



**Island Ponds Work Group  
March 22, 2005 Meeting**

**I. Background:** The meeting was held to discuss the adaptive management considerations for the Island Ponds (A19, 20, 21), which are scheduled for breaching pursuant to the Initial Stewardship Plan next year. The meeting had two main objectives:

1. Develop common understanding of what is necessary for breaching.
2. Identify what should be studied as part of adaptive management process to help inform future restoration phases.

**II. Working Group Organization:** The Project Management Team convened the meeting and the following individuals participated:

Ann Draper, SCVWD	Neal Van Keuren, City of San Jose
Beth Dyer, SCVWD	Paul Amato, RWQCB
Clyde Morris, USFWS	Ron Duke, HT Harvey & Associates
Dan Bruinsma, City of San Jose	Steve Ritchie, SBSPRP
George Trevino, AWTF	Teri Peterson, Cargill
Jenn Feinberg, BCDC	Tom Laine, AWTF
John Bradley, USFWS	Lynne Trulio, Lead Scientist
Kate Schafer, Aquamarine Research	
Kirsten Struve, City of San Jose	
Luisa Valiela, EPA	
Michelle Orr, PWA	

**III. Key Outcomes:** Clyde Morris (USFWS) and Beth Dyer (SCVWD) provided brief overview of the plan and time frame for breaching of the Island Ponds and then Steve Ritchie (SBSP) asked for input on what are the issues that best lend themselves to adaptive management? The comments and questions raised are provided below.

**General Comments / Questions**

Breach Location and Potential Impacts

- Why no breaches along Mud Slough side of ponds?
- What are the potential impacts resulting from additional breaches at various locations around the ponds?
- What are the results of adding/moving breach locations?
- What is the optimal width of breaches?
- Would varying breach widths alter sedimentation rates?
- What is timing/sequencing of breaches?
- Should levees be “shaved” down in addition to breaches? What would lowering levee heights teach us?

### Gypsum Related

- Working assumption is that gypsum exists and will not dissolve when water is introduced.
- Need to know how much gypsum exists in all ponds and whether or not gypsum dissolves in water over time.
- Can the gypsum be harvested and sold?
- What exactly is gypsum?
- When ponds are mostly drained, analysis will be undertaken to better understand the state and extent of the existing gypsum (e.g., thickness, hardness, etc)

### Vegetation Related

- What types of vegetation are anticipated to colonize in the ponds?
- What types of vegetation will colonize upstream of breach?

### Sedimentation/Hydrodynamics Related

- How and to what extent is sediment accretion anticipated to occur in ponds and in the creeks surrounding the ponds?
- Are the borrow ditch blocks included in the ISP?
- Will there be reduction in siltation of Warm Springs Creek by adding breaches to the north of the ponds? (Carl Wilcox – “no”)
- Need to study salinity regime over time after breach to understand what the effects of rain/drought are over time.
- What flood control and water conveyance changes will result from breaches? (Improvements to Coyote Creek scouring are likely)
- What happens with dirt removed from breach locations? Can the dirt be used to create the borrow ditch blocks?
- What remnant channel structure exists in the ponds? Is there adequate structure to allow for sufficient movement of water through ponds?
- Cooley Landing restoration project used channel blocks and this project may serve as an example.
- Will the ponds become dry before breaching? (no, not entirely dry)
- What are the sedimentation rates for each pond?
- How confident are we that sediment will come into ponds quickly enough to allow vegetation to grow?
- What are fluvial effects of lowering levees?

### Habitat Related

- Will anadromous fish potentially be trapped if borrow ditches are blocked?
- Need to consider mosquito breeding when designing drainage structure through ponds.
- EPA would like to see quicker vegetation within ponds to meet SCVWD mitigation commitments. This might require disruption of gypsum to allow for faster vegetation colonization.
- Where exactly and in which pond will the SCVWD mitigation be placed? (undecided as of yet)
- Amount of vegetation anticipated to grow in ponds far exceeds SCVWD mitigation requirements.
- HT Harvey report modeled pond operations without the use of borrow ditch blocks.
- What changes in habitat values may result if levees are lowered? (depending on available funds, test could be done to provide insight into which vegetations colonize at various elevations).

- What are impacts to nesting birds and mice if levees are lowered?
- What types of vegetation grow in gypsum?
- Concern regarding amount of fresh water being released into ponds. (Water salinity level is likely to decrease upstream of breach location)

### **Suggestions for Adaptive Management Experiments**

- Establish areas with disrupted gypsum and some areas with unbroken gypsum to better understand through what thickness gypsum vegetation can easily grow.
- Vary breach widths and study resulting hydrodynamics.
- Vary levee height and study types of resulting vegetations and impacts to birds/mammals.
- Aerial photos should be taken periodically to help monitor changes and restoration progress.
- Monitor depths of Coyote Creek to better understand sediment accretion rates and whether or not additional breaches are desirable.
- Need to understand how gypsum thickness affects vegetation establishment.
- Will tidal marsh habitat increase level/rate of mercury methylation?
- Bio-monitoring should be undertaken using mussels to understand whether or not mercury levels are changing in the food chain.
- Need to look at water quality impacts from composition of sediments. Sediments at railroad crossing show PCBs and pesticides/fertilizers. Shrimp populations have drastically decreased over the years at the railroad crossing.
- Sediment cores along Coyote Creek may reveal better understanding of sediment composition.
- Baseline data needed on fish populations in south bay.
- Mammals (mice), fish, birds, and benthic macro-invertebrate communities need to be tracked prior to breaching.
- Monitor sediment levels coming down streams – what is making it to the bay?
- Water quality needs to be monitored at multiple sites in project area.

**IV. Next Steps:** The Project Management Team will use the input generated at the meeting to further refine the proposed adaptive management actions and will report on the progress at the next Stakeholder Forum meeting.