptive Management in Alternatives Development and the EIS/R?

The slide features a header with logos and a landscape image. The main content is a question about adaptive management. On the right, there are three small photographs: a bird in a pond, two birds on a flat surface, and a path through a field.

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### Response to Evaluation Criteria and Comparison of Alternatives

The slide features a header with logos and a landscape image. The main content is a question about evaluation criteria. On the right, there are three small photographs: a duck, a fish, and a seal.


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### Intent of the Technical Ratings

- Early Comparison of Alternatives
- Reveals Uncertainties that can Guide Adaptive Management Experiments and Monitoring Efforts
- Provides Insight into Impact Analysis for the EIS/R
- Confirms that the Bookends are Appropriate


The slide features a header with logos and a landscape image. The main content is a list of four points regarding the intent of technical ratings.

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### Refinement of Evaluation Criteria

- Flexible Tool to be Refined as Applied
- Reduced 47 Criteria to 26
  - Some Combined
  - Some Split
  - Some Not applied
  - Some Deferred




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### Rating Alternatives using Evaluation Criteria

- Year 0 (2004) of the ISP is the Baseline for All Evaluations
- Each of the Alternatives is Evaluated at the Landscape Scale at Year 50


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### Rating Alternatives using Evaluation Criteria

- Ratings use a 9-point scale, 9 = high response, 1 = low response
- Baseline (2004 ISP) Conditions are a 5, Except Baseline for Tidal-Marsh-Dependent Endangered and Special-Status Species is a 1


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### Uncertainty

- Ratings with the Greatest Uncertainty at Year 50:
  - Sediment (as an indicator of habitat)
  - Bird Use
  - Mercury
  - Invasive and Nuisance Species






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### Biological Habitat Criteria

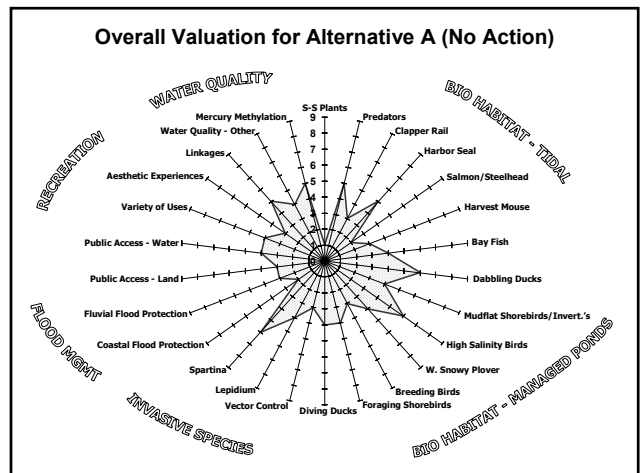
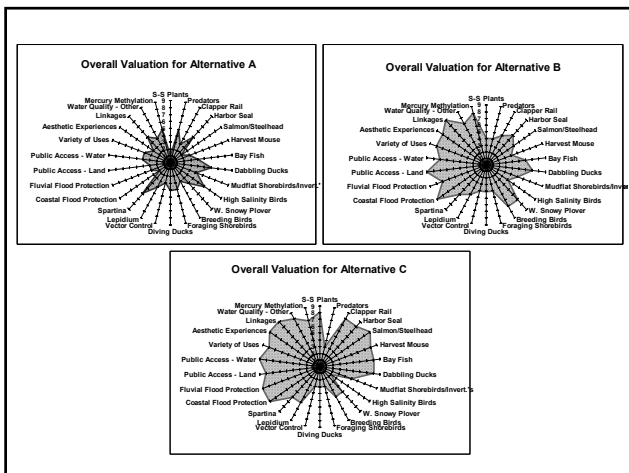
**Objective 1. Create, restore, or enhance habitats of sufficient size, function, and appropriate structure to:**

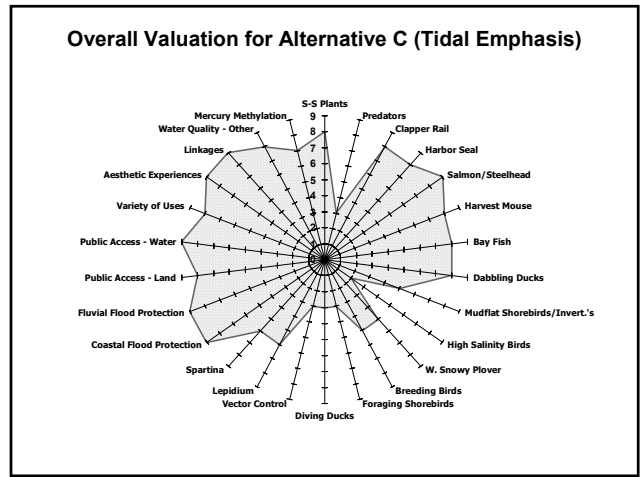
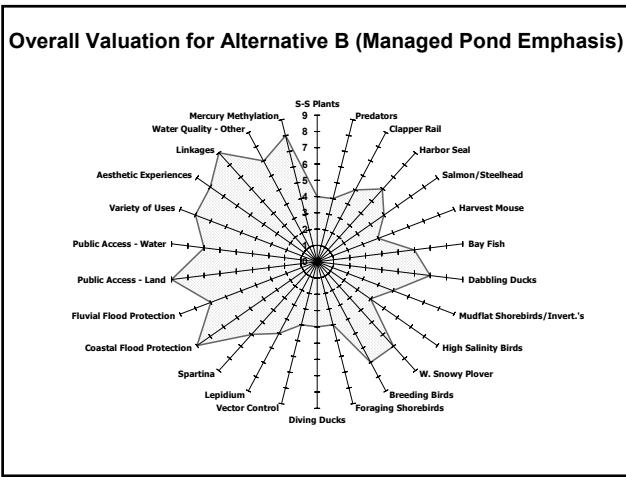
Objective 1A. Promote restoration of native special-status plants and animals that depend on South San Francisco Bay habitat for all or part of their life cycles.



Evaluation Criteria 1A-1	Response to Criteria		
	Alt A	Alt B	Alt C
Contribute to the recovery of the South Bay subspecies of the salt marsh harvest mouse	<b>3</b>	<b>4</b>	<b>8</b>

All Alternatives Evaluated at Year 50  
Baseline 2004 Conditions = 1






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## Initial Stewardship Plan Update

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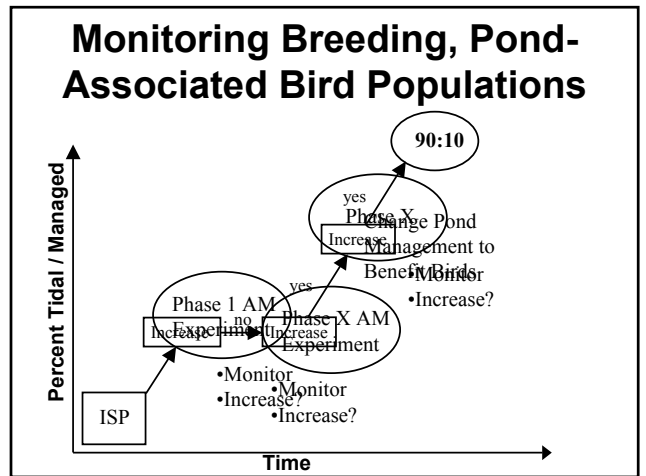
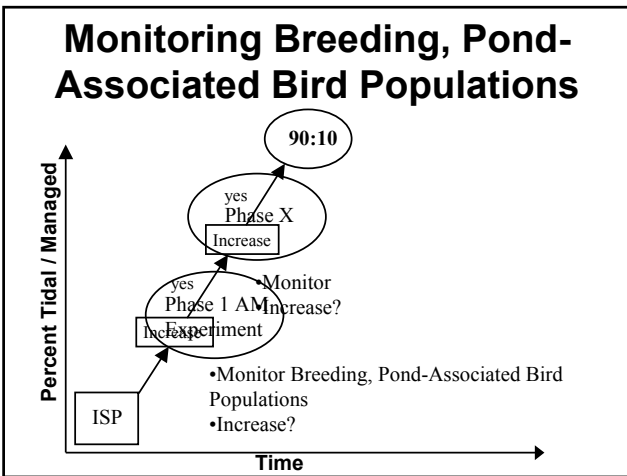
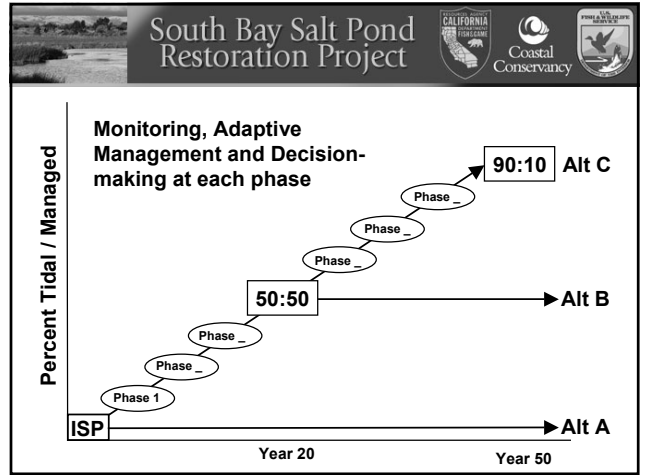
## Adaptive Management Approach

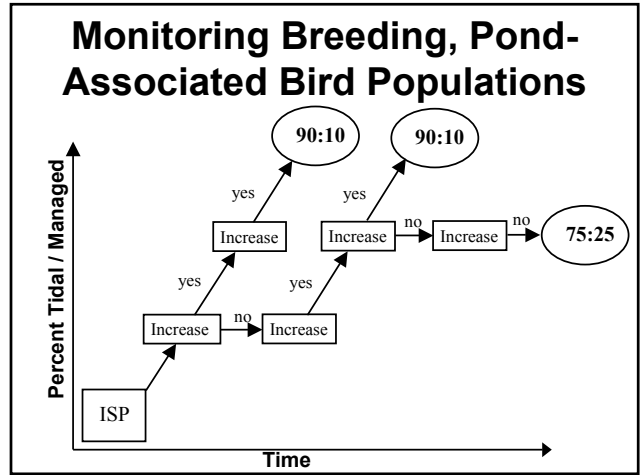
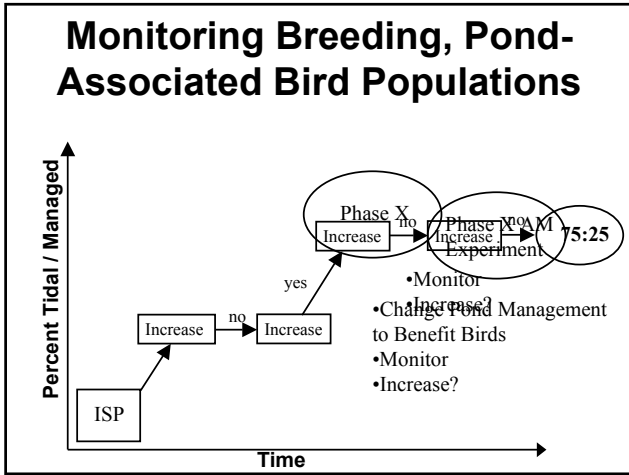
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### What is Adaptive Management?

- Establishing Clear Management Goals and Decision Making Structure
- Setting Restoration Targets for Each Project Objective and/or Evaluation Criteria
- Monitoring to Clearly Assess Progress Towards Restoration Targets
- Generation of Data to Reduce Uncertainties
- Identification of Unexpected Outcomes








## Potential Phase 1 Experiment

- Reconfiguration of Ponds E12 and E13
- Manage water levels only Ponds E10 and E11

## Uncertainty & Hypothesis

- **Key uncertainty:** Can the South Bay support existing numbers of breeding, pond-associated birds if isolated islands are created in reconfigured ponds?
- **Hypothesis:** Creating isolated islands for nesting and roosting will increase bird density within managed ponds to a level that will allow current breeding populations of pond-associated birds to be maintained within the South Bay




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### Adaptive Management Experiment

- Subdivide Ponds E12 and E13 into multiple cells
- Construct isolated islands in “experimental” cells
- Maintain similar water levels and salinity in “experimental” and control cells
- Measure breeding bird density
- Assess what size, shape and configuration of islands provide the most nesting and roosting opportunities for the species in question

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### Future Management Actions

- If hypothesis is *confirmed*: Continue along restoration trajectory (and incorporate isolated islands in managed ponds as appropriate during future phases)
- If hypothesis is *refuted*: Open the toolbox
  - Experiment with island shape, size and configurations
  - Look for confounding effect of predation, water quality, etc. to determine if observed effects are due to other factors
  - Maintain existing ponds




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### Phase 1 Actions




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### Determining Phase 1 Actions

- Final Alternatives will include a set of Phase 1 actions
- Will include restoration actions as well as applied studies
- What will be in Phase 1?




### Phase 1 Selection Criteria

- **Available funding**
  - What is the amount of funding needed to carry out the action?
  - Is that funding likely to be available?
  - Who will be providing it?
- **Likelihood of success**
  - Will the action produce the desired result?
  - Will the action be likely to demonstrate progress toward achieving the Project Objectives?




### Phase 1 Selection Criteria - Continued

- **Ease of implementation**
  - Will it be permitted in a timely manner?
  - Can construction commence in a timely manner?
- **Visibility and accessibility**
  - Will the results be visible and accessible to the public?
  - Will the results be visible and accessible to decision makers?



### Phase 1 Selection Criteria - Continued

- **Opportunities for adaptive management and applied studies**
  - Can we implement high priority studies to answer key questions identified in the Science Plan for Long-Term Planning and the Charette Report?
  - In particular managed ponds are important to test
- **Value in building support for Project**
  - Do the Phase 1 actions need to be distributed throughout the Project Area?



### Phase 1 Selection Criteria - Continued

- **Certainty of investment**
  - Is there risk that the investment in capital facilities will be lost due to adaptive management changes in subsequent years?



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**Returning to the Key Questions**

The slide features a header with the project name and logos for the California Department of Water Resources, Coastal Conservancy, and the State Water Resources Control Board. The main content is the text "Returning to the Key Questions". On the right side, there are three small, vertically stacked images showing different views of salt pond restoration sites, including a large pond, a smaller pond with a structure, and a wide view of a pond.

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**Key Questions for Discussion**

- Do You Support the Role of Adaptive Management in Alternatives Development and the EIS/R?
- Do You Support the Range of Alternatives?
- Do You Support the Phase 1 Actions?

The slide features a header with the project name and logos for the California Department of Water Resources, Coastal Conservancy, and the State Water Resources Control Board. The main content is the text "Key Questions for Discussion" followed by three bullet points. On the right side, there are three small, vertically stacked images showing different views of salt pond restoration sites, including a long channel, a winding channel, and a wide view of a pond.

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**Next Steps**

The slide features a header with the project name and logos for the California Department of Water Resources, Coastal Conservancy, and the State Water Resources Control Board. The main content is the text "Next Steps". On the right side, there are three small, vertically stacked images showing different views of salt pond restoration sites, including a large pond, a smaller pond with a structure, and a wide view of a pond.

