Answers to questions posed by the Delta ISB

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August 2012

As part of its ongoing review of science programs supporting adaptive management of the Delta, the Delta Independent Science Board is focusing on programs and projects that involve habitat restoration and how these efforts may be affected by current and future changes in the Delta, especially those associated with climate change. We seek information with respect to several general areas:

1. Current and planned restoration efforts

- What are the current and planned habitat restoration efforts in which you (your management agency, research team, etc.) are involved?
  DWR has purchased and is planning restoration of 1178 acres in Oakley—the Dutch Slough Tidal Marsh Restoration. Current grazing land will be restored to tidal marsh, riparian forest and transitional uplands. Permits have been applied for and we expect to begin construction in 2013.
- How do past restoration efforts and scientific research inform these actions?
  Our design consultant, ESA PWA, has been involved in many Bay and Delta restorations, and Michelle Orr, one of the principals, has published many scientific articles on restoration. Therefore, state-of-the-art science has been utilized throughout design.
- How are these efforts likely to be affected by climate change, sea-level rise, or other environmental drivers? (i.e. are current and planned activities likely to be effective in 10-80 years, given the projections for environmental change?)
  The Dutch Slough planning horizon is 50 years, and we expect the restored marshes to keep up with sea level rise during this time period. If projected rates rise after 50 years, as predicted, we think the marshes may drown. We have planned the levees with wide footprints so that they may be raised when necessary to protect adjacent urban areas.
- How are modeling, monitoring, and adaptive management incorporated into current and planned habitat restoration efforts, and are these designed to facilitate adaptation to climate change?
  Once the site is restored, there are few “adaptive management” actions that can be done, except through a lengthy permit process. Therefore the Dutch Slough project is not designed to allow for on the ground changes to accommodate climate change, except that the exterior levees can be enlarged and raised.

2. Collaboration, communication, and synthesis

- How are your habitat restoration activities shared or coordinated with other public agencies, universities, and private organizations?

Primarily through a Technical Advisory Team, and presentations at conferences. Also through one-on-one meetings with adjacent landowners and affected entities.

- How are the potential effects of climate change being incorporated into collaborative efforts?
  Primarily through levee design.
- How are the results of collaborative work used to inform adaptive management and decision-making?
  Many design changes have come about through collaboration with other entities and via scientific input during Technical Advisory Team meetings.
- How is key information (monitoring data, field observations, research results, the status of restoration efforts, etc.) communicated among the collaborators, to multiple stakeholder groups, and to the general public?
  Conferences, meetings, personal communications, press releases.

3. Policy and decisions

- How are priorities established about what to restore, where, and when?
- How are models or decision-support tools used to set priorities?
- What policies drive or constrain the restoration work?
- Are current policies or decision processes appropriate for habitat restoration in a rapidly changing environment? If not, what policies or processes are needed?