RESPONSES TO COMMENTS ON DRAFT EIS/R

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1. INTRODUCTION

1.1 Purpose of the Response to Comments Document

This Response to Comments document responds to comments received on the South Bay Salt Pond (SBSP) Restoration Project Phase 2 Draft Environmental Impact Statement/Report (EIS/R). The Draft EIS/R identified the environmental consequences associated with the implementation of the SBSP Restoration Project Phase 2 actions, as well as mitigation measures to reduce significant and potentially significant impacts. As a result of comments received, the Draft EIS/R has been revised. The revised Draft EIS/R, together with this Response to Comments document, constitutes the Final EIS/R for the proposed SBSP Restoration Project Phase 2.

The Final EIS/R is an informational document prepared by the lead agencies that must be considered by decision-makers before approving or denying a proposed project.

Sec. 1502.9(b) of the CEQ Regulations for Implementing NEPA states:

> Final environmental impact statements shall respond to comments as required in Part 1503 of this chapter. The agency shall discuss at appropriate points in the final statement any responsible opposing view which was not adequately discussed in the draft statement and shall indicate the agency's response to the issues raised.

CEQA Guidelines (Section 15132) specify that a Final EIR shall consist of:

> (a) The Draft EIR or a revision of the draft.
>
> (b) Comments and recommendations received on the Draft EIR either verbatim or in summary.
>
> (c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
>
> (d) The response of the lead agency to significant environmental points raised in the review and consultation process.
>
> (e) Any other information added by the lead agency.

1.2 Environmental Review Process

On July 24, 2015, the lead agencies (US Fish and Wildlife Service and California State Coastal Conservancy) released the SBSP Restoration Project Phase 2 Draft EIS/R for public review (State Clearinghouse No. 2013092010). The public review and comment period on the Draft EIS/R began on July 24, 2015 and closed on October 30, 2015.

The lead agencies provided a Notice of Availability notifying the public of the publication of the Draft EIS/R. This notice was mailed to the individuals and organizations that have been involved in the SBSP Restoration Project planning effort as well as those who previously requested such notice in writing. The notice and the Draft EIS/R were also posted on the Project website (www.southbayrestoration.org).

The 60-day public comment period was extended to a total of 98 days. During that time, one public meeting was held to discuss the proposed Project and receive comments on the Draft EIS/R. The meeting

was held at the Mountain View Community Center on August 4, 2015. The date, time, and place of the meeting were identified in the publicly-circulated Notice of Availability of the Draft EIS/R.

1.3 Report Organization

Chapter 2 of this Response to Comments document contains copies of comments received during the comment period followed by the lead agencies' responses to those comments. Master Comment Responses (MCRs) that address multiple comments with similar concerns are provided below, in Section 2.1. Each comment in a comment letter was assigned a number, in sequential order (note that some letters may have more than one comment). The numbers were then combined with an abbreviation for affiliation type as well as an abbreviation for each commenting entity. These alphanumeric codes are indicated in the margin of each comment letter. Responses to the comments follow the comment letter, and are also coded to correspond to the comment codes assigned in the letter.

A number of comments that were received addressed similar concerns. Responses to these comments were consolidated into MCRs. Ten MCRs were prepared in response to these common issues/concerns. These master responses cover the following topics:

- Charleston Slough Restoration to Tidal Marsh, as in Alternative Mountain View C
- Refuge Management Activities versus SBSP Restoration Project Impacts
- Long-Term (i.e., Beyond Phase 2) Restoration Planning/Relationship to Shoreline Study
- Inclusion of Bayfront Canal and Atherton Channel Project
- Update of the AMP
- Statement of` the Preferred Alternative
- Impacts, Thresholds of Significance, and Management Triggers
- Scope of the EIS/R (includes Ponds Selected for Phase 2 and Alternatives Considered)
- Public Access and Impacts to Wildlife
- Impacts of Sea Level Rise

Where a response includes a change to the text of the Draft EIS/R, the text has been revised in the Final EIS/R. The responses to comments note where in the revised text of the Final EIS/R the relevant changes have been made.

Table 1 below lists all persons and organizations that submitted comments on the Draft EIS/R during the comment period, the date of the letters, and the code used to identify each letter.

Table 1 Persons and Organizations that Submitted Comments on the Draft EIS/R

COMMENTER	AFFILIATION	CODE	DATE
FEDERAL AND STATE AGENCIES			
Eshoo, Anna	Congress of the United States	F-C1	9/18/2015
Eshoo, Anna	Congress of the United States	F-C2	9/18/2015
Goforth, Kathleen	Environmental Protection Agency	F-EPA	10/29/2015
Sulouff, David	US Coast Guard 11th District	F-USCG	11/24/2015
Torres, Naomi	United States Department of the Interior	F-USDI	10/22/2015
Oggins, Cy R	California State Lands Commission	S-CSLC	9/3/2015
REGIONAL AND LOCAL AGENCIES			
Gee, Jeffrey	City of Redwood City	L-CRC	9/4/2015
Goeden, Brenda	San Francisco Bay Conservation and Development Commission	L-BCDC	11/2/2015
Haya, Ahmad	City of Redwood City	L-CRC2	10/27/2015
Keene, James	City of Palo Alto	L-CPA	10/30/2015
Materman, Len	San Francisquito Creek Joint Powers Authority	L-SFCJPA	11/2/2015
McAlister, John	City of Mountain View	L-CMV	9/9/2015
Monowitz, Steve	County of San Mateo	L-CSM	9/22/2015
Nguyen, Ngoc	Santa Clara Valley Water District	L-SCVWD	10/30/2015
Thompson, Laura	San Francisco Bay Trail	L-SFBT	10/23/2015
Wines, Brian	San Francisco Bay Regional Water Quality Control Board	L-RWQCB	10/7/2015
Zsutty, Yves	City of San Jose - Trail Program	L-CSJ	7/22/2015
BUSINESSES AND ORGANIZATIONS			
Coleman, John	Bay Planning Coalition	O-BPC	9/23/2015
Dev, Gita	Sierra Club Loma Prieta Chapter	O-SC2	11/4/2015
Ferreira, Michael	Sierra Club Loma Prieta Chapter	O-SC	10/30/2015
High, Carin	Citizens Committee to Complete the Refuge	O-CCCR	9/18/2015
High, Carin	Citizens Committee to Complete the Refuge	O-CCCR2	10/30/2015
Jones, Andrea	Audubon California	O-AC	10/30/2015
Kleinhaus, Shani	Santa Clara Valley Audubon Society	O-SCVAS	10/30/2015
Mapelli, Pat	Cargill	B-C	10/30/2015
Ross-Leech, Diane	Pacific Gas & Electric Company	B-PGE	9/22/2015
Thomson, David	San Francisco Bay Bird Observatory	O-SFBBO2	10/20/2015

Table 1 Persons and Organizations that Submitted Comments on the Draft EIS/R

COMMENTER	AFFILIATION	CODE	DATE
Tokatlian, Karine	San Francisco Bay Bird Observatory	O-SFBBO	10/30/2015
Tyson, Paul	Menlo-Atherton Storage and Tyson Kennels	B-MAS	10/29/2015
INDIVIDUALS			
Baye, Peter	Consultant, on behalf of Citizens Committee to Complete the Refuge	I-PB	10/30/2015
Hobbs, James	U.C. Davis – Biologist	I-JAH	8/24/2015
Lucas, Libby	Individual / Member of the Citizens Committee to Complete the Refuge	I-LL1	9/15/2015
Lucas, Libby	Individual / Member of the Citizens Committee to Complete the Refuge	I-LL2	9/19/2015
Lucas, Libby	Individual / Member of the Citizens Committee to Complete the Refuge	I-LL3	10/27/2015
Reid, Chris and Jim	Individuals	I-JCR	9/18/2015

2. COMMENTS AND RESPONSES

2.1 Master Comment Responses (MCRs)

2.1.1 MCR #1: Charleston Slough Restoration to Tidal Marsh

The restoration of approximately half of Charleston Slough to tidal marsh is a regulatory requirement for the City of Mountain View under a permit from the San Francisco Bay Conservation and Development Commission (BCDC). It is not a decision to be made by either the City of Mountain View or the SBSP Restoration Project. The inclusion of Charleston Slough in Phase 2 of the SBSP Restoration Project (instead of as a separate project to be undertaken by the city) was initially considered because such a joint effort would reduce the financial cost, the temporary environmental impacts associated with construction, and the permanent environmental impacts of having a flood levee between two restoring marshes. It would also increase the ecological function and habitat connectivity of the two restored marshes.

However, in the public comments on the Draft EIS/R, a number of regulatory agencies expressed concern about the potential effects on steelhead and other estuarine fish under Alternative Mountain View C. At the center of this concern is the question of whether the combined elements of the initial proposal for Alternative Mountain View C in the Draft EIS/R would have an impact on these fish. The increased connectivity between Stevens Creek, Pond A1 and Pond A2W were planned to provide additional nursery habitat for outmigrating steelhead and good general use habitat for other estuarine fish. However, the relocation of the water intake for the Shoreline Park sailing lake into the breach at the southwest corner of Pond A1 has potential to entrain some of these fish.

In coordination with the National Marine Fisheries Service (NMFS), other possible configurations of the restoration components were considered to reduce or remove the risk to fish posed by the pump intake, but the SBSP Restoration Project has concluded that without a fish screen in place at the new water intake location, the effects could rise to the level of a significant impact and "take" of a species listed under the Endangered Species Act. A fish screen is likely to be a required part of this project component. However, the limited area available for the water intake would be inadequate when the intake was enlarged to offset the screen's effect on overall intake size. That technical and logistical infeasibility combined with the very high initial capital cost and ongoing operations and maintenance costs have made it impracticable to include the fish screen for the water intake at this new location in the breach of the levee between Pond A1 and Charleston Slough. Without the water intake at the breach location, the City of Mountain View has concerns about meeting the demand for water intake for the Shoreline Park sailing lake in the case where the Mountain View Ponds were connected to Charleston Slough itself.

Therefore, the Preferred Alternative at the Mountain View Ponds does not include Charleston Slough. The current configuration of the water intake, the Charleston Slough tide gate, and alignment of existing pond levees would not change, and thus, there would be no change to the existing conditions regarding adverse impacts to fish. Ponds A1 and A2W would still be opened to the tides, and estuarine fish and outmigrating steelhead from Stevens Creek would receive habitat benefits from these ponds being made available to them for forage and growth prior to entering the South Bay.

There were a large number of other comments about the potential benefits, risks, and challenges associated with incorporating Charleston Slough into the Phase 2 restoration planning. The responses to

those individual comments address the particular topics in the comments themselves. However, since Charleston Slough is no longer being considered as part of the Phase 2 implementation, those responses are largely for informational purposes.

2.1.2 MCR #2: Refuge Management Activities versus SBSP Restoration Project Impacts

Many of the comment letters on the Draft EIS/R contained questions about the importance of ongoing management of the Don Edwards National Wildlife Refuge and of features of the SBSP Restoration Project itself. The specifics of these comments addressed various existing levees, proposed levee modifications, invasive species control, nuisance wildlife species control, control of people who would use the trails and other public access features in the Refuge and/or in the adjacent city parks, and other topics. Several commenters inquired about whether and how the SBSP Restoration Project would be able to adequately maintain (or fund the maintenance of) levees in the face of the expected sea-level rise.

The responses to the individual comments and the specific topics or points made in them are addressed in the individual responses that follow. A complete relisting of those discussions here is unnecessary. However, there are broader and more general points that should be made here to provide some additional context and background for those individual responses.

Note first that NEPA and CEQA are intended to inform the public about potential impacts on the environment from the implementation and operation of a proposed project. Project proponents are required to analyze and disclose these impacts on the environment from, in this case, the SBSP Restoration Project itself. However, NEPA and CEQA generally do not require the converse of this disclosure (see, for example, California Building Industry Association v. Bay Area Air Quality Management District, filed 17-December-2015). That is, with a few exceptions, analysis and disclosure of the environment's impacts on a project are neither the intent nor a requirement of these laws.

Sea-level rise is an example of a potential future impact of the environment on the project, not a project impact on the environment. So, while the design of the project should and does plan for sea-level rise in order to help implement a successful project, this is not a NEPA or CEQA issue. Thus, continuing with sea-level rise as an example, the National Wildlife Refuge would have to maintain and occasional improve many of the pond levees and berms in the future to protect against coastal flooding, regardless of whether there is an SBSP Restoration Project or not. Again, these are not NEPA/CEQA issues.

More generally, these types of management actions are things that the Refuge would need to do regardless of which alternative is selected or whether there was a restoration project at all. Other examples include consistently keeping dogs and feral cats out of the Refuge lands to protect the wildlife there, and invasive weed management. As above, the details of these comments are addressed in the specific responses that follow.

A related issue is the request in several comments that the project proponents demonstrate the ability to provide adequate staffing and funding for ongoing management and maintenance of the project features as well as for participation in broader multi-agency efforts such as the Invasive Spartina Project. NEPA and CEQA neither require nor encourage demonstration of all future funding levels, and those are not included in the EIS/R.

That said, the SBSP Restoration Project and the Don Edwards San Francisco Bay National Wildlife Refuge are committed to participating in the ongoing control and management of invasive vegetation species in general and to invasive Spartina (and its hybrids) in particular. Similar commitment is made to control nuisance wildlife species and human uses of the Refuge trails and access features. They will do so through the continued support and collaboration with the Invasive Spartina Program and other efforts to control invasive species. As the comment notes, costs of this control are an important part of management, and both the project team and the Refuge management will ensure that costs and funding are appropriately considered, estimated, and aggressively sought through various federal, state, regional and local funding sources.

2.1.3 MCR #3: Relationship to Shoreline Study/Long-Term Restoration Planning

Section S.1.2 of the 2007 EIS/R's Executive Summary states that "the SBSP Restoration Project was planned in close coordination with a related but separate project, the South San Francisco Bay Shoreline Study." That project, often referred to as the Shoreline Study is a joint federal-state-local project being developed and run by the U.S. Army Corps of Engineers (USACE), the California State Coastal Conservancy (SCC), and the Santa Clara Valley Water District (SCVWD). The 2007 EIS/R also explained that, because the two projects "have similar objectives and geographic scope and include restoration and flood management components, the planning and management of these two projects will be closely integrated."

At the time of that document, the Shoreline Study was very early in its conception. The limited information on it available at the time was presented in the EIS/R to provide full public disclosure of the relationship and close integration between the two projects. However, the 2007 EIS/R did not provide program-level or project-level compliance under NEPA and CEQA for the Shoreline Study. The responses to comments on the Draft 2007 EIS/R explained in some detail the connections and interactions between the two projects and what types of environmental clearances and disclosures were provided by it. The changes and other details of the responses to comments (which were Appendix O of the Final EIS/R in 2007) were incorporated into the revised and Final EIS/R.

In 2016, the Shoreline Study is still in its relatively early stages. In December 2015, project proponents completed preliminary designs and a Draft NEPA/CEQA document for the first of multiple planning and implementation projects which focused just on the community of Alviso in San Jose. The Final NEPA/CEQA for the Alviso section is in the process of being adopted now, and design for that segment may begin in 2016. Separate environmental documentation will be prepared for each separate phase of the overall Shoreline project.

For analyzing potential impacts of Phase 2 alternatives for the SBSP Restoration Project, the Draft EIS/R was largely able to treat the Shoreline Study as an external project and analyze its impacts only in Chapter 4 – Cumulative Impacts of the Draft EIS/R. However, in response to several comments and to recently completed and adopted planning and design documents for the Shoreline Study (including the EIS/R for Shoreline Study's first project area that near the community of Alviso), more detail has been added to the cumulative impacts section to address those impacts, mitigation measures, and other important interactive, cumulative effects between the two projects. For example, part of the levee and other flood control system improvements in that portion of the Shoreline Study will include levee widening and transition zones that extend into the overall SBSP Restoration Project's footprint, though not into areas

included in Phase 2. In addition, the proposed restoration of Ponds A9-A15 that are part of the Shoreline Study will move forward under the same parameters of the Adaptive Management Plan of the larger SBSP Restoration Project. The details of these impacts and other aspects of the cumulative interactions between the Phase 2 projects are provided in Chapter 4 of the Final EIS/R.

Several comments asked about the long-term overlap and interactions between the two projects, most notably about what would happen beyond Phase 2. The SBSP Restoration Project's actions subsequent to Phase 2 and the separately designed, managed, and implemented Shoreline Study projects would not occur simultaneously. Rather, the SBSP Restoration Project will not begin planning Phase 3 until after the Phase 2 actions are implemented. This would allow adequate time to see how the South Bay's ecology, hydrology, and sediments respond to actions from Phase 1 and Phase 2 of the SBSP Restoration Project as well as to other planned and ongoing restoration projects in the South Bay, including the Shoreline Study. This assessment would analyze marsh formation, sediment availability, sea-level rise, mercury, effectiveness of habitat islands and habitat transition zones, the response of the pond-dependent wildlife species to restoration efforts, and other longer-term dynamics inquired about in many of the comments. Results of that assessment would inform considerations of whether or not additional restoration of tidal marsh is appropriate, or if restoring more marsh would cause one or more of the established triggers or thresholds identified in the respective Adaptive Management Plans of the SBSP Restoration Project and the Shoreline Study to be crossed.

2.1.4 MCR #4: The Bayfront Canal and Atherton Channel Project

There were several reasons for initially considering including the Bayfront Canal and Atherton Channel (BCAC) Project in the Preferred Alternative. Most importantly, the close physical proximity of Ponds R5 and S5 to a substantial stormwater outflow that regularly receives large amounts of runoff (during non-drought years) provided a unique opportunity to achieve several important benefits at once. The residual salinity in the seasonally dry bottoms of these former ponds would have been reduced by the periodic introduction of freshwater runoff. Since brackish areas were a plentiful and natural part of the pre-development Bay re-establishing this type of habitat would have re-created some of the Bay's historic habitat diversity to the project. In addition, this element of the SBSP Restoration Project would have reduced an existing flood control problem in portions of Redwood City, Atherton, Menlo Park, and unincorporated San Mateo County. During periods of high stormwater runoff when Flood Slough is also at high tide, there is nowhere for the water to go. The temporary diversion into these ponds would not have completely eliminated this problem (because the storage capacity of the ponds is limited), but it would have reduced its frequency and severity.

However, the BCAC Project is not included in the Phase 2 Preferred Alternative for the SBSP Restoration Project because a water quality monitoring and control plan for that project was not developed and approved by the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the Environmental Protection Agency (EPA) in time for it to be incorporated in the ongoing project development steps. A water quality monitoring and control plan is necessary to ensure that the water diverted into the ponds would not have undesirable impacts to the pond environment. Without the information provided by this plan, the SBSP Restoration Project cannot fully analyze the impacts of the BCAC Project and, therefore, it is not being considered for inclusion in the Preferred Alternative at Ravenswood. However, since the SBSP Restoration Project anticipates no changes to design or construction of the Ravenswood Ponds would be necessary to accommodate the BCAC Project in the future, nothing in this Phase 2 decision precludes future inclusion of the BCAC Project, as long as water

quality standards are met and sufficient environmental impacts analysis and disclosure are undertaken under NEPA and CEQA.

2.1.5 MCR #5: Updates to the Adaptive Management Plan (AMP)

Several different comment letters suggested that an update or an extension to the Adaptive Management Plan (AMP) be included as part of – or even prior to – the selection and implementation of Phase 2 activities as a way to incorporate information from recent scientific research papers, the results of monitoring studies from the SBSP Restoration Project or otherwise, and insights or concerns from California's recent drought.

The SBSP Restoration Project understands the concern about updates to the AMP. However, the AMP is not a set of actions or of results from scientific studies. Rather, it is a system and a process for how to identify, integrate, and act on such scientific information. Thus, while the inputs into that system or process must be and are updated frequently, the processes and systems of the AMP itself do not need to be. Nor is such an update required under NEPA or CEQA. Rather, the requirements of a project under NEPA and CEQA are to analyze and disclose environmental impacts from the project being proposed. The AMP is intended to not only guide the selection and implementation of restoration actions within ponds but also to guide the ongoing management and operation of ponds that are part of completed, current, and possibly future phases of implementation.

Finally, the PMT has discussed conducting a formal evaluation of the project's status against the AMP's table of Targets and Triggers. This would provide a kind of "scorecard" to evaluate the specifics of the AMP table's contents. The Pond Management Working Group has recently finalized work on the baseline bird numbers, and the USGS has also recently finished the Bird Survey Synthesis report. Work on that scorecard has begun in conjunction with the SBSP Restoration Project's research team. This is not a requirement under NEPA or CEQA, but it does demonstrate the PMT's commitment to keeping the AMP's content current and appropriately applied. The results of this process will be made public in the future.

2.1.6 MCR #6: Statement of the Preferred Alternative

Several of the comments asked about the Preferred Alternative at each of the four pond clusters evaluated for inclusion in Phase 2 at the Don Edwards San Francisco Bay National Wildlife Refuge. The federal and state lead agencies (the U.S. Fish and Wildlife Service and the State Coastal Conservancy, respectively) along with the Project Management Team and other project partners (including, for example, the Cities of Mountain View and Redwood City) decided not to specify a Preferred Alternative in the Draft EIS/R for Phase 2. Instead, they opted to wait until the Final EIS/R to make that designation. This would allow input received from the public, regulatory agencies, and other stakeholders on the Draft EIS/R's alternatives and impact analyses to factor into the decision about the Preferred Alternative.

That intended process and outcome is what happened. Many of the comments on the Draft EIS/R contained statements supporting or opposing particular components of the alternatives in the document. Those arguments informed and shaped the selection of individual components as well as their recombination into the Preferred Alternative. Further, as was described in the 2007 EIS/R and other project planning documents, the SBSP Restoration Project's approach has been to take the lessons learned from each project phase and from the ongoing applied studies and other scientific research and

monitoring and allow them to inform future phases and determine the ultimate outcome. These observations and results were also used to shape the selection of components.

It is important to note that each pond cluster's portion of the Preferred Alternative is made up entirely of the individual components that were presented and analyzed in the Draft EIS/R. The combinations of the components are different than those presented in the Draft EIS/R's action alternatives, but there are no new components or new significant impacts.

For reader convenience, the tables below summarize the components of the Preferred Alternative as it would be implemented at each pond cluster. However, Chapter 6 of the Final EIS/R for Phase 2 identifies and fully describes the Preferred Alternative (as well as the Environmentally Superior Alternative) at each of the four pond clusters in Phase 2. The Phase 2 Preferred Alternative provides a variety of restoration enhancements at all four clusters as well as maintained or improved flood protection and public access and recreation features at two of the Phase 2 pond clusters. In a few cases, minor clarifications and refinements to the individual components were made either in response to suggestions in the comments received or to guidance from regulatory agencies. These changes do not increase and in most cases decrease the potential for significant environmental impacts (e.g., there would be less earth moved or a smaller footprint). These clarifications or refinements are noted in the tables below and described in the relevant parts of the document's main text.

Alviso-Island Ponds

Alternative Island B	Alternative Island C	Preferred Alternative at the Alviso-Island Ponds
Breach north side of Pond A19 in two places.	Breach north side of Pond A19 in two places.	As described in Alternatives Island B and C: Breach north side of Pond A19 in two places. *Clarifications and refinements: Locate breaches to avoid small spikerush plants. Sidecast material into ponds to fill borrow ditches and ditch blocks and to create raised areas. Lower levees only to mean higher-high water instead of mean high water.*
Lower or remove much of Pond A19's northern and southern levees.	Lower or remove much of Pond A19's northern and southern levees.	As described in Alternatives Island B and C: Lower or remove much of Pond A19's northern and southern levees west of the western breaches. *Clarifications and refinements: Lower levees only to mean higher-high water instead of mean high water. Leave several high sections of existing levees to serve as high-tide refugia. Sidecast material as described above.*
Remove Pond A19's western levee and Pond A20's eastern levee to connect these two ponds.	Remove Pond A19's western levee and Pond A20's eastern levee to connect these two ponds.	As described in Alternatives Island B and C: Remove Pond A19's western levee and Pond A20's eastern levee to connect these two ponds. *Clarifications and refinements: Leave several high sections of existing levees to serve as high-tide refugia. Sidecast material as described above.*
Do not breach north sides of Ponds A20 and A21.	Breach the north sides of Ponds A20 and A21.	As described for Alternative Island B: do not breach north sides of Ponds A20 and A21.
Do not lower or remove Pond A20's northern or southern levees.	Lower portions of Pond A20's northern and southern levees.	As described for Alternative Island B: do not lower or remove Pond A20's northern or southern levees.
Do not widen existing breaches on Pond A19's southern side.	Widen existing breaches on Pond A19's southern side.	A scaled-down version of that described in Alternative Island C: widen only the westernmost of the two existing breaches on south side of Pond A19. Sidecast material as described above.
Do not excavate pilot channels within Pond A19.	Excavate two pilot channels within Pond A19.	As described for Alternative Island B, do not excavate pilot channels within Pond A19.

Alviso-Mountain View Ponds

Alternative Mountain View B	Alternative Mountain View C	Preferred Alternative at the Alviso-Mountain View Ponds
Do not include Charleston Slough in tidal marsh restoration.	Include Charleston Slough in tidal marsh restoration.	As described for Alternative Mountain View B: do not include Charleston Slough in tidal marsh restoration.
Raise and improve western levee of Pond A1.	Lower and breach western levee of Pond A1.	As described for Alternative Mountain View B: raise and improve western levee of Pond A1.
Breach the west side of Pond A1 at one location.	Breach Pond A1 at three locations.	Largely as described for Alternative Mountain View C: breach Pond A1 at more than one location. *Clarifications and refinements: breach at only two of the three locations in that alternative.*
Do not breach Charleston Slough and connect it to Pond A1.	Breach Charleston Slough and connect it to Pond A1 (necessarily includes the italicized listed subcomponents below).	As described for Alternative Mountain View B: do not breach Charleston Slough to connect it to Pond A1. *Clarifications and refinements: Include only the subcomponents from Alternative C as listed below.*
	§ Open Charleston Slough to full tidal exchange, by breaching the northern levee or by removing the tide gate structure itself, to allow vegetation to colonize the mud flats surrounding the slough's main channel.	
	§ Raise and improve the western levee of Charleston Slough, which separates it from the Palo Alto Flood Basin.	
	§ Raise the Coast Casey Forebay levee along southern border of Charleston Slough and associated sailing lake water intake and pump station structures.	*§ Raise the Coast Casey Forebay levee along southern border of Charleston Slough and necessary utilities.*
	§ Add a primary water intake for the Mountain View Shoreline Park sailing lake at the breach in the levee between Charleston Slough and Pond A1.	
	§ Lower western levee of Pond A1.	

	§ Rebuild the existing viewing platform along the Coast Casey Forebay levee; rebuild the existing trail and replace benches and signage along the improved western levee of Charleston Slough.	*§ Rebuild the existing viewing platform along the Coast Casey Forebay levee; rebuild the existing trail and replace benches and signage along the improved western levee of Charleston Slough.*
	§ Armor levee on landward side of breach between Pond A1 and Charleston Slough.	
Construct bird habitat islands in Ponds A1 and A2W.	Construct bird habitat islands in Ponds A1 and A2W.	As described for Alternatives Mountain View B and C: construct bird habitat islands in Ponds A1 and A2W. *Clarifications and refinements: Plan is for 3-5 bird habitat islands in each of Ponds A1 and A2W, a lower number than in the Draft EIS/R.*
Construct habitat transition zones across entire southern extent of Ponds A1 and A2W.	Construct a habitat transition zone across entire southern extent of Pond A1 but only across central portion of A2W.	As described for Alternative Mountain View C: construct a habitat transition zone across entire southern extent of Pond A1 but only across central portion of A2W.
Breach Pond A2W at four locations.	Breach Pond A2W at four locations.	As described for Alternatives Mountain View B and C: breach Pond A2W at four locations.
Armor the two eastern breaches of Pond A2W and add railcar bridges over the two breaches for Pacific Gas and Electric Company (PG&E) access.	Armor the two eastern breaches of Pond A2W and add railcar bridges for PG&E access and recreational trail access.	As described for Alternative Mountain View C: armor the two eastern breaches of Pond A2W and add railcar bridges over the two breaches for Pacific Gas and Electric Company (PG&E) access and recreational trail access.
Raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from Pond A2W to connect to existing boardwalk over Bay outside of the Palo Alto Flood Basin.	Raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from A2W to connect to existing boardwalk over Bay outside of Palo Alto Flood Basin.	As described for Alternatives Mountain View B and C: raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from A2W to connect to existing boardwalk over Bay outside of Palo Alto Flood Basin.
Add viewing platform in Shoreline Park south of Pond A1.	Add viewing platform in Shoreline Park south of Pond A1.	As described for Alternatives Mountain View B and C: add viewing platform in Shoreline Park south of Pond A1.

Construct spur trail on improved western levee of Pond A1 to a viewing platform.	Construct spur trail on improved west levee of Pond A1 to a viewing platform at the armored breach.	As described for Alternative Mountain View B: construct spur trail on improved west levee of Pond A1 to a viewing platform.
Do not add a spur trail from Bay Trail spine along Charleston Slough's northern levee	Add a spur trail from Bay Trail spine along Charleston Slough's northern levee to a viewing platform at or near the breach location.	As described for Alternative Mountain View B: do not add a spur trail from Bay Trail spine along Charleston Slough's northern levee to a viewing platform.
Do not add a recreational trail on eastern or northern levee of Pond A2W.	Add recreational trail on eastern and northern sides of Pond A2W to a bay side viewing platform near PG&E turnaround point.	As described for Alternative Mountain View C: add recreational trail on eastern levee of Pond A2W to a bay-side viewing platform on the outer corner of Pond A2W. *Clarifications and refinements: Trail would be shorter and end at northeast corner of Pond A2W instead of the PG&E turnaround at the northwest corner.*

Alviso-A8 Ponds

Preferred Alternative at the Alviso-A8 Ponds
No changes. Keep as described in Alternative A8 B with habitat transition zones in the southeast and southwest corners. *Clarification and refinement: Increase top elevation of the transition zone to elevation 9.0 feet NAVD88.*

Ravenswood Ponds

Alternative Ravenswood B	Alternative Ravenswood C	Alternative Ravenswood D	Preferred Alternative at the Ravenswood Ponds
R5/S5 as shallow managed ponds.	R5/S5 as intertidal mudflats.	R5/S5 as deeper managed ponds for Bayfront Canal & Atherton Channel connection.	As described for Alternative Ravenswood B: R5/S5 as shallow managed ponds.
No connection from Bayfront Canal into S5's triangular forebay.	No connection from Bayfront Canal into S5's triangular forebay.	Connect S5's triangular forebay to Bayfront Canal.	As described for Alternatives Ravenswood B and C: No connection from Bayfront Canal into S5's triangular forebay.

Ravenswood Ponds

Alternative Ravenswood B	Alternative Ravenswood C	Alternative Ravenswood D	Preferred Alternative at the Ravenswood Ponds
Improve All-American Canal levee.	Improve All-American Canal levee.	Improve All-American Canal levee.	As described for Alternatives Ravenswood B, C and D: improve All-American Canal levee. *Clarifications and Refinements: Extend levee improvements around to southern margin of S5.*
No All-American Canal habitat transition zone.	All-American Canal habitat transition zone.	All-American Canal habitat transition zone.	As described for Alternatives Ravenswood C and D: All-American Canal habitat transition zone.
Bedwell Bayfront Park habitat transition zone.	Bedwell Bayfront Park habitat transition zone.	No Bedwell Bayfront Park habitat transition zone.	As described for Alternatives Ravenswood B and C: Bedwell Bayfront Park habitat transition zone.
No Pond R4 Northwest habitat transition zone.	No Pond R4 Northwest habitat transition zone.	Pond R4 Northwest habitat transition zone.	As described for Alternatives Ravenswood B and C: No transition zone in northwest corner of Pond R4.
Remove parts of Ponds R5 and S5 internal levees.	Remove parts of Ponds R5 and S5 levees.	Remove all of Ponds R5 and S5 internal levees.	As described for Alternatives Ravenswood B and C: remove parts of Ponds R5 and S5 internal levees.
Do not grade and partially fill Ponds R5/S5.	Grade and partially fill Ponds R5/S5.	Do not grade and partially fill Ponds R5/S5.	As described for Alternatives Ravenswood B and D: do not grade or fill Ponds R5/S5.
Ponds R4/R5 water control structure.	Ponds R4/R5 water control structure.	Ponds R4/R5 water control structure.	As described for Alternatives Ravenswood B, C and D: Ponds R4/R5 water control structure.
No water control structure between Ponds R3/S5.	Ponds R3/S5 water control structure.	Ponds R3/S5 water control structure.	As described for Alternatives Ravenswood C and D: Ponds R3/S5 water control structure.
Pond R3/Ravenswood Slough water control structure.	Pond R3/Ravenswood Slough water control structure.	Pond R3/Ravenswood Slough water control structure.	As described for Alternatives Ravenswood B, C and D: Pond R3/Ravenswood Slough water control structure.

Ravenswood Ponds

Alternative Ravenswood B	Alternative Ravenswood C	Alternative Ravenswood D	Preferred Alternative at the Ravenswood Ponds
Pond S5/Flood Slough water control structure.	Pond S5/Flood Slough water control structure.	Pond S5/Flood Slough water control structure.	As described for Alternatives Ravenswood B, C and D: Pond S5/Flood Slough water control structure.
Pond R4 pilot channel.	Pond R4 pilot channel.	No Pond R4 pilot channel.	As described for Alternatives Ravenswood B and C: Pond R4 pilot channel.
Pond R4 east breach.	Pond R4 east breach.	Pond R4 east breach.	As described for Alternatives Ravenswood B, C and D: Pond R4 breach. *Clarifications and Refinements: Move breach to the northeast corner of the pond instead of on its eastern edge.*
No Pond R4 northwest breach.	Pond R4 northwest breach.	No Pond R4 northwest breach.	As described for Alternatives Ravenswood B and D: no breach at northwest corner of Pond R4.
Lower Pond R4 northwest levee.	Lower Pond R4 northwest levee.	Do not lower Pond R4 northwest levee.	As described for Alternatives Ravenswood B and C: lower Pond R4 levee. *Clarifications and Refinements: Lower only to mean higher-high water instead of mean high water.*
Ponds R5 and S5 bird habitat island.	Ponds R5 and S5 bird habitat island.	No bird habitat island Ponds R5 and S5.	As described for Alternatives Ravenswood B and C: Ponds R5 and S5 bird habitat island; add toppings to enhance it.
Viewing platform near Pond R5.	Viewing platform near Pond R5.	Viewing platform near Pond R5.	As described for Alternatives Ravenswood B, C and D: Viewing platform near Pond R5.
No additional public access trail at northwestern corner of Pond R4.	Pond R4 boardwalk trail at northwest corner.	Pond R4 trail on northwest levee.	As described for Alternative Ravenswood B: no additional public access trail at northwestern corner of Pond R4.
No Pond R4 viewing platform.	Pond R4 viewing platform.	Pond R4 viewing platform.	As described for Alternative Ravenswood B: no viewing platform at northwest corner of Pond R4.
No loop trail around Ponds R5 and S5 to connect to Bay Trail.	Complete loop trail around Ponds R5 and S5 to connect to Bay Trail.	Complete loop trail around Ponds R5 and S5 to connect to Bay Trail.	As described for Alternatives Ravenswood C and D: complete loop trail around Ponds R5 and S5 to connect to Bay Trail. *Clarifications and Refinements: add low symbolic deterrent fence along entire length of new trail.*

2.1.7 MCR #7: Impacts, Thresholds of Significance, and Management Triggers

There were several comments suggesting that the listed impacts themselves and/or the thresholds of significance used to assess them be reconsidered or changed. The reasons given for these suggestions included reflecting more recent scientific information, addressing effects related to California's drought, or providing more time to ascertain whether continuing to convert former salt-production ponds to tidal marsh is appropriate given other projects and environmental changes in the South Bay. There were assertions that the thresholds established in the 2007 EIS/R process were either inadequate from their adoption or were acceptable then but outdated or insufficient now. The responses to the individual comments address the specifics of each of these concerns, but this master response is provided here to provide a summary overview of the issues of thresholds of significance and the related topic of how the Phase 2 EIS/R is tiered from the 2007 EIS/R.

For the programmatic portion of the 2007 EIS/R, the SBSP Restoration Project developed an extensive list of individual impacts across the full range of environmental resource impact categories. These listed impacts captured an extremely wide range of environmental concerns in a very detailed way. The only changes to the list of impacts from the 2007 EIS/R to the Phase 2 EIS/R were as follows. First, a separate section was added to assess greenhouse gas emissions from the project. Since 2007, greenhouse gases have become a standard part of an EIS/R, and they are now required to be included in a CEQA document. Second, in the Biological Resources section, two impacts were added to make the assessment of the project on the biota more complete. These included (1) impacts to waters of the United States, which includes wetlands, and (2) impacts on nesting raptors, including burrowing owls. The impact assessment was thought to be more complete with the addition of these impacts. Finally, in the Recreation Resources section, impacts for temporary closures of public access features, such as trails or parking areas, to allow safe and efficient construction access to implement the project's restoration, flood protection, and public access components. While temporary closures or rerouting of public access features as part of adding more and different public access features and other enhancements is believed to be a positive effect overall, in the interest of full public disclosure, the project proponents wanted to treat it explicitly.

The SBSP Restoration Project also established thresholds of significance in the 2007 EIS/R for each of those individual impacts. The thresholds of significance were set so as to leave room to achieve the long-term programmatic goals and to also balance the changes in habitats and species, as well as public access and recreation, flood control, and other drivers and constraints in the project. Many of those thresholds of significance were set in that process at larger spatial scales (e.g., flyway-level, bay wide, South Bay only, etc.) so that they were appropriate for those resources. Others established large numerical changes relative to the environmental baseline to avoid overreacting to short-term changes in a highly variable natural system and to allow for short-term project effects to play out and let the environment equilibrate to the changes made as part of the project. Those thresholds were established in recognition of the fact that some changes to the pre-project conditions (e.g., flyway-level populations of some birds) would be inevitable but that they would not necessarily be significant changes, and they may not be realized in a short time frame; the "signal" of trends in actual population changes are hard to pick out from the "noise" of interannual variability and natural oscillations.

To help implement and manage the project's ponds and formalize the response actions, the SBSP Restoration Project also established management triggers in the Adaptive Management Plan. These triggers are not synonymous with the thresholds of significance. Rather, they are set at levels where they

could prompt a change in the management practices or other remediating actions before an adverse change in a particular resource category or listed impact reached a threshold of significance. Crossing a threshold or a trigger would activate changes in management of current Refuge ponds both within the SBSP Restoration Project boundaries and, to the extent feasible, in other portions of the San Francisco Bay National Wildlife Refuge. Crossing those thresholds would also affect the choices of which ponds to consider for future project phases and what sorts of restoration treatments are appropriate there.

These impacts and the thresholds of significance associated with them are thought to be appropriate for a long-term project with so large a geographic scope and so many different and interacting environmental dynamics associated with it. The certification and acceptance of the 2007 EIS/R and its programmatic aspects provide foundation for subsequent project-level NEPA/CEQA documents that would be tiered from it. The Phase 2 project-level EIS/R then projects and assesses the expected outcomes and environmental responses of the project-level changes and weighs them against those thresholds of significance. For most aspects of the analysis in the EIS/R, the "existing condition" for Phase 2 NEPA and CEQA analysis includes the conditions at the outset of that document (i.e., November 2013).

Tiering

Section 15385 of the CEQA Guidelines provides the following definition for tiering: "Tiering" refers to the coverage of general matters in broader EIRs … with subsequent narrower EIRs or ultimately site-specific EIRs incorporating by reference the general discussions and concentrating solely on the issues specific to the EIR subsequently prepared. Section 1508.28 of the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA states: "Tiering" refers to the coverage of general matters in broader environmental impact statements … with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

NEPA regulations encourage the elimination of repetition in environmental impact statements. Sec. 1502.28 of the CEQ Regulations for Implementing NEPA states: Agencies are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review. Sec. 1502.21 of the CEQ Regulations for Implementing NEPA states: Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action.

2.1.8 MCR #8: Scope of the Phase 2 EIS/R

Several comments discussed the scope of the Phase 2 EIS/R in general and particularly the geographic scope (i.e., the ponds selected for inclusion in the Phase 2 analysis and consideration). The specifics of these comments are addressed in the individual comments that follow, but this summary and overview is provided for context and convenience of the readers who may choose not to read all of the comments and responses.

Note first that many these same points were made on the Draft 2007 EIS/R and addressed in the Responses to Comments that were included as Appendix O to the Final 2007 EIS/R. Those commenters asserted that the geographic scope of the EIS/R was not broad enough and failed to evaluate a reasonable range of alternatives for restoration in South San Francisco Bay. They assert that the SBSP Restoration

Project (and thus, the EIS/R) should be expanded to consider land outside of the Project Area, such as ponds used by Cargill Salt Company (Cargill) for salt production as well as other privately or publicly owned land within the authorized boundary of the Refuge or Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) or the Eden Landing Ecological Reserve (Reserve). These comments did not object to the alternatives in the EIS/R per se, but rather argued that the analysis of the alternatives should be extended to a larger area. One commenter suggested that the EIS/R must provide an evaluation of the entire South Bay, the purpose being "to alert Congress and other decision-makers to modify their authorizations or funding to improve environmental results when it is in the public interest to do so."

The SBSP Restoration Project as a whole encompasses three former salt-pond complexes: the Eden Landing pond complex, which is owned by CDFW, and the Alviso and Ravenswood pond complexes, which are owned by USFWS. (As noted elsewhere, this EIS/R covers Phase 2 at the Alviso complex and the Ravenswood complex, and Phase 2 actions at the Eden Landing complex are being covered in a separate EIS/R.) The SBSP Restoration Project is a direct outgrowth of the acquisition of these three pond complexes (either in fee ownership or the salt making rights) from Cargill in 2003.

As the 2007 EIS/R described in detail, although USFWS and CDFW have planned discrete restoration projects on certain areas within the Refuge or at the Reserve, the acquisition of the Cargill ponds provided the first opportunity for large-scale restoration planning for both the Refuge and the Reserve. The geographic scope of the Project has always been the same – the approximately 15,100 acres of former Cargill salt ponds. (See for example "Notice of Intent to Prepare an Environmental Impact Statement/ Environmental Impact Report for the South Bay Salt Pond Restoration Project and the South San Francisco Bay Shoreline Study", 69 Federal Register 64965, at 64966 (November 9, 2004).) As described in more detail in Section 2.2 of the 2007 EIS/R, an extensive alternatives development process involving public participation and lasting for several years was conducted for the SBSP Restoration Project. Public meetings were held and comments solicited to inform decision-making on the scope of the Project and alternatives to be considered. (Comments received during the scoping period are presented in Appendix A of the Draft EIS/R.) None of the scoping comments called for modifying the scope of the SBSP Restoration Project to address restoration of land outside of the SBSP Restoration Project Area.

Many of the comments on this topic in the Draft EIS/R for Phase 2 – and therefore, many of the responses to those comments – call for similar answers. Commenters asked why Phase 2 does not explore alternatives beyond those designed and studied for the four pond clusters presented in its Draft EIS/R. Some comments suggested that some ponds that are not currently part of the SBSP Restoration Project could be included in restoration planning and selection now.

The selection of which ponds to consider and analyze in Phase 2 was made several years ago and was shaped by a number of charrettes, workshops, stakeholder forum meetings, and other processes intended to identify sets of ponds that could be restored with as few technical, regulatory, economic, and feasibility conflicts as possible. Those processes evaluated the economic and environmental trade-offs suggested by the commenter. Section 1.2.8 of the EIS/R explains the process of selecting ponds for inclusion in Phase 2. In addition, documents detailing many of these processes are provided on the SBSP Restoration Project website. One of them is "Phase 2: Preliminary Options for Future Actions from 2010" (Appendix Q).

Those processes drew from and built upon the foundation laid by the programmatic portion of the 2007 EIS/R, which covered the 15,100 acres of ponds currently in the SBSP Restoration Project boundary. That document met the CEQA and NEPA requirements for the program as a whole and allowed a great deal of flexibility in the selection of different sets of ponds (termed 'pond clusters' in this project-level

EIS/R) that would go on to be chosen for subsequent project-level phases. The big picture restoration goals (tidal marsh versus managed ponds) and at least some of the necessary flood control and public access goals were similarly included in Programmatic Alternatives B and C, which thus strongly encourage their consideration and analysis in the project-level EIS/R. Once the selection of a set of ponds to consider and analyze in Phase 2 was made, the design and subsequent NEPA and CEQA processes were appropriately focused on developing and analyzing alternatives within those pond clusters, not reopening the questions of which ponds would comprise the Phase 2 alternatives.

Finally, note that this is only Phase 2 of the SBSP Restoration Project and the geographic scope could still be expanded in future phases if, for example, further acquisitions of land or ponds are made by the USFWS or CDFW or if other project partners opt to collaborate with the project in planning and implementing restoration projects on their lands.

2.1.9 MCR #9: Public Access and Impacts to Wildlife

There were a number of comments regarding the degree of public access proposed in the various action alternatives. Some supported the proposed public access features, others requested more, and some voiced concern for the potential impact of that additional access on wildlife resources and the ultimate success of habitat restoration.

The SBSP Restoration Project believes that public access is an important part of the overall restoration efforts in the South Bay. One of the three main project goals is to increase the amount and quality of public access and recreation features. The 2007 EIS/R stated that a key project goal is to provide sufficient access so that the public will understand, enjoy, and support the restoration. The Project is committed to completing portions of the Bay Trail spine within the project area and does not envision any circumstances under which parts of the spine would be removed. In addition, the Project's intent is that there would be no net loss in quantity or quality of public access.

For all of these reasons, the Phase 2 Preferred Alternative includes the addition of several public access and recreation features at the Ravenswood Ponds and at the Alviso-Mountain View Ponds. The Preferred Alternative proposes wildlife-oriented public access that would constitute a considerable expansion over existing conditions. However, as several commenters noted, the proper balance of habitat for endangered species and public access is an ongoing challenge.

Both the 2007 EIS/R and the current Phase 2 EIS/R acknowledge that increased public access has the potential to increase human disturbance of wildlife, and describes the ways in which such increased disturbance might affect wildlife. This public access need not result in substantial adverse effects on wildlife if the effects of initial actions are monitored, and public access adapted according to the monitoring results. The Adaptive Management Plan incorporates Public Access elements and describes the process by which monitoring of effects of early public access elements on wildlife will inform subsequent public access activities. Ongoing studies and information from monitoring of wildlife responses to changes in public access and the degree of use of the public access have been incorporated into the Phase 2 planning and development of alternatives. For example, the observed distances between trail use and bird disturbances have been used to plan placement of islands and other features intended for birds. The researcher-developed guidance was to cluster public access in some portions of the project area and Refuge lands while allowing other portions of it to be set aside for wildlife also shaped the selection of trails and viewing platforms.

The Project Management Team believes that this careful selection and design of the Phase 2 alternatives and the commitment to the ongoing monitoring and implementation of the Adaptive Management Plan described above will be effective. The public access features will be designed and managed in a way that protects and fosters wildlife. The SBSP Restoration Project has made every effort to achieve this balanced goal.

2.1.10 MCR #10: Sea Level Rise

Many comment letters and individual comments asked about one aspect of sea-level rise (SLR) or another. The SBSP Restoration Project shares these concerns and realizes that there are uncertainties in several key aspects of SLR. In general, the comments received were about one of two different aspects of SLR. The first aspect was how the Refuge and the SBSP Restoration Project team would maintain levees and other project restoration features in the face of SLR. Most of these points are addressed in the Master Response to Comments #2, which was about the distinction between Refuge management and SBSP Restoration Project actions, as well as in many individual comments that got into the specifics. The second aspect was about how successful the particulars of various restoration plans and concepts would be if SLR occurred. For example, they inquired about how ponds that would be retained as managed ponds for diving and dabbling ducks and other species that use deep-water habitats would be kept that way if SLR began overtopping the external levees. Others asserted that some of the Phase 2 ponds were already subsided to the point where breaching them and attempting to restore them to tidal marsh would be either inefficient or (worse) unsuccessful. Many of the specifics of the last of these points are also addressed in the individual responses to comments. However, this high-level summary of SLR-related issues is presented here to provide context for the subsequent individual comments and responses that follow.

Estimates of Future Sea Level Rise and Climate Change Impacts

It is important to first consider the changes to estimates of future SLR in the South Bay. The 2007 EIS/R utilized the 2001 Intergovernmental Panel on Climate Change (IPCC) mid-range sea level rise estimate of 6 inches by 2050 (3 mm/yr average) and 18 inches by 2100 (6 mm/yr average between 2050 and 2100) (IPCC 2001). The higher rates in the second half of the century reflect the effects of accelerated sea level rise. However, more recent studies indicate that projections done even a decade or so ago are likely to risk underestimating the magnitude, rates, and timing of SLR and other climate change-related effects.

Several researchers have investigated the predicted response of tidal marshes to future rates of sea level rise in San Francisco Bay. While there is considerable uncertainty to the rate of sea level rise, particularly after about 2050 due to uncertainties in global carbon emission rates, there is a general consensus among scientists that sea levels on the West Coast are predicted to increase by 2 to 12 inches by 2030, 5 – 24 inches by 2050, and 17 – 66 inches by 2100, relative to levels in 2000 (NRC 2012[1]).

Different approaches to modeling the effect of sea level rise on tidal marsh sustainability have been investigated. Diana Stralberg[2] of Point Blue Conservation Science, estimated the spatial distribution of marsh accretion using the Marsh98 model, and considered the variation in tidal range throughout the San

[1] National Research Council (NRC), National Academy of Sciences, National Academy of Engineering, Institute of Medicine. 2012. Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. http://dels.nas.edu/besr

[2] Stralberg D, Brennan M, Callaway JC, Wood JK, Schile LM, et al. 2011. Evaluating Tidal Marsh Sustainability in the Face of Sea-Level Rise: A Hybrid Modeling Approach Applied to San Francisco Bay. PLoS ONE 6(11): e27388. doi:10.1371/journal.pone.0027388.

Francisco Bay. They varied the rate of sea level rise (20 to 65 inches) and varied the amount of organic matter and suspended sediment that was available for marsh accretion based on regions in the bay. They found that marshes with low suspended sediment would not be sustained for more than 40 years under any of the sea level rise rates. At the other end of the spectrum, marshes with a high level of suspended sediment (such as the South Bay) were sustained up to 80 years, but not over the full 100 years. The model projected that even under the most pessimistic of assumptions (low suspended sediment, high rates of sea level rise), that there would be a bay-wide increase in marsh habitat until about 2050, suggesting that a large-scale effect of sea level rise may not be seen until close to 2100. After 2100, with predicted increased rates of sea level rise, loss of marsh habitat would also increase. To minimize marsh loss, the authors recommend conserving adjacent uplands for marsh migration, redistributing dredged sediment to raise existing elevations of ponds prior to restoration, and concentrating restoration efforts in sediment-rich areas.

Lisa Schile of the University of California, Berkeley, and others[3] used another modeling approach, which built upon the work of Diana Stralberg by incorporating plant productivity to predict marsh resiliency using the Marsh Equilibrium Model (MEM), and calibrating the model with extensive data collected from four tidal marshes in San Francisco Bay Estuary (all collected from the Delta or North Bay). The MEM model was run using five rates of sea level rise (~ 22 inches to 70 inches/century) and three suspended sediment concentrations and sea level elevations were projected for 2030, 2060, 2080, and 2110. As with the Marsh98 model, marsh accretion did not keep pace with sea level rise under low suspended sediment concentrations. Model results found that tidal wetlands were able to keep pace with sea level rise up to a "tipping point", specifically when the sea level rise rate was greater than 39 inches/century. Researchers stressed that adjacent upland areas could provide space for the marsh to migrate under the highest rates of sea level rise.

John Takekawa and Karen Thorne of the U.S. Geological Survey[4] took a different approach by collecting detailed and site-specific elevation, tidal inundation, and vegetation data at 12 marshes around San Francisco Bay, along with sediment cores, to provide inputs to the Wetland Accretion Rate Model for Ecosystem Resilience model (WARMER). Model results indicated that 96% of the areas studied would become mudflat habitat by 2100, assuming a 49 inch sea level rise rate. Variations in tidal range, marsh accretion rates, and initial marsh elevation at the different study sites resulted in varying risks to sea level rise. They found that marsh accretion rates were relatively high in South Bay, and thus those tidal marshes withstood sea level rise effects longer, but with many areas transitioning to only low marsh by 2100. The two study sites that are closest to the Project area are Cogswell Marsh along the Hayward Regional Shoreline (just north of Eden Landing Ecological Reserve), and Laumeister Marsh owned by the City of Palo Alto, (located north of the Alviso Complex). The WARMER model results showed that Cogswell Marsh had a gradual reduction in elevation, with an increased decline after 2060. Due to high accretion rates, due partly to high suspended sediment levels in South Bay, mid-marsh habitat was maintained through 2070 (assuming ~ 26 inches of sea level rise). Cogswell marsh was projected to transition to low-marsh habitat by 2100 (48 inches of sea level rise). Model results for Laumeister Marsh showed it was able to sustain itself longer due to its high initial elevation and marsh accretion rates, and

[3] Schile LM, Callaway JC, Morris JT, Stralberg D, Parker VT, et al. (2014) Modeling Tidal Marsh Distribution with Sea-Level Rise: Evaluating the Role of Vegetation, Sediment, and Upland Habitat in Marsh Resiliency. PLoS ONE 9(2): e88760. doi:10.1371/journal.pone.0088760

[4] Takekawa, J.Y., Thorne, K.M., Buffington, K.J., Spragens, K.A., Swanson, K.M., Drexler J.Z., Schoellhamer, D.H., Overton, C.T., Casazza M.L. 2013. Final report for sea-level rise response for San Francisco Bay estuary tidal marshes. U.S. Geological Survey Open File Report 2012-1081, 161 p.

partly to high suspended sediment. Laumeister Marsh is expected to sustain high-marsh habitat through 2060 (~22 inches of sea level rise), would transition to mid-marsh habitat by 2080, and by 2100 (48 inches of sea level rise) would be mostly low-marsh habitat.

While these model results are encouraging for the sustainability of marshes in South Bay relative to other areas of the Bay, it is unknown what the sustainability of subsided managed ponds will be under future restoration efforts.

Karen Thorne of the U.S. Geological Survey applied a structured decision making process and expert judgment to develop alternative management strategies to increase tidal marsh resiliency through 2050. They sought to optimize a strategy for tidal marsh conservation which took into account future marsh accretion uncertainties, along with social and economic risks, ecological benefits and trade-offs. This prototype effort sought to answer the question, "To conserve San Francisco Bay tidal marshes in light of future climate change, what management, restoration, and protection actions, if any, should be conducted, and where, when, and how should they be conducted?" They used two time horizons of 2020 and 2050, based on current restoration planning efforts. The results of this process found the greatest utility would be from a "climate-smart" restoration allocation of resources. Such an approach includes increasing resiliency of tidal marshes to climate effects by exploring engineering options to improve resiliency of future marshes, retrofit ongoing or past marsh restorations, and enhance historic marshes, accelerate the timeline for tidal marsh restoration using fill to raise marsh elevations, and restoration areas with the highest marsh accretion potential.

One intriguing climate-smart adaptation strategy is shallow-water dredged material placements to allow natural processes to replenish sediments to marsh and mudflat habitats. Aaron Bever of Delta Modeling Associates, in collaboration with the U.S. Army Corps of Engineers, studied the in-bay placement of dredge material at two locations in San Francisco Bay: one in San Pablo Bay and the other in far South Bay[5]. Authors applied a 3-dimensional hydrodynamic, wave, and sediment transport model to evaluate whether shallow-water dredged material placements in less dispersive areas adjacent to existing marshes or breached ponds would result in an increase in sediment deposition within these areas through natural dispersal processes. Dredged material placement simulations in far South San Francisco Bay indicated that the natural dispersal of sediment from open water in-bay placement has the potential to be used to augment mudflat, marsh and pond sedimentation. Placement regions in the far South Bay were much more effective at supplying sediment to mudflats and marshes than locations in San Pablo Bay, and supplied less sediment to federal navigation channels than the San Pablo Bay placement regions. Further evaluation of the effectiveness of this strategy would be a pilot project of in-bay sediment placement and measurements of erosion and deposition to validate and refine the model.

<u>Phased Implementation, Monitoring, and Adaptive Management to Address Uncertainty in Sea Level Rise</u>

As the 2007 EIS/R explained, the SBSP Restoration Project "…would use phased implementation, monitoring and adaptive management to plan for and accommodate a range of potential future sea level rise. Updated sea level rise estimates would be used as future phases were designed and implemented.

[5] Bever, A., Michael L. MacWilliams, Frank Wu, Lisa Andes, and Craig S. Conner. 2014. Numerical Modeling of Sediment Dispersal Following Dredge Material Placements to Examine Possible Augmentation of the Sediment Supply to Marshes and Mudflats, San Francisco Bay, USA. PIANC (World Association for Waterborne Transport Infrastructure) World Congress, San Francisco, June 2014.

Monitoring and adaptive management would provide updated assessments of future sea level rise, inform planning for future phases, and adjust previously implemented phases as needed."

The Adaptive Management Plan and section 2.3 of the 2007 EIS/R explain these actions and provide examples. Specific actions included monitoring SLR in the South Bay, modeling and monitoring sediment dynamics in the South Bay, and using the coupled hydrodynamic and sediment transport model of the South Bay to develop better plans for phasing future implementation actions. Other examples include adjusting the phasing to better match the sediment supply; maintaining levees along the bayfront edge to shelter restored tidal areas from wave energy and encourage marsh formation; removing levees along the bayfront edge to restore sustainable mudflats within the ponds; restoring natural shorelines such as shell breaches, wrack lines, and Bay-edge pans; using imported fill to raise pond beds to elevations conducive to vegetation establishment; and prioritizing restoration of less subsided ponds and/or ponds close to sediment supplies within the project area. The Phase 2 actions in particular have attempted to prioritize the restoration of less subsided ponds while there is still time to do so before SLR become too rapid and extreme.

<u>Sea Level Rise and Flood Protection / Maintaining Levees and Managed Salt Ponds in the Face of Future Sea-Level Rise</u>

As noted, several comments concerned salt pond management impacts in the long-term and asserted that the Phase 2 EIS/R should have considered and disclosed the long-term impacts of maintaining former salt-production ponds levees (which are not engineered levees and ae more like berms) and other features, particularly in the face of sea-level rise and associated risks of failure. As discussed in Master Response to Comment #2, it is important to realize that the risks of levee failure and the various management and levee maintenance actions are things that the USFWS Refuge management needs to consider and perform whether or not a Phase 2 action is implemented at a given pond. This is true for levees that protect developed areas from flooding associated with high tides, storm runoff or sea-level rise, and it is equally true for those ponds that were or are retained as managed ponds in Phase 1 or Phase 2 or that have not yet been included in a restoration phase of the larger project. Some of these risks and potential impacts are actually somewhat greater in the no action alternative than in many of the tidal restoration alternatives because the latter generally allow or even encourage some or all of the levees to degrade over time and to do so in a way that protects existing habitats and built environments instead of allowing unplanned levee failures that might cause flooding or habitat degradation.

The SBSP Restoration Project is committed to maintaining existing levels of flood protection and also seeks to improve current and future flood protection where practicable. Where possible, modular designs are used to increase flexibility in adapting to coastal changes. As a theoretical example (not what is being considered and analyzed in this EIS/R), a future plan may include building a levee to accommodate the 50-year mid-range sea level rise projection, and incorporate features or outline a process to deal with higher or lower rates of sea level rise. Other options include overbuilding a levee initially to anticipate a higher rate of sea level rise, either by building a higher levee or by building a levee with a wider base to more easily accommodate future increases in levee height. These same sorts of levee maintenance and/or improvement approaches could also be used for ponds retained as managed ponds for pond-dependent wildlife species.

Sea Level Rise and Habitat Restoration Planning

Given the expected rates of SLR discussed above, the SBSP Restoration Project believes that it is important to do as much tidal restoration as is safe and feasible as soon as possible, so that the marsh can become established before sea-level rise greatly increases. In support of this idea, the newly released Baylands Ecosystem Habitat Goals Project 2015 Science Update prioritizes maximizing tidal marsh restoration in areas like the South Bay by 2030.

The 2007 EIS/R presented lengthy details about how SLR would be incorporated into the program-level planning and in project-level design and planning. It noted that higher than anticipated SLR rates that result in delayed or arrested marsh establishment could affect the progression between the 50:50 and 90:10 alternatives presented in the 2007 EIS/R. Tidal habitat restoration may be closer to the 50:50 bookend to increase the sediment supply to those ponds that are tidally restored. Adaptive management efforts would be used to encourage marsh establishment in the tidal ponds. The restoration actions most sensitive to sea level rise would contain features to accommodate accelerated sea level rise, such as constructing a gradually sloping marsh/upland transition zone surface that provides an elevation gradient over which tidal marsh could shift upslope as sea level rises and initiating marsh vegetation plantings to maximize sediment-trapping efficiencies and enhance the accumulation of organic matter in the developing marsh sediments.

Further, Appendix I of that document was a habitat evolution assessment that, among other findings, presented research by Watson (2004) showing that the high sediment availability in the far South Bay sustained marshes at a time when subsidence was very high. It concluded that, if SLR rates match the lower to mid-range of the predictions and sediment availability remains high, tidal marshes in the South Bay should keep pace with changing conditions as they have done historically. If higher rates of sea level rise prevail, the timeframe for marsh development may be delayed, and tidally-restored areas within the SBSP Restoration Project Area may persist as intertidal unvegetated mudflats or shallow open water habitat for prolonged periods (which is not necessarily a negative, since these are valuable habitats as well). However, research by Jaffe and others (2006) showed that the South Bay, and in particular the far South Bay, have historically been sediment-laden depositional environments. Thus, tidally-restored ponds were expected to accrete sediment and vegetation is expected to establish in the face of accelerated sea level rise.

More recent research has shown that the Bay's sediment-rich recent history may have been linked to elevated sediment loading from legacy mining activities in the Sierra foothills and that it may be coming to an end. Recognizing the importance of sediment availability in future restoration with or without SLR, the SBSP Restoration Project continues to monitor and study sediment dynamics in San Francisco Bay as a whole and in the South Bay in particular. Results from these studies will continue to shape the decisions of where and how to undertake different types of habitat restoration. As a possible future contingency plan, the SBSP Restoration Project continues to work with the Long-Term Management Strategy, the regulatory agencies around San Francisco Bay, dredgers, and other stakeholders to develop regulatory, technical, and economic frameworks and mechanisms to make it easier and more efficient to deliver dredged material to the South Bay salt ponds where it can be beneficially reused in restoration projects. The SBSP Restoration Project is also in continual collaboration with dirt brokers, construction companies, developers, and local governments to develop sources and supply chains for the continued delivery of excavated dirt from upland excavation projects.

Several commenters noted that sediment accreted at one pond cluster does reduce the overall availability of sediment elsewhere. This is a factor that is being taken into account by the SBSP Restoration Project and outside projects such as the U.S. Army Corps of Engineers' Shoreline Study Project. That is why substantial efforts and investments continue to be made by these projects and others to monitor and model sediment availability, sea-level rise, and other critical aspects of the dynamic environment of the South Bay. Based on the information provided by those efforts, the details of these restoration projects may be adjusted as needed to avoid critical failures and inefficient outcomes.

In sum, the SBSP Restoration Project continues to monitor ongoing research and modeling about climate change and SLR and will continue to plan, design, and manage for higher rates of SLR than initially projected. However, it is important to note that the project, on its own, will only be able to maintain the level of flood protection already in place. The South Bay Salt Pond Restoration Project will continue to work with project partners to improve the level of flood protection to the extent practicable. It would also do so while designing and implementing restoration features that will be successful in the presence of future SLR. The SBSP Restoration Project would seek to accommodate accelerated sea level rise, to the extent practicable, in order to maximize achievement of the project objectives. This approach depends on the concepts described and used throughout the project, including phased implementation, monitoring, and adaptive management, as described in the EIS/R and many planning documents.

2.3 Individual Comments and Responses

2.3.1 Federal and State Agencies

Comments from federal and state agencies and the responses to those comments are presented in this section.

Congress of the United States (F-C1)

Congress of the United States
House of Representatives
Washington, D.C. 20515

Anna G. Eshoo
Eighteenth District
California

September 18, 2015

Ms. Brenda Buxton, Project Manager
California State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, California 94612

Dear Ms. Buxton,

F-C1-1

Enclosed is a copy of my letter to the Mayor of Redwood City in support of Alternative D for the South Bay Salt Pond Restoration project's Draft Environmental Impact Statement for the Ravenswood portion of the project.

Should you have any questions, you can contact Paul Beck in my Washington, D.C. office at (202) 225-8104.

Sincerely,

Anna G. Eshoo

Anna G. Eshoo
Member of Congress

Enclosure

Response to Congress of the United States (F-C1)

F-C1-1

This is a comment of support for Alternative D of the SBSP Restoration Project for the Ravenswood pond complex portion of the project.

Congress of the United States (F-C2)

Congress of the United States
House of Representatives
Washington, D.C. 20515

Anna G. Eshoo
Eighteenth District
California

September 18, 2015

The Honorable Jeffrey Gee, Mayor
City of Redwood City
1017 Middlefield Road
Redwood City, California 94063

Dear Mayor Gee,

F-C2-1

Thank you for your letter requesting my support for Alternative D in the South Bay Salt Pond Restoration project's Draft Environmental Impact Statement for the Ravenswood portion of the project.

The South Bay Salt Pond Restoration project will provide substantial restoration of wetlands, enhanced flood protection, and improved public access and recreation opportunities. I support your efforts to address a chronic flooding problem in Redwood City by providing new drainage for the Bayfront Canal. Persistent flooding in this area puts lives and property at risk, and I applaud your work to provide the surrounding communities with much-needed relief.

I hope this will be helpful to Redwood City, and whenever I can be of assistance to you in the future, just let me know.

All my best,

Anna G. Eshoo

Anna G. Eshoo
Member of Congress

Response to Congress of the United States (F-C2)

F-C2-1

This is a comment of support for the project in general and for the inclusion of the Bayfront Canal and Atherton Channel Project (BCAC) in particular. Unfortunately, due to water quality concerns, the SBSP Restoration Project has not included the BCAC Project in the Preferred Alternative for Phase 2 at the Ravenswood Ponds, as described in Master Comment Response #4. However, the project is willing to accommodate the BCAC Project at a later date if the water quality concerns can be addressed.

Environmental Protection Agency (F-EPA)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

October 29, 2015

Anne Morkill
Don Edwards San Francisco Bay National Wildlife Refuge
1 Marshlands Road
Fremont, California 94555

Subject: Draft Environmental Impact Statement/Report (DEIS/R) for the South Bay Salt Pond Restoration Project, Phase 2 (CEQ # 20150200)

Dear Ms. Morkill:

F-EPA -1

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports the restoration actions evaluated in this DEIS, which tiers from the 2007 Program-level EIS for the 15,100 acre South Bay Restoration Project. This project-level DEIS evaluates Phase 2, which proposes restoration of over 2,000 acres of former salt ponds in four distinct pond complexes. While the actions of breaching and lowering levees and creating islands and habitat transition zones would constitute fill in jurisdictional waters, the conversion from salt production ponds to tidal marsh would result in a substantial increase in wetland habitat. EPA agrees that it is critical to maximize the overall ecosystem potential for this area by transitioning open water salt ponds designated as waters of the U.S. to higher quality tidal marsh wetland habitat.

F-EPA -2

For each of the four pond complexes evaluated in the DEIS – particularly Alviso-A-8 Ponds under Alternative B, and ponds A1, A2W, and R4 – we recommend selection of designs that target the creation of broad levee slopes that would enable wetlands to adapt to sea level rise. This is consistent with the scientific consensus of the Baylands Ecosystem Habitat Goals Science Update 2015, which seeks to maximize baylands resilience by restoring complete wetland systems with many interconnected habitat types (See: Goals Project. 2015. *The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015,* prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. California State Coastal Conservancy, Oakland, CA). In addition, we recommend selection of Alternative Alviso-Mountain View C, which incorporates Charleston Slough into the tidal marsh restoration. This alternative offers the best opportunity to progress towards the ecosystem-wide restoration goal of 100,000 acres of tidal wetlands called for in the original Baylands Ecosystem Habitat Goals Report (See: Goals Project. 1999. *Baylands Ecosystem Habitat Goals. A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project.* U.S. Environmental Protection Agency, San Francisco, CA/S.F. Bay Regional Water Quality Control Board, Oakland, CA).

F-EPA -3

The DEIS does not identify a preferred alternative for any of the pond complexes; therefore, pursuant to EPA's *Policy and Procedures for the Review of Federal Actions Impacting the Environment*, we are

F-EPA -3 cont.

rating individual alternatives evaluated in the DEIS. While EPA supports the restoration of the Ravenswood ponds, we are rating Alternative Ravenswood D, which would create a connection to receive peak stormwater flows from Redwood City, as *Environmental Concerns – Insufficient Information* (EC-2). We are concerned that, because the stormwater quality has not been completely characterized, it is not known whether pollutants present in stormwater would be detrimental to the restoration. EPA recommends that a stormwater characterization sampling plan be developed as part of this alternative. We are rating all other alternatives in the DEIS as *Lack of Objections* (LO). Our enclosed detailed comments include additional suggestions to improve the impact assessment.

EPA appreciates the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: ENF-4-2). If you have any questions, please contact me at (415) 972-3521, or contact Karen Vitulano, the lead reviewer for this project, at 415-947-4178 or vitulano.karen@epa.gov.

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Sam Schuchat, CA Coastal Conservancy
Brian Wines, SF Bay Regional Water Board
Tori White, U.S. Army Corps of Engineers
Ahmad Haya, City of Redwood City
Raymond Wong, City of Mountain View
Azalea Mitch, City of Menlo Park

2

F-EPA -4

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

Category "1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category "2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category "3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

EPA DETAILED COMMENTS ON THE SOUTH BAY SALT PONDS RESTORATION PROJECT, PHASE 2 DRAFT ENVIRONMENTAL IMPACT STATEMENT/REPORT, CALIFORNIA, OCTOBER 29, 2015

Alviso-Mountain View Pond Cluster

F-EPA -5

EPA supports Alternative Alviso-Mountain View C, which incorporates Charleston Slough into the restoration of the former salt ponds to tidal marsh. The Charleston Slough area, owned by the City of Mountain View, is a mitigation area intended to be restored to tidal marsh per a Bay Conservation Development Commission permit issued in 1978. The area has failed to achieve functionality as tidal marsh, in part because of poor circulation with Bay waters, which would be resolved upon breaching the slough's levees to join with the other ponds slated for restoration. Incorporating Charleston Slough into the restoration would make this currently fragmented habitat part of a connected system including subtidal, wetland and upland habitats that would benefit species of concern and allow species to adapt and move to other parts of the connected system, as needed. Including Charleston Slough in the restoration would also incorporate a new levee height that is protective to 14 feet of sea level rise (the highest estimate from the City of Mountain View's 2012 sea level rise study[1]), thereby improving flood protection in that area. This alternative includes construction of a new water intake at the proposed breach between Pond A1 and Charleston Slough; however, the risk of fish entrainment is not discussed nor does the project description identify how entrainment would be avoided.

Recommendation: For the Alviso-Mountain View Ponds complex, designate Alternative Alviso-Mountain View C as the preferred alternative in the Final EIS (FEIS). Provide further details on the proposed new water intake associated with this alternative to demonstrate that it would be constructed with appropriate screening, per National Marine Fisheries Service guidance[2], to prevent fish entrainment.

Ravenswood Pond Cluster

F-EPA -6

Alternative Ravenswood D would allow peak stormwater runoff from occasional large storms to be temporarily diverted from the Bayfront Canal and Atherton Channel into Ponds S5 and R5 to help reduce existing salinity conditions in these ponds (p. 2-55). This connection would also reduce flood risk in the neighborhood to the southwest. The ponds would be drawn down to provide capacity for temporary detention of stormwater runoff from Redwood City. Stormwater would enter into Pond S5 through new water control structures that would be installed to connect the Redwood City storm drain outflow to the forebay of Pond S5. This stormwater would then be discharged back into Flood Slough through a new water control structure between the pond and the slough when the tide is low and the slough can accept the volume of stormwater.

While EPA supports the multiple benefits of Alternative Ravenswood D, which would include stormwater management in addition to habitat restoration and flood protection, we are concerned that the stormwater has not been sufficiently characterized. The DEIS indicates that this alternative would have less than significant impacts; however, in the absence of water quality data, no assurance is provided that pollutants present in stormwater would not be detrimental to the habitat restoration. As the DEIS indicates for this alternative, stormwater inflow would increase circulation after heavy rains, but may also contribute additional nutrients (p. 3.3-39). According to the DEIS, urban runoff in the

[1] ESA PWA Consultants. *Shoreline Regional Park Community: Sea Level Rise Study, Feasibility Report and Capital Improvement Program.* Prepared for City of Mountain View, CIP 12-48. December 18, 2012.
[2] See NMFS guidance at:
http://www.westcoast.fisheries.noaa.gov/publications/hydropower/southwest_region_1997_fish_screen_design_criteria.pdf
and http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_screen_criteria_for_pumped_water_intakes.pdf

1

F-EPA -6 cont.

South Bay has been shown to have contaminants such as polynuclear aromatic hydrocarbons, metals (copper and zinc) and urban pesticides (diazinon, pyrethroids) (p. 3.3-47). The DEIS indicates that the project proponents will notify the appropriate urban runoff program of breaches that will introduce urban discharges into the project area and request that the urban runoff program consider those changes when developing annual monitoring plans, but no plans to characterize the water quality as part of the impact assessment appear to be included.

Recommendation: Characterize the stormwater that would be diverted to the ponds under Alternative Ravenswood D and provide this information in the FEIS. We recommend that a stormwater characterization sampling plan be developed and carried out that would provide permitting agencies with a data set representative of waters from high flow events that would likely be retained in the pond under this alternative. If an alternative means of assessing the extent to which stormwater would introduce pollutants to the pond complex is pursued, describe it and provide the results in the FEIS. If such sampling or assessment does not take place during the NEPA process and Alternative Ravenswood D is selected, we recommend that its selection be conditioned on the provision and review of water quality data prior to project implementation.

F-EPA -7

Beneficial Reuse of Dredged Material

The project would require the import of hundreds of thousands of cubic yards of fill material, primarily for the Alviso-Mountain View alternatives and Ravenswood Alternative C (Table 2-3, p. 2-13), to enhance levees, fill borrow ditches, build habitat transition zones and create habitat islands. The DEIS states that dredged material may be used for the project; however, because a feasible delivery plan and regulatory clearance would be needed before this component could be implemented, the DEIS does not include or analyze the effects of beneficial reuse of dredged material as part of this project (p. 2-20). We understand that a beneficial reuse feasibility study has been prepared and is available on the project website but there is no indication in the DEIS whether beneficial reuse will be actively pursued.

Recommendation: In the FEIS, identify the use of dredged material as first priority, with a commitment to research the availability of such material prior to project implementation. Briefly summarize the results of the feasibility study and specify which actions will be taken to promote beneficial reuse for this phase of the project. For example, indicate whether a Memorandum of Understanding, identified as necessary for beneficial reuse in the feasibility study, will be pursued.

F-EPA -8

Air Quality Impacts

The analysis in the DEIS assumes the import of upland fill, transported by trucks (p. 3.12-14), and predicts that 57,000 one-way truck trips would be required to fulfill the high-end estimate of total fill required for all Phase 2 alternatives. For air quality impacts, the analysis addresses the transportation of the material from the nearest highway or major arterial to the ponds where it would be used because it assumes that, in the absence of the restoration project, the material would be generated and transported to a landfill or other disposal site (p. 3.12-14). For this to be an accurate assumption, the project proponents must commit to utilizing only fill destined for disposal and not fill obtained from an off-site borrow site.

Recommendation: If upland fill will be pursued, we recommend that the project proponents specify, in contract documents, that all upland material must be derived from construction sites and not obtained from an off-site borrow area. If a borrow area would be utilized, additional

2

F-EPA -8 cont.

NEPA analysis should be performed to capture the total air emissions from the truck trips and any other impacts to the borrow area.

Induced Growth

F-EPA -9

The project would result in increased flood protection under some alternatives. For example, the DEIS indicates that for Alviso-Mountain View Alternative C, the City of Mountain View would assist in raising and improving the levees bordering Charleston Slough to levels beyond that required of the South Bay Salt Pond Restoration Project (p. 3.2-25). The DEIS also mentions the possibility that levees would be improved to provide Federal Emergency Management Agency (FEMA) 100-yr flood protection (p. 2-38). It is not clear whether this increased flood protection would induce additional growth in the areas protected by the levees. Potential impacts from induced growth are considered indirect impacts that should be evaluated in the impact assessment (40 CFR 1508.8(b)).

Recommendations: In the FEIS, discuss the potential for further development in the areas that would receive additional flood protection as a result of the project. The impacts of any projects that would not go forward but for the additional flood protection should be assessed in the FEIS.

Invasive Species Control Plan

F-EPA -10

EPA has reviewed the Best Management Practices (BMPs) in Appendix K related to control of nonnative *Spartina* cordgrass as it relates to tidal marsh restoration at the project site. The BMPs provide thorough technical guidance on ways to minimize further invasion of tidal wetlands by hybridized *Spartina* species; however, the costs of implementing those BMPs are not discussed. Cost is an important factor resource managers should take into account when assessing the feasibility of all actions that are part of making a restoration project successful.

Recommendation: Ensure that costs are appropriately considered, in accordance with the process outlined in BMP #9, when planning for invasive species control.

Water Quality Impacts

F-EPA -11

The impact assessment relies on adaptive management monitoring to address certain water quality impacts. EPA supports this approach. For example, San Francisco Bay is impaired for mercury, thus it is appropriate that the uncertainties related to the complex linkage between inorganic and methylmercury in the Bay and adjacent tidal marshes be monitored to inform future restoration decisions. Additionally, monitoring for nutrients, an emerging water quality issue in San Francisco Bay, is important, since intricate interactions make it difficult to predict specific ecosystem responses to these pollutants. In general, however, tidal marshes and transition zones can uptake nutrients at a high rate. This was not disclosed in the DEIS.

Recommendation: Continue the mercury-focused studies in the project monitoring program so that management actions can be taken to avoid environmental conditions that increase mercury methylation and bioaccumulation. Discuss the nutrient uptake potential of tidal marshes and transition zones in the FEIS, as appropriate.

Special Status Species

F-EPA -12

EPA supports the goals of recovering target special status species, such as California Ridgway's rail, Western snowy plover, and the salt marsh harvest mouse, for those alternatives that maximize ecotone/transition zones and ecosystem-wide habitat connectivity. While the DEIS cites the U.S. Fish and Wildlife Service's *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California*

3

F-EPA -12 cont.

(p. 3.8-12) and indicates that Endangered Species Act (ESA) consultation will occur and concurrence with the U.S. Fish and Wildlife Service will be obtained prior to construction of Phase 2 projects (p. 5-3), the DEIS does not state whether the alternatives would meet the objectives identified in the Recovery Plan.

Recommendation: Ensure that the alternatives analysis in the FEIS is consistent with the stated objectives in the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California.

4

Response to Environmental Protection Agency (F-EPA)

F-EPA-1

This comment expressed support for transitioning open water ponds (designated as waters of the U.S.) to tidal marsh wetland habitat (which would have higher ecological value for some species), despite the additional fill in jurisdictional waters of the U.S. that would result. The SBSP Restoration Project appreciates this support.

F-EPA-2

First, as the comment recommends, the Preferred Alternative includes habitat transition zones where feasible and with the most gradual slope (i.e., the largest footprint) allowable using available fill material. However, for reasons described in Master Comment Response # 1, incorporating Charleston Slough into the Preferred Alternative at the Alviso-Mountain View Ponds was not feasible. The Preferred Alternative is based on what was presented as Alternative Mountain View B in the Draft EIS/R with minor modifications based on Alternative Mountain View C and based on stakeholder input; these are described in Chapter 6 of the Final EIS/R.

F-EPA-3

As described in Master Comment Response #4, the option to include the Bayfront Canal and Atherton Channel Project in Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Ravenswood Ponds.

F-EPA-4

The Project team appreciates the helpful definitions provided for the EPA's rating system.

F-EPA-5

As described in Master Comment Response #1, due to concerns of the National Marine Fisheries Service (NMFS), the EPA, and the RWQCB about the entrainment of juvenile steelhead and other estuarine fish by the Shoreline Lake sailing lake's water intake, the Preferred Alternative at the Mountain View Ponds does not include the incorporation of Charleston Slough in the restoration planning and design.

F-EPA-6

As described in Master Response to Comment #4, the inclusion of the Bayfront Canal and Atherton Channel Project has been removed from the Preferred Alternative at the Ravenswood Ponds.

F-EPA-7

The comment correctly notes that the Phase 2 actions would require the import of substantial amounts of fill material to improve levees and build many of the habitat features described in the EIS/R. At present, the SBSP Restoration Project intends to use only upland fill material from terrestrial construction projects involving excavation. It would not use dredged material for the reasons stated in the comment. As the comment also notes, the Draft EIS/R does not rule out incorporation of beneficial reuse of dredged material at some point in the future. In fact, the document states that an addendum, supplemental, or other subsequent NEPA and CEQA document would be prepared and circulated as required if became feasible to incorporate dredged material into the project.

The Phase 2 actions cannot identify the beneficial reuse of dredged material as a first priority, as the comment recommends, because it is not likely that an economically feasible way to permit and deliver dredged material to the Mountain View Ponds (the Phase 2 pond cluster that would most benefit from it being delivered there) will be developed in time for construction. Given that the existing analysis demonstrates that these ponds are likely able to accrete enough sediment for marsh establishment, it does not seem prudent to wait for dredged material that may not materialize, but rather to expedite tidal marsh restoration.

F-EPA-8

The SBSP Restoration Project is committed to using upland fill material from construction sites that would otherwise go to landfills or other disposal sites (i.e., beneficial reuse of upland fill material). The project has neither the means nor the intention to purchase or use material that was excavated from borrow sites specifically for this project. The SBSP Restoration Project understands that, should this commitment change, additional NEPA, CEQA, and other regulatory clearances would be required.

F-EPA-9

The Preferred Alternative at the Mountain View Ponds does include improvements to a portion of the southern levee around Charleston Slough (i.e., the Coast Casey Forebay levee), that would provide some protection from coastal flooding beyond that required to maintain existing levels of flood protection that is provided by the remaining berm-like levees of the former salt-production ponds. The area that would be protected is a portion of City of Mountain View's Shoreline Community, between the Palo Alto Flood Basin, Shoreline Park, U.S. Highway 101, and Charleston Slough. This is an area that is largely built out already, with business parks, offices, and parking and associated infrastructure for Shoreline Park and in which the city has planned for increased protection and density increases whether or not those elements are included in the SBSP Restoration Project. The improvement is already part of the City of Mountain View's capital improvement plan and city master plan. Nothing would be built or developed that, but for the SBSP Restoration Project's Phase 2 actions, would not otherwise be built. Thus, there would be no growth-inducing effects from the Phase 2 project.

F-EPA-10

The SBSP Restoration Project and the Refuge are committed to participating in the ongoing control and management of invasive vegetation species in general and to invasive Spartina (and its hybrids) in particular. They will do so through the continued support and collaboration with the Invasive Spartina Program and other efforts to control invasive species. As the comment notes, costs of this control are an important of management, and both the project team and the Refuge management will ensure that costs and funding are appropriately considered. See also Master Comment Response # 2, which is about the relationship between SBSP Restoration Project actions and ongoing Refuge management activities.

F-EPA-11

As part of its adaptive management approach, the SBSP Restoration Project is committed to the continued monitoring and analysis of mercury in the portions of the project area in which it is most relevant. Text has been added to Section 3.3 – Water Quality and Sediment to note the potential for uptake of nutrients in tidal marshes and habitat transition zones.

F-EPA-12

Text regarding the USWFS' Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (2013) has been added to the Final EIS/R in Section 3.5. The ultimate goal of the Recovery Plan is to recover all listed species so they can be delisted (removed from listing under the Endangered Species Act). The interim goal is to recover all endangered species to the point that they can be downlisted from endangered to threatened status. The goal for *Chloropyron maritimum* ssp. *maritimum* (salt marsh bird's-beak) is to support recovery strategies detailed in the Salt Marsh Bird's-beak Recovery Plan (U.S. Fish and Wildlife Service 1985a). For species covered by this recovery plan that are not federally listed as threatened or endangered, the goal is to conserve them so as to avoid the need for protection provided by listing. To achieve these goals, the following objectives have been developed: (1) Secure self-sustaining wild populations of each covered species throughout their full ecological, geographical, and genetic range. (2) Ameliorate or eliminate, to the extent possible, the threats that caused the species to be listed or of concern and any future threats. (3) Restore and conserve a healthy ecosystem function supportive of tidal marsh species. The goals and objectives of Phase 2 are in line with these goals.

U.S. Coast Guard 11th District (F-USCG)

U.S. Department of Homeland Security
United States Coast Guard

Commander
Eleventh District

U.S. Coast Guard Island, Bldg 50-2
Alameda, CA 94501-5100
Staff Symbol: (dpw)
Phone: (510) 437-3514
Fax: (510) 437-5836

16591
Stevens Creek
Whisman Slough
November 24, 2015

U.S. Fish and Wildlife Service
Attn: Anne Morkill
Don Edwards SF Bay NWR
1 Marshlands Road
Fremont, CA 94555

Dear Ms. Morkill:

We have completed our review of the online EIS concerning the proposed South Bay Salt Pond Restoration Project - Phase 2, and associated Whisman Slough bridges, near Palo Alto, CA.

No individual Coast Guard bridge permit will be required for this project (COMDTINST M16590.5C). This does not relieve the applicant from complying with all applicable federal, state and local laws, and associated permit requirements.

F-USCG -1

Whisman Slough and Stevens Creek are subject to tidal influence and presently considered navigable by Coast Guard standards. However, the waterway is not navigated by anything larger than small motorboats and we are unaware of any plans to make navigational improvements at the project site. Upon breeching levee and bridging the gaps, the proposed bridges will fall under the jurisdiction of the USCG for regulatory purposes.

The General Bridge Act of 1946 requires the approval of the location and plans of bridges prior to the start of construction (33 U.S.C. 525). The Commandant of the Coast Guard has given advance approval to the location and plans of bridges to be constructed across reaches of waterways considered navigable, but not actually navigated by other than logs, log rafts, rowboats, canoes and small motorboats. In such cases, the clearances provided for high water stages will be considered adequate to meet the reasonable needs of navigation (33 CFR 115.70).

Our determination that the waterway conforms to Advance Approval criteria in 33 CFR 115.70 is listed as a Categorical Exclusion in our Coast Guard NEPA Implementing Regulations and no further review will be required by the USCG.

This review is valid for a period of 3 years from the date of this letter. If the character of navigation changes, such that the waterway no longer meets advance approval criteria, the Coast Guard will promptly withdraw the Advance Approval designation for this waterway and notify all interested parties.

16591
November 24, 2015

F-USCG -1 cont.

A photograph and as-built drawings of each bridge on 8 1/2 x 11-inch paper are required upon completion of the bridges. The drawings must indicate the elevation of the lowest hittable part of the bridge above mean high water and horizontal clearance available for navigation, pier face to pier face or abutment to abutment.

Please notify our office upon beginning and completing the over-water portion of this project, so we can provide the appropriate Notices to Mariners.

You may contact me by telephone at (510) 437-3516 if additional information is needed.

Sincerely,

DAVID H. SULOUFF
Chief, Bridge Section
Eleventh Coast Guard District
By direction of the District Commander

Copy: USCG Sector San Francisco
USACE San Francisco District, Regulatory Division
California State Coastal Concervancy

2

Response to U.S. Coast Guard (F-USCG)

F-USCG-1

This comment notes the U.S. Coast Guard's clarification of a number of different regulatory requirements and provides guidance for future designs and the processes for review and permitting thereof. The SBSP Restoration Project is grateful for these inputs and will follow the recommendation regulatory procedures during the permitting process.

United States Department of the Interior (F-USDI)

United States Department of the Interior

Juan Bautista de Anza National Historic Trail
333 Bush Street, Suite 500
San Francisco, CA 94104

IN REPLY REFER TO:

OFFICIAL CORRESPONDENCE BY ELECTRONIC MAIL
NO HARD COPY TO FOLLOW

22 October, 2015

Brenda Buxton
Project Manager,
State Coastal Conservancy,
1330 Broadway, 13th Floor
Oakland, California 94612

Re: Draft Environmental Impact Statement/Environmental Impact Report for Phase 2 of the South Bay Salt Pond Restoration Project at the Don Edwards San Francisco Bay National Wildlife Refuge

Dear Ms. Buxton:

F-USDI-1

The Juan Bautista de Anza National Historic Trail appreciates the opportunity to review the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) prepared for the proposed Phase 2 of the South Bay Salt Pond Restoration Project at the Don Edwards San Francisco Bay National Wildlife Refuge (Refuge) in Alameda, Santa Clara, and San Mateo Counties, California. Our comments address potential impacts to the Juan Bautista de Anza National Historic Trail (Anza NHT), due to our responsibility to administer, coordinate, preserve and enhance this component of the National Trails System.

The National Park Service (NPS) has a special interest in ensuring the protection of the Juan Bautista de Anza National Historic Trail. Congress, under the National Trails System Act ([NTSA], 16 USC 1241 et. seq.), established the Juan Bautista de Anza National Historic Trail (Anza NHT) in 1990. The Act states that "*National historic trails shall have as their purpose the identification and protection of the historic route and its historic remnants and artifacts for public use and enjoyment.*" NPS as Administrator of the Anza NHT is charged with implementing this vision in collaboration with other federal, state, and local agency partners such as the United States Fish and Wildlife Service and the San Francisco Bay Trail.

The project site is located on the southern edge of the San Francisco Bay, within or less than three miles from the historic corridor travelled by the Anza expedition. Additionally, the Anza recreation retracement route (recreation trail), co-named as the San Francisco Bay Trail in this area, is located within the site, as shown in Figure 1. This area provides recreation opportunities unlike any other along the entire 1,200 mile length of the Anza NHT and has been recognized with interpretive panels within the Refuge for the natural landscape settings in an otherwise urban area. The trails in the Refuge offer high-quality recreation opportunities for visitors to experience landscape settings similar to that which the Anza expedition party encountered while they travelled through the Bay Area. The Anza NHT appreciates and commends the USFS and Coastal Conservancy for continuing to provide these recreation opportunities in high quality natural areas that are limited outside the project area along the 1,200 mile Anza Trail historic corridor.

F-USDI-1 cont.

The Juan Bautista de Anza National Historic Trail Comprehensive Management and Use Plan and Final EIS, April 1996 documents that the recreation trail within the refuge is considered certified trail, protected by the secretary of the interior:

> Federal Protection Components. The Anza Trail passes through lands managed by the National Park Service (NPS), U.S. Forest Service (USFS), Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and Department of Defense (DOD). The Bureau of Reclamation (BOR) and Army Corps of Engineers (ACOE) management areas are also involved.
>
> In accordance with the NTSA, both federal and nonfederal trail components were identified. Trail resources on federal lands are automatically designated as federal protection components. [Trail components on federally owned lands that meet the historic trail criteria of the National Trails System Act are called federal protection components and do not require certification (NTSA, sec. 3[a][3]).
>
> U.S. Fish and Wildlife Service, San Francisco Bay National Wildlife Refuge — About four miles of the Anza route cross the refuge on the southeastern end of San Francisco Bay in Santa Clara County, California. Some established public trails within the refuge may be marked as the Anza Trail in coordination with USFWS.

In order to further the Anza NHT Comprehensive Use and Management Plan goal that:

> A recreational retracement route will be marked and interpreted. The trail will be achieved by linking, through a marking program, trails developed by federal, state, and local agencies, trail support groups, landowners, and others. The goal of the recreational trail is to provide a multiuse, non-motorized, off-road, continuous trail from Nogales to San Francisco and around the east bay of San Francisco within the historic corridor. Federal components and high potential segments will be key elements of this route. These segments will be linked with trails which parallel the historic route to provide the potential for a continuous recreational and commemorative trail (NPS 1996).

The Anza NHT supports further development of recreation opportunities as appropriate for the natural resources within the Refuge that the USFWS protects. In the southern San Francisco Bay, the Anza NHT partners with the San Francisco Bay Trail and defers to their expertise on providing the trail linkages for the Bay Trail within the project area and support of specific alternatives presented in this proposal.

For any clarification of our comments on the DEIS/DEIR or for further information relevant to the Anza Trail, please contact Naomi Torres, Superintendent, Anza NHT (415) 623-2340 (Naomi_torres@nps.gov) or BriAnna Weldon, Outdoor Recreation Planner (415) 623-2343 (brianna_weldon@nps.gov).

Sincerely,

Naomi L. Torres, Superintendent
Juan Bautista de Anza National Historic Trail

Response to United States Department of the Interior (F-USDI)

F-USDI-1

This comment voices general support for the SBSP Restoration Project's public access and recreation features, notes that the San Francisco Bay Trail is co-named the Juan Batista de Anza National Historic Trail, notes that there may be future coordination on signage about the Anza National Historic Trail be placed where it overlaps with the Refuge trails, and provides agency staff names and contact information for future coordination. The SBSP Restoration Project appreciates this comment and information.

California State Lands Commission (S-CSLC)

STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

CALIFORNIA STATE LANDS COMMISSION
100 Howe Avenue, Suite 100-South
Sacramento, CA 95825-8202

JENNIFER LUCCHESI, *Executive Officer*
(916) 574-1800 *Fax* (916) 574-1810
California Relay Service TDD Phone 1-800-735-2929
from Voice Phone 1-800-735-2922

Contact Phone: **(916) 574-1890**
Contact FAX: **(916) 574-1885**

Established in 1938

September 3, 2015

File Ref: SCH #2013092010

Brenda Buxton
Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Subject: Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the South Bay Salt Pond Restoration Project, Phase 2, Santa Clara County

Dear Ms. Buxton:

S-CSLC-1

The California State Lands Commission (CSLC) staff has reviewed the subject EIS/EIR for the South Bay Salt Pond Restoration Project, Phase 2 (Project), which is being prepared by the California Coastal Conservancy (Conservancy). The Conservancy, as a public agency proposing to carry out a project, is the lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and the United States Fish and Wildlife Service (USFWS) is the lead agency under the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 et seq.). The CSLC is a trustee agency for projects that could directly or indirectly affect sovereign lands and their accompanying Public Trust resources or uses. Additionally, because the Project involves work on sovereign lands, the CSLC will act as a responsible agency.

S-CSLC-2

CSLC Jurisdiction and Public Trust Lands

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust.

As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of

S-CSLC-2 cont.

all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion or where the boundary has been fixed by agreement or a court. Such boundaries may not be readily apparent from present day site inspections.

From review of the EIS/EIR, it appears that a portion of the Project, specifically the Alviso-Mountain View Pond Cluster, will include State-owned sovereign land in Mountain View Slough. Therefore, activities within Mountain View Slough will require a lease from the CSLC. Please contact Al Franzoia, Public Land Management Specialist (see contact information below), with any questions regarding CSLC leasing jurisdiction.

This determination is without prejudice to any future assertion of State ownership or public rights, should circumstances change, or should additional information come to our attention. This letter is not intended, nor should it be construed as, a waiver or limitation of any right, title, or interest of the State of California in any lands under its jurisdiction.

Project Description

S-CSLC-3

The Conservancy proposes to implement Phase 2 of the South Bay Salt Pond Restoration Project to meet the agency's objectives and needs as follows:

- 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;
- Maintain current migratory bird species that utilize existing salt ponds and associated structures such as levees;
- Maintain or improve existing levels of flood protection in the South Bay;
- Provide public access and recreational opportunities compatible with wildlife and habitat goals; and
- Protect the services provided by existing infrastructure, including power lines and railroads.

From the Project Description, CSLC staff understands that the Project at the Alviso-Mountain View Pond Cluster would include the following components:

- Restoration. Restoration activities would include breaching the levees around ponds A1 and A2W at various locations, and creating tidal marsh habitat and habitat transition zones between the marsh and the uplands at the top of the levees. These transition zones would also provide resilience to sea-level rise by allowing new marsh to gradually move up-slope as tidal elevations increase.
- Flood Management. Existing flood protection would be maintained or improved by adding upland fill to the levees. The west levee of either pond A1 or Charleston Slough would be improved, depending on the alternative selected for implementation.

S-CSLC-3 cont.

- Recreation and Public Access. Viewing platforms, trails, interpretive signs, and benches would be constructed to allow for recreational activities and public access at the Project site.
- Railcar Bridges and Boardwalk Improvements. Railcar bridges would be used to create access boardwalks to Pacific Gas & Electric (PG&E) facilities to the north of Pond A2W. The bridges would be approximately 60 feet long and 10 feet wide. The bridges would span two breaches along Pond A2W's east levee. Boardwalk improvements would increase the height of the boardwalk by a maximum of 5 feet.
- Improvement to PG&E Towers. The foundations of 16 transmission towers would be upgraded with additional concrete placed higher on the tower legs to protect the metal portions of the towers from bay water corrosion. Upgrading the tower foundations would involve placing a cofferdam around the base of the tower, dewatering the space between the cofferdam and the existing foundation, and adding concrete to the tower foundation.

Environmental Review

S-CSLC-4

CSLC staff requests that the Conservancy consider the following comments on the Project's EIS/EIR.

General Comments

1. Mitigation Monitoring Program: Since this EIS/EIR is tiering from a programmatic EIS/EIR from 2007, please consider providing a mitigation monitoring program table of mitigation measures required to implement the Project from both the 2007 programmatic EIS/EIR and from the current EIS/EIR, in addition to the narrative provided in section 2.3. Please indicate which impacts are being mitigated by the measure and which CEQA document each measure comes from. Preparing a table will provide clarity to responsible agencies and interested stakeholders and will help responsible agencies adopt appropriate mitigation for activities occurring within their jurisdiction.

S-CSLC-5

2. Alternatives Analysis: The EIS/EIR states that the no project alternative is not the environmentally superior alternative, because implementation of the Project alternatives would result in long-term benefits to the environment that would not be realized under the no project alternative. However, the Project alternatives analyzed result in different kinds of impacts to recreation and public access. In one alternative, impacts would result from temporary closures of recreation and public access facilities during construction. In the other, the addition of less than the maximum feasible number of public access and recreation features crosses a threshold of significance established in the 2007 EIS/EIR. Public access is an important part of the Public Trust Doctrine. Once the Conservancy has approved an alternative, the CSLC will consider that alternative's impacts to Public Trust values, including public access, when considering a lease for the Project. Although the EIS/EIR states that CEQA does not require the identification of an environmentally superior alternative, CSLC staff encourages the Conservancy to identify an

S-CSLC-5 cont.

environmentally superior alternative in the final EIS/EIR to facilitate review by the public and other agencies.

Biological Resources

S-CSLC-6

3. Dewatering Impacts to Fish: In the biological resources section, the analysis of impacts to steelhead and estuarine fish considers impacts from breaching the pond levees, converting salt pond habitat to tidal marsh habitat, and from constructing the boardwalk. The analysis concludes that impacts to steelhead and estuarine fish are less than significant, because restored tidal marsh will provide additional habitat for juvenile steelhead and estuarine fish. However, the analysis does not specifically consider impacts from dewatering activities during upgrades to the PG&E transmission towers. Please include dewatering activities in the analysis of impacts to steelhead and estuarine fish. In particular, please assess whether stranding may occur during dewatering, and determine if stranding would result in significant impacts. If dewatering activities create significant impacts, please provide mitigation that would reduce the impacts to the extent feasible. The analysis currently includes a brief mention of fish rescue activities. If impacts from dewatering are found to be significant, CSLC staff recommends that the Conservancy consider expanding the discussion of fish rescue activities and use fish rescue and relocation as a mitigation measure.

S-CSLC-7

Recreation

4. Water-Based Recreation: Although water-based recreation, an important Public Trust value, is discussed in the environmental setting, the analysis does not consider whether construction activities, including levee breaching, boardwalk construction and transmission tower upgrades, would impact water-based recreation in the Project area. Please analyze whether construction activities would create significant impacts to water-based recreation and, if impacts are found to be significant, provide mitigation measures that would reduce impacts. Mitigation measures could include notices at nearby boat launches regarding the construction and alternative areas for recreational boating and fishing.

Climate Change

S-CSLC-8

5. Sea-Level Rise: A tremendous amount of State-owned lands and resources under the CSLC's jurisdiction will be impacted by rising sea levels. Because of their nature and location, these lands and resources are already vulnerable to a range of natural events, such as storms and extreme high tides. The State of California released the final "Safeguarding California: Reducing Climate Risk, an Update to the 2009 California Climate Adaptation Strategy" (Safeguarding Plan) on July 31, 2014, to provide policy guidance for state decision-makers as part of continuing efforts to prepare for climate risks. The Safeguarding Plan sets forth "actions needed" to safeguard ocean and coastal ecosystems and resources as part of its policy recommendations for state decision-makers. CSLC staff believes the goals of the proposed Project are consistent with the guidance and recommendations presented

S-CSLC-8 cont. in the Safeguarding Plan, and that the restored habitat will enhance the resilience of wetland habitat and local communities to sea-level rise.

S-CSLC-9 Cultural Resources

6. Title to Resources: The EIS/EIR should also indicate that the title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC (Pub. Resources Code, § 6313). CSLC staff requests that the Conservancy consult with Assistant Chief Counsel Pam Griggs (see contact information below) should any cultural resources on state lands be discovered during construction of the proposed Project. In addition, CSLC staff requests that the following statement be included in EIR's Mitigation and Monitoring Plan: "The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission."

S-CSLC-10 Thank you for the opportunity to comment on the EIS/EIR for the Project. As a responsible and trustee agency, the CSLC will need to rely on the Final EIS/EIR for the issuance of any new lease as specified above and, therefore, we request that you consider our comments prior to certification of the EIS/EIR.

S-CSLC-11 Please send copies of future Project-related documents, including electronic copies of the Final EIS/EIR, Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD), CEQA Findings and, if applicable, Statement of Overriding Considerations when they become available, and refer questions concerning environmental review to Holly Wyer, Environmental Scientist, at (916) 574-2399 or via e-mail at Holly.Wyer@slc.ca.gov. For questions concerning archaeological or historic resources under CSLC jurisdiction, please contact Assistant Chief Counsel Pam Griggs at (916) 574-1854 or via email at Pamela.Griggs@slc.ca.gov. For questions concerning CSLC leasing jurisdiction, please contact Al Franzoia, Public Land Management Specialist, at (916) 574-0992, or via email at Al.Franzoia@slc.ca.gov.

Sincerely,

Cy R. Oggins, Chief
Division of Environmental Planning
and Management

cc: Office of Planning and Research
H. Wyer, CSLC
A. Franzoia, CSLC
J. Rader, CSLC
P. Griggs, CSLC

Response to California State Lands Commission (S-CSLC)

S-CSLC-1

The California State Lands Commission (CSLC) was listed in the Draft EIS/R as a Responsible Agency under CEQA (Section 1.4). The Final EIS/R has been modified to include that the SLC is also a Trustee Agency.

S-CSLC-2

The SBSP Restoration Project appreciates the clear statement that a lease from the CSLC will be needed for the Phase 2 projects and the provision of the appropriate person (and contact information) with which to proceed with that process.

S-CSLC-3

The text of this comment is a summary of portions of the project description. No response is required.

S-CSLC-4

This comment requests a summary table of mitigation measures. As the comment notes, Section 2.3 of the Draft EIS/R contains an in-text list of the mitigation measures from the programmatic portion of the 2007 EIS/R. These elements are included in the project-level designs and operational management plans for the Phase 2 alternatives, so they are no longer considered "mitigation measures" in Phase 2. They are listed as text in Chapter 2 – Project Description.

Further, there is only one new Phase 2 project-level mitigation measure (involving traffic signal control modification during the import of fill material); therefore, the provision of a table of Phase 2 mitigation measures was deemed unnecessary. The new mitigation measure introduced in the Draft EIR/S is Phase 2 Mitigation Measure 3.11-1: Modify Signal Timing and is discussed in Section 3.11, Traffic.

S-CSLC-5

The first part of this comment pertains to the identification of the Environmentally Superior Alternative for each pond cluster. The Final EIS/R identifies the Preferred Alternative and the Environmentally Superior Alternative at each of the four pond clusters in the Phase 2 EIS/R. Master Comment Response #6 summarizes this Preferred Alternative. As noted in the response to comment O-SC2-1, the Phase 2 alternatives do provide increased public access and recreation features at two of the Phase 2 pond clusters.

A second part of this comment made an example of the differing impacts on public access and recreation. There will be temporary disruptions to existing trails and other access features as the Phase 2 projects are being constructed, however these disruptions are necessary in order to provide the environmental and the public access benefits that would result from project implementation. In addition, future project phases are expected to continue to add public access features at some of the Phase 2 ponds as well as at ponds that have not yet been included in a project phase.

S-CSLC-6

This comment concerns impacts to fish from dewatering activities. Text has been added to Section 3.5.13 and Section 3.5.14 to address this concern. That additional text details how significant impacts related to

stranding during dewatering activities would be avoided because fish would be flushed out of the coffer dams prior to dewatering wherever such activities would occur.

S-CSLC-7

This comment concerns impacts on water-based recreation. Text has been added where appropriate in Section 3.6 (Recreation Resources) of the Final EIS/R to clarify that there would be no permanent impact on existing water-based recreation from the Phase 2 activities. Text has also been added to note that, similar to the temporary closures of some parking areas or trails during construction, there would be brief restrictions on water-based recreation in some areas during some portions of construction (e.g., during the breach events themselves). These restrictions would be temporary and regular recreational use of waterways that allow these uses would resume shortly thereafter.

S-CSLC-8

This comment notes that the SBSP Restoration Project is consistent with the "Safeguarding California" document, which is a 2014 update to the 2009 California Climate Adaptation Strategy.

S-CSLC-9

The Final EIS/R includes text indicating that title to the cultural resources listed in the comment letter is vested in the State of California. The SBSP Restoration Project will consult with the listed CSLC personnel as requested. Also, the statement about the disposition of resources recovered on CSLC lands has been added to the Section 3.7.2 of the Final EIS/R, as requested.

S-CSLC-10

As described in CEQA Guidelines Sections 15088 and 15090, the lead agency shall evaluate and respond to environmental comments received on the Draft EIR and include responses in the Final EIR. The information contained in the Final EIR will be reviewed and considered prior to certification and project approval.

S-CSLC-11

Copies of future SBSP Restoration Project-related documents will be provided to the individuals listed in the comment letter, as requested the CSLC.

2.3.2 Regional and Local Agencies

Comments from regional and local agencies and the responses to those comments are presented in this section.

City of Redwood City (L-CRC)

1017 MIDDLEFIELD ROAD
Redwood City, California 94063
Telephone (650) 780-7220
FAX (650) 261-9102
www.redwoodcity.org

September 4, 2015

Brenda Buxton, Project Manager
California State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612
(sent via email to: brenda.buxton@scc.ca.gov)

RE: South Bay Salt Pond Restoration Project – Support for Alternative "D"

Dear Ms. Buxton:

L-CRC-1 On behalf of the City of Redwood City, City Council and community, I am writing in support of Ravenswood Alternative "D" in the Draft Environmental Impact Statement/Report for Phase 2 of the South Bay Salt Pond Restoration Project at the Alviso and Ravenswood ponds.

Ravenswood Alternative D is the only option that provides a component for connection to the Bay Front Canal and Atherton Channel. Alternative D will provide beneficial flood control and habitat restoration at the Ravenswood Pond Complex by temporarily detaining and storing storm runoff in the R5 and S5 ponds from the drainage canals. With the active management of Ponds R5 and S5, a year round water habitat will be created for water fowl. Out of the four alternatives studied in the draft EIS/R for the ponds cluster at Ravenswood, Alternative D will best meet the multiple objectives of the Project, including providing flood protection to the local area. Therefore, the City of Redwood City supports and recommends Alternative D for the Ravenswood Pond Complex.

L-CRC-2 Extensive hydrology and hydraulic engineering has been conducted by the City. This solution will reduce the frequency for flooding in these neighborhoods in the short-term. A more long-term, and substantive solution to these types of floods will require broad collaboration between the County, and the cities of Menlo Park, Atherton and others as most of the storm runoff comes from outside of Redwood City. However, as our residents are the most affected, the Redwood City Council and staff have worked hard to find solutions to improve the current situation.

L-CRC-3 The City's staff has coordinated with the Conservancy to have the connection to the Bayfront Canal and Atherton Channel as a feature to be considered with this Project. The City has already completed the conceptual design of the diversion channel from the Bayfront Canal and Atherton Channel to Ponds R5 and S5 and shared these conceptual

L-CRC-3 cont. designs with the Conservancy. The City is also obtaining a Department of Water Resources grant to complete the design and to construct the drainage systems to connect to Ponds R5 and S5 at Ravenswood. The City awaits the release of the Final EIR in order to coordinate further action. The City is committed to providing additional support if Ravenswood Alternative D is chosen as the preferred alternative for the Project

L-CRC-4 It is important to clarify a statement in the draft EIR that the source of the flood water near the Ravenswood Pond Complex is solely from Redwood City. It is not only the City but also the surrounding communities, which collectively discharge storm water into the Bayfront Canal and Atherton Channel. Flooding is a periodic and significant problem for the City and all nearby areas of low elevation. Flooding is exacerbated during high tides. The drainage canals cannot adequately convey storm runoff to the bay due to tidal backwater effects.

L-CRC-5 It is understood that multiple pond complexes are included within the scope of the South Bay Salt Pond Project. The City's support for a specific alternative at one pond complex is separate from the City's general support for the overall Project. Habitat restoration, flood risk management and creating recreational areas are objectives that the City endorses, as well. Furthermore, the City commends the efforts of the Conservancy, USFWS and their partners on the restoration of the San Francisco Bay wetlands.

Regards,

Jeffrey Gee, Mayor
City of Redwood City

C: City Council, Redwood City
Mr. Aknin, Interim City Manager

Response to City of Redwood City (L-CRC)

L-CRC-1

This comment expresses the City of Redwood City's support for Alternative Ravenswood D because of the inclusion of the Bayfront Canal and Atherton Channel (BCAC) Project. The SBSP Restoration Project has not included the BCAC Project in the Preferred Alternative for Phase 2 at the Ravenswood Ponds, as described in Master Comment Response #4. Master Comment Response #6 summarizes the Preferred Alternative, and Chapter 6 of the Final EIS/R contains the full descriptions.

L-CRC-2

This comment summarizes the City of Redwood City's acknowledgement of the need for a collaborative plan for long-term flood control in the area.

L-CRC-3

This comment summarizes Redwood City's work to date on the BCAC Project and its plan to continue developing project details as required.

L-CRC-4

The Final EIS/R clarifies the sources of the flood water carried through the Bayfront Canal and Atherton Channel as well as the locations affected by the flooding that occurs when those canals cannot adequately convey storm water runoff to San Francisco Bay in Section 2, Alternatives and 3.2, Hydrology.

L-CRC-5

This comment explains that Redwood City's focus on the Ravenswood Ponds in its comments should not be taken as an indication that the City's support is limited to those ponds.

San Francisco Bay Conservation and Development Commission (L-BCDC)

San Francisco Bay Conservation and Development Commission
455 Golden Gate Avenue, Suite 10600, San Francisco, California 94102 tel 415 352 3600 fax 415 352 3606

October 30, 2015

Ms. Brenda Buxton
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

SUBJECT: Environmental Impact Statement/Environmental Impact Report for the South Bay Salt Pond Restoration Project, Phase 2
(State Clearinghouse No. 2013092010)

Dear Ladies and Gentlemen:

L-BCDC-1

On August 3, 2015, the San Francisco Bay Conservation and Development Commission (Commission) staff received the *Draft* Environmental Impact Statement/Environmental Impact Report *(DEIS/EIR)* for the US Fish and Wildlife Service's (USFWS) and the State Coastal Conservancy's (Conservancy) South Bay Salt Pond Restoration Project, Phase 2 (SBSP Phase 2). Phase 2 of the South Bay Salt Pond Restoration Project proposes to continue habitat restoration activities initiated in Phase I, while providing recreation and public access opportunities, and maintaining or improving current levels of flood protection in the surrounding communities. The activities included in Phase 2 are:

- Breaching levees at one or more locations to allow tidal flows into the Ravenswood and Alviso Ponds (Mountain View, A8, and Island Ponds);
- Increasing habitat complexity by adding islands and/or upland transition areas;
- Modifying pond bottom elevations or topography to redirect tidal flow;
- Using dredged sediment or upland soils to speed marsh vegetation establishment;
- Installing water control structures to improve hydrologic control in former salt ponds that will not yet be made fully tidal;
- Constructing or improving walking trails and/or elevated boardwalks;
- Installing viewing platforms; and
- Raising or improving existing levees or berms or adding new levees as needed so that the current levels of flood protection or adjacent communities are maintained.

info@bcdc.ca.gov | www.bcdc.ca.gov
State of California | Edmund G. Brown, Jr. — Governor

L-BCDC-1 cont.

Previously authorized Phase 1 activities are ongoing, and maintenance of the remaining ponds not included in Phase 1 or 2 will continue as described in the Interim Stewardship Plan, until further planning can be completed for inclusion in Phase 3 of complete restoration of the South Bay Salt Ponds.

In accordance with the federal National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA), the USFWS and the Conservancy have prepared a DEIS/EIR that jointly analyzes the next phase of restoration of the South Bay Salt Ponds to wetland habitat. Although the Commission itself has not reviewed the DEIS/EIR, the staff comments included herein are based on the McAteer-Petris Act; the Commission's *San Francisco Bay Plan* (Bay Plan); and the Commission's federally-approved coastal management program for the San Francisco Bay, and the amended federal Coastal Zone Management Act of 1972 (CZMA).

L-BCDC-2

Jurisdiction. The Commission's permit jurisdiction includes all tidal areas of the Bay up to the line of mean high tide or, in areas of tidal wetlands, up to five feet above Mean Sea Level or the extent of tidal wetland vegetation; all areas formerly subject to tidal action that have been filled since September 17, 1965; and the shoreline band that extends 100 feet inland from and parallel to the Bay jurisdiction. The Commission also has jurisdiction over certain managed wetlands adjacent to the Bay, salt ponds, and certain waterways, and the Suisun Marsh. This project appears to be within the Commission's Bay, salt pond and shoreline band jurisdictions, as well as San Francisco Bay Plan map priority use areas dedicated as wildlife refuge (see Bay Plan Map 7). As such, the proposed project appears to be entirely within the Commission's jurisdiction.

L-BCDC-3

San Francisco Bay Plan (Bay Plan). Several Bay Plan policies are applicable to the proposed project including: Fish, Other Aquatic Organisms, and Wildlife; Water Surface Area and Volume; Water Quality; Tidal Marshes and Tidal Flats; Subtidal Areas; Dredging; Salt Ponds; Climate Change; and Shoreline Protection. As you are likely aware, when multiple policies are relevant to the project, all applicable policies are apply in the analysis of the project for consistency with the Bay Plan.

We appreciate the opportunity to comment on this document and recognize the efforts that have gone into preparing it for circulation. Our overarching comments include support of the project alternatives that have been described herein with a focus on those that provide maximum feasible public access as compatible with wildlife uses. Further, the volume of fill proposed for each of the pond clusters will also needed to be evaluated during the permitting and consistency determination process to assess whether the proposals both minimize fill and

L-BCDC-3 cont. maximize open water while achieving habitat goals. The document provides alternatives that "bookend" volumes of fill proposed, and therefore is appropriate under CEQA and NEPA for the basis of permit evaluations. More specific comments are provided below for your consideration.

L-BCDC-4 **Hydrology Section.** Throughout this section, the document states that if changes to flows become unacceptable, measures will be taken in adaptive management, but doesn't describe beyond changes in future restoration phases. If the changes to hydrology are significant due to these actions, this phase of the project may need to be altered to address issues prior to the next phase of restoration. There is a similar issue facing the potential of this or other phases of the project to affect the extent of existing mudflats through erosion. It would be helpful to understand how the mudflats are currently being monitored and what level of erosion would trigger action through the adaptive management plan.

L-BCDC-5 **Island Ponds.** Please explain further how the project intends to maintain the railroad levee over time. Would additional fill and rip rap be necessary throughout the 50 year lifespan of the project? If so, please provide a discussion of the maintenance and necessary additional fill for the life of the project.

L-BCDC-6 **Mountain View Ponds.** Because one of the potential impacts for this set of ponds includes loss of foraging and roosting areas of small shorebirds, please consider construction of additional roosting/foraging areas for this guild of wildlife.

L-BCDC-7 **Mountain View Pond Alternative C, Charleston Slough.** This alternative includes additional water control structures and breaches to Charleston Slough, an existing restoration site managed by the City of Mountain View. This restoration site is the result of inadvertent flooding of an existing salt marsh. Unfortunately, in the thirty years since the flooding, the site has not revegetated. While not a requirement of the South Bay Salt Pond Project, the inclusion of this site into the Project could potentially improve the trajectory of Charleston Slough wetland towards fully vegetated marsh, and is a worthy addition to the project and would assist in the City of Mountain View's fulfillment of their BCDC permit.

L-BCDC-8 **Ravenswood Ponds.** Alternative D includes the addition of storm water overflow into the Ravenswood Ponds and assists in potential flood risk reduction. While this is a valuable addition, in that it would both provide additional fresh water flows into the site and thereby increase brackish water habitat, and provide storm water detention for the local municipalities, please provide a discussion of how Project would manage potential pollutants from the adjacent urbanized areas from impacting the wetlands and wildlife.

L-BCDC-9

Biological Resources. In this section there is discussion of potential loss of habitat for the salt marsh harvest mouse and salt marsh wandering shrew. Please consider the construction and "seeding" or planting of pickleweed to allow some habitat to develop prior to flooding sites to provide immediate habitat benefits to these species.

It is understood that PG&E will need to build or rebuild paths through these sites so the power towers can be accessed for maintenance and repair. When PG&E uses plastic "lumber" in these pathways, please require that they contain and remove plastic debris and "shreedings" from their construction activities. As you are aware, plastic in the environment is extremely hazardous to wildlife.

L-BCDC-10

Beneficial Reuse of Sediment. In discussions with Project staff, it appears that the restoration of these sites to full marsh vegetation would occur more quickly if elevations at the sites were raised to marsh plain, and that beneficial reuse of dredged sediment could augment natural sedimentation. In particular, Pond A8 has been discussed as a site with a significant need for sediments. It would be extremely helpful if this CEQA/NEPA analysis included the potential to use dredged sediments at appropriate sites. The only two references to beneficial use in the Project include one at Alviso, which states further CEQA /NEPA would be undertaken when beneficial reuse is proposed. The second, at Ravenswood, says that CEQA/NEPA would be completed by those who want to place the dredged sediments at this site. Both of these options will further delay and likely limit or eliminate use of dredged sediments at these sites, which would be unfortunately for both the Project and the LTMS program. Please consider including this use in the current CEQA/NEPA analysis.

L-BCDC-11

Public Access. As briefly discussed above and in the analysis, the Commission will work with the project proponents in the permitting and consistency determination process to determine the maximum feasible public access for Phase II of the Project. From the document, two specific items should be given further analysis. In the Ravenswood trail discussion, it states that the levee top trails would be six feet wide. This wide is substantially narrower than usually provided for Bay Trail components and BCDC required public access. Please consider widening the trail to met current standards.

The Alviso Pond A8 cluster of ponds does not include any additional public access. However, in your overview map of the existing and proposed trails, Pond A8S shows a potential trail connection planned on the southeastern corner of the pond. Please consider including this portion of the planned trail in your analysis and project for the Alviso Pond 8 cluster alternatives.

L-BCDC-12

Regulatory Environment. In some sections describing the regulatory environment, it states that a BCDC permit is likely required. While that is correct, it should also be noted that because this project is a federal/state project, a federal consistency determination would also be necessary. The USFWS is familiar with this process and we look forward to working with both the state and the federal agencies in permitting this project.

This concludes the Commission's comments on this document. We appreciate the opportunity to review it and will be available to discuss any questions you may have regarding our comments. If you have questions about these comments, please contact me at 415.352.3623 and via email at brenda.goeden@bcdc.ca.gov. We look forward to your responses to our comments and concerns and reviewing the final EIS/EIR.

Sincerely,

BRENDA GOEDEN
Sediment Program Manager

BG/go

cc: Mr. John Bourgeios, State Coastal Conservancy
Ms. Anne Moorekill, US Fish and Wildlife Service
Mr. Jennifer Siu, U.S. Environmental Protection Agency
Mr. William Paznokas, California Department of Fish and Wildlife
Mr. Ryan Olah, US Fish and Wildlife
Mr. Gary Sterns, NOAA Fisheries Service
Ms. Brian Wines, San Francisco Bay Regional Water Quality Control Board
US Army Corps of Engineers, Regulatory Division

Response to San Francisco Bay Conservation and Development Commission (L-BCDC)

L-BCDC-1

This comment is a general summary of the proposed activities for Phase 2 of the SBSP Restoration Project and a statement of BCDC's regulatory authority. The Project has noted this introductory comment.

L-BCDC-2

This comment defines the extent of BCDC's jurisdiction and concludes that the Phase 2 project activities are within that jurisdiction. The SBSP Restoration Project does not disagree with this conclusion.

L-BCDC-3

This comment notes the applicability of the San Francisco Bay Plan to the project and also notes BCDC's support of the project alternatives that provide maximum feasible public access that would be compatible with wildlife uses. It also notes that the BCDC permitting process for the volume of fill proposed for use in each of the pond clusters will need to be completed during the permitting phase of the project. The SBSP Restoration Project has noted this comment.

L-BCDC-4

This comment asks about impact on existing flows and mud flats as described in the hydrology section (3.2) of the EIS/R and what types of actions could be implemented in the current project phase (i.e., not just revised planning or actions in future phases) if scour or adversely modified flows are greater than anticipated. It requests more information on current stream channel and mudflat monitoring and what level of erosion would trigger action through the adaptive management plan. For a general discussion of impacts, thresholds of significance, and management triggers, see also Master Comment Response #7.

More specifically, the SBSP Restoration Project's science program has funded the collection and analysis of large amounts of aerial and satellite imagery[6] to monitor and quantify changing vegetation. Recent work by the USGS's Amy Foxgrover (presented at the October 2015 Science Symposium) found evidence for no erosion of the mudflat near Pond A6, which provides some evidence that mudflats do not necessarily erode following breaching of an adjacent pond. That same poster indicated there was erosion/scour of Alviso Slough. In addition, the science program has developed an Alviso Slough scour model that will help inform managers about what degree of scour to expect where.[7] The science program continues to investigate cost effective methods for monitoring large expanses of mudflat habitat and establish baseline conditions. Most recently, the use of Worldview 2/3 Coastal Blue Band imagery seems promising, based on a pilot study conducted in 2015 (Fulfrost et al. 2015). The science program is seeking additional funding to further investigate this technique and map the baseline extent of mudflat habitat in South Bay to allow tracking of future changes.

[6] See for example: http://www.southbayrestoration.org/documents/technical/HEMP_FinalReport_072312.pdf and http://www.southbayrestoration.org/documents/technical/HEMP_FinalReport_MapBook.pdf

[7] http://www.southbayrestoration.org/documents/technical/WSE-HECEPD-15.08%20%20Carlos%20Arturo%20Rey%20Velasco%20(1).pdf

Finally, the USACE is currently studying and modeling the effects of "mudflat recharge" through placement of dredged material, and this could be a suitable response action to greater-than-expected erosion of mudflat, if it is noted in the future.

L-BCDC-5

The railroad levees at the north and south edges of the Island Ponds are not currently maintained by the SBSP Restoration Project. They are maintained by the Union Pacific Railroad (UPRR), which would continue to maintain those levees in the future. The railroad intends to continue using that rail corridor and would maintain it as required. The details of railroad maintenance activities are not known at the present time, though future actions could involve additional fill to protect those levees. The railroad would seek BCDC permitting approval for those activities at that time.

L-BCDC-6

The Phase 2 actions at the Mountain View Ponds do include construction of habitat islands, habitat transition zones, and the retention of several portions of levee (isolated from other uses). These areas would all be suitable, to varying degrees, for small shorebird roosting and foraging, as described in Section 3.5-1.

L-BCDC-7

This comment correctly states the purpose of considering and analyzing the effects of incorporating Charleston Slough into Phase 2 of the SBSP Restoration Project: to assist the City of Mountain View in satisfying the existing regulatory requirement to restore tidal marsh. However, as discussed in Master Comment Response #1, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds.

L-BCDC-8

As discussed in Master Comment Response #4, the City of Redwood City's Bayfront Canal and Atherton Channel Project has not been included in the Preferred Alternative for Phase 2 at the Ravenswood Ponds.

L-BCDC-9

As the comment states, the proposed Phase 2 activities would necessarily remove some habitat for the species listed at places where a pond breach would need to extend through an existing marsh in order to reach the open bay or a slough channel. These small losses of habitat would be self-mitigating because the restored marsh that would result from such a connection would be at least orders of magnitude greater than the amount lost. Seeding or planting pickleweed, as the comment suggests, would be a way to reduce the temporal loss of those narrow strips of habitat, but such planting would not work until the pond bottoms have accreted enough sediment to be at marsh plain elevation. Once at the proper elevation, pickleweed and other marsh plants generally establish very rapidly; planting or seeding is unnecessary.

This comment also specifies methods that PG&E should use to conduct the necessary improvements on its infrastructure at the Mountain View Ponds. This guidance from BCDC has been shared with PG&E and is being incorporated into the project designs.

L-BCDC-10

The SBSP Restoration Project does not plan to include the beneficial reuse of dredged material in the Phase 2 project actions at the Refuge; therefore, the current EIS/R does not include a description of that use or analyses of the environmental impacts of doing so. Such reuse could be a part of future project phases, however, and the NEPA/CEQA clearance for those activities would be sought at that time.

L-BCDC-11

Most of the trails proposed in the Draft EIS/R were planned to be 12 feet wide, for compliance with a number of regulatory standards. There was one trail at the Ravenswood pond cluster that was initially proposed to be only 6 feet wide, but the Final EIS/R includes a change to 12 feet wide. This change is included in the project designs.

In addition, this comment addresses the issue of adding a public access trail along a portion of the A8 Ponds. While not included in the Phase 2 planning, this trail remains a possible action for inclusion in a future project phase. Decisions about the long-term restoration status of the A8 Ponds still remain, and the SBSP Restoration Project would prefer to integrate public access features into the larger-scale restoration plans at the same time. The only Phase 2 action at the A8 Ponds is construction of habitat transition zones, which do not preclude a trail or any of a number of other restoration actions at these ponds in future phases.

L-BCDC-12

The Final EIS/R has been modified to note the likely requirement for a federal consistency determination, as suggested by this comment.

City of Redwood City (L-CRC2)

From: CD-Ahmad Haya
To: phase2comments@southbayrestoration.org
Cc: Buxton, Brenda@SCC
Subject: [phase2comments] Comment on South Bay Salt Pond Restoration Project Phase 2
Date: Tuesday, October 27, 2015 7:50:22 PM

Hello,
I have the following comments on the South Bay Salt Pond Restoration Project Phase 2 Draft EIS/R:

SBSP Restoration Project - Executive Summary

L-CRC2-1
- Figure ES-12. The figure titled "Bayfront Canal and Atherton Channel Project" appears to be labeled incorrectly. The figure does not show the referenced proposed project elements. Instead, it appears to be illustrating the existing pond boundaries, trails, and Cargill pipelines at the Ravenswood site.

L-CRC2-2
- On Figure ES-15 Alternative D, the project is labeled in the Legend as "RWC Stormwater Project*", with the note saying "*Pending property rights/easements". It is necessary to point out that the area is outside of the jurisdiction of the City of Redwood City (City), Redwood City is not the sole area that discharges to the canal and this project is not solely the City's project, as other local municipalities are involved as well.

L-CRC2-3
- Page ES-28, there is text in the Alternative-D description which states: "Alternative Ravenswood D would also allow stormwater outflow from Redwood City to Ponds R5 and S5." There are some other instances of "Redwood City stormwater". It might be worth pointing out to the Conservancy that the stormwater within Bayfront Canal and Atherton Channel is from more jurisdictions than just RWC. There is one mention is Section 3 of the main EIS/R of Redwood City, Atherton, and Menlo Park, that I believe is referring to the sources of stormwater in Bayfront Canal.

Ahmad Haya, PE, QSD/P
Senior Civil Engineer
City of Redwood City
1017 Middlefield Road
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Response to City of Redwood City (L-CRC2)

L-CRC2-1

The comment correctly notes that the title of Figure ES-12 was incorrect in the Draft EIS/R. That has been corrected to read “Alternative Ravenswood A” in the Final EIS/R.

L-CRC2-2

The legend for the referenced part of Figure ES-15 and the equivalent figure in the main text (Alternative Ravenswood D) have been changed to read “Bayfront Canal and Atherton Channel Project” in the Final EIS/R.

L-CRC2-3

The referenced text of the Executive Summary and the main text have been changed in the Final EIS/R to state that the sources of the storm water come from Redwood City, Menlo Park, Atherton, and portions of unincorporated San Mateo County.

City of Palo Alto (L-CPA)

OFFICE OF THE CITY MANAGER
CITY OF PALO ALTO
250 Hamilton Avenue, 7th Floor
Palo Alto, CA 94301
650.329.2392

October 30, 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Subject: City of Palo Alto Comments on Draft Environmental Impact Statement/Report – Phase 2 for the South Bay Salt Pond Restoration Project

Dear Ms. Buxton:

The City of Palo Alto appreciates the opportunity to respond to the Draft Environmental Impact Statement/Report (EIS/EIR) for Phase 2 the South Bay Salt Pond Restoration Project.

The City of Palo Alto has the following comments on the Draft EIS/EIR:

L-CPA-1

1. It is our understanding that the "Alternative Mountain View C" (Alternative C) would support the City of Mountain View's existing BCDC mitigation requirement. In light of that requirement to restore Charleston Slough to full tidal action, and the improvements that would be made to the levee on the Palo Alto side of Charleston Slough, Palo Alto is supportive of Alternative C. The City of Palo Alto would like to request that the design and layout of the proposed levee improvements between the Palo Alto Flood Basin and Charleston Slough include consideration of balancing the incorporation of "horizontal levee" transition zones on the Flood Basin side of the levee to increase habitat diversity with the need to maintain the Flood Basin's storage capacity. We are aware that some stakeholders have voiced concern over loss of the existing mudflat habitat within Charleston Slough that is easily accessible to the public. The project should address the impacts of these habitat and accessibility losses.

L-CPA-2

2. The layout and design of the levee along the Palo Alto Flood Basin for Alternative C should be coordinated with the San Francisquito Creek Joint Powers Authority's (JPA) SAFER Bay initiative and potential future levee alignments at the Palo Alto Flood Basin that may arise out of the SAFER Bay project. It is possible that a portion of the Palo Alto Flood Basin/Charleston Slough levee improvements included in the Alternative C is not needed depending on the future levee alignment chosen as part of the SAFER Bay initiative. The City requests coordination of the Salt Pond Restoration Project with the SAFER Bay levee project and with the City of Mountain View.

City of Palo Alto
Comments on Saltpond Restoration Project Phase 2 EIR/EIS
Page 2 of 2

L-CPA-3

3. Palo Alto is concerned that the project could increase the amount or salinity of the Mountain View landfill leachate. The EIS/EIR analysis focusses on sea water intrusion into the groundwater supply. Since the Mountain View landfill pumps leachate to the City of Palo Alto Regional Water Quality Control Plant (RWQCP), the City is concerned about any increase in sea water intrusion which adversely impacts the salinity of the recycled water produced by the RWQCP.

L-CPA-4

4. PG&E has not been maintaining their electric transmission towers via the boardwalks recently, and is instead using helicopters to access them. The City suggests that the South Bay Salt Pond Restoration project coordinate with PG&E to verify whether the access boardwalk at the Palo Alto Flood Basin is needed and whether it must be rebuilt as part of this project.

L-CPA-5

The City of Palo Alto appreciates the work of the California Coastal Conservancy and its partners on this important restoration project. Please contact Kirsten Struve at (650) 329-2421 or Kirsten.struve@cityofpaloalto.org if you have any questions about these comments. In addition, the City would like to designate Kirsten Struve, Manager Environmental Control Programs, Public Works Department, and Environmental Services Division, as an alternate for the Salt Pond Restoration Project Stakeholder Forum. Please add her to your stakeholder forum list.

Sincerely,

James Keene
City Manager
City of Palo Alto

Response to City of Palo Alto (L-CPA)

L-CPA-1

The SBSP Restoration Project appreciates the City of Palo Alto's support for the project expressed in this comment.

The comment also includes mention of habitat transition zones on the Palo Alto Flood Basin side of the levee. This is a component that was not included in the project designs or plans, though certainly the City of Palo Alto owns the levee itself and the land on the flood basin side of it. The city could pursue that opportunity if it chooses; however it would be beneficial to all parties if that pursuit and any eventual construction of it were coordinated with the SBSP Restoration Project and other City of Mountain View sea-level rise adaptation projects that are along or near the border between the two cities.

L-CPA-2

As the comment suggests, the layout and design of the SBSP Restoration Project's actions along the Palo Alto Flood Control Basin levee was being coordinated with the San Francisquito Creek Joint Powers Authority's SAFERBay Project. Representatives of the two projects have attended several of each other's planning meetings and will continue to do so as each develops.

L-CPA-3

The City of Mountain View has also expressed concern that the higher tides in Ponds A1 and A2W would increase the rate of water seepage through the landfill levee and into the landfill cells, where it would be pumped out of the landfill. As this comment notes, this leachate is currently delivered into Palo Alto's Regional Water Quality Control Plant. The SBSP Restoration Project has conducted geotechnical investigations and analyses of the permeability of the landfill levee and the ground and other materials surrounding it. As described in the response to comment L-CMV-2, that preliminary analysis indicates increased seepage is expected to be insignificant, and no changes to the levee's permeability are expected to be needed. However, in the event additional protections are needed, the SBSP Restoration Project is committed to working with the City of Mountain View to design and implement impermeable geofabric along the portions of Ponds A1 and A2W that would be exposed to higher tidal elevations. The geofabric would reduce or eliminate the seepage and avoid impacts associated with disposal of the water pumped from the landfill.

L-CPA-4

PG&E has clarified that it intends to continue to hold the maintenance easement for the boardwalks and the power lines, though it acknowledges that using those boardwalks for maintenance or emergency repairs is less common than doing that work from helicopters, as the comment notes.

L-CPA-5

The SBSP Restoration Project will contact the listed staff people at the City of Palo Alto as directed in this comment.

San Francisquito Creek Joint Powers Authority (L-SFCJPA)

SAN FRANCISQUITO CREEK
JOINT POWERS AUTHORITY
SFCJPA.ORG

Sent via e-mail to: phase2comments@southbayrestoration.org; no hard copy to follow.

October 30, 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

Subject: Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report

Dear Brenda:

L-SFCJPA-1

I am pleased to submit this letter in regards to the Phase 2 Draft Environmental Impact Statement/Report of the South Bay Salt Pond Restoration Project (SBSPRP).

The San Francisquito Creek Joint Powers Authority is leading a project known as the Strategy to Advance Flood protection, Ecosystems and Recreation along the Bay (SAFER Bay) to protect and enhance approximately nine miles of shoreline from Redwood City to Mountain View.

The Palo Alto flood basin area of the SAFER Bay project is immediately north of, and must line up with, the Mountain View Ponds part of your project in order for both efforts to maximize the creation of habitat and ensure that properties in these cities are protected from extreme tides and Sea Level Rise. Similarly, SAFER Bay's levee alignments near Highway 84 will likely facilitate the enhancement of all seven Ravenswood Ponds, including the four ponds that are analyzed within your Phase 2 EIS/EIR.

A guiding principle and operational necessity of both the SBSPRP and SAFER Bay projects is that flood protection requires environmental restoration, and restoration requires flood protection. In some cases, the levee slopes we plan to build will *be* the new marsh habitat that is resilient to Sea Level Rise.

It is the geographic proximity of our efforts, and our shared long-term approach to enhancing ecosystems and safeguarding communities, which makes this current collaboration so important. I look forward to continuing to work with the SBSPRP team and cities so that the outcomes of our projects are aligned and our focus on the sustainable management of the shoreline endures as an example for others.

Sincerely,

Len Materman
Executive Director

650-324-1972 * jpa@sfcjpa.org * 615 B Menlo Avenue * Menlo Park, CA 94025

Response to San Francisquito Creek Joint Powers Authority (L-SFCJPA)

L-SFCJPA-1

The SBSP Restoration Project is grateful for this letter of support for the project and similarly looks forward to future collaboration with the San Francisco Creek Joint Powers Authority on the SAFER Bay Project.

City of Mountain View (L-CMV)

CITY OF MOUNTAIN VIEW

Office of the Mayor and City Council • 500 Castro Street • Post Office Box 7540 • Mountain View, California 94039-7540
650-903-6305 • FAX 650-903-6039

September 9, 2015

Ms. Brenda Buxton, Project Manager
California State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Dear Ms. Buxton:

This letter transmits the City's comments to the South Bay Salt Pond Restoration Project—Phase 2, Draft Environmental Impact Statement/Report, based on Council action on September 8, 2015.

The City appreciates the opportunity to respond to the Draft Environmental Impact Statement/Report and commends the work of the U.S. Fish and Wildlife Service and the California State Coastal Conservancy.

Sincerely,

John McAlister
Mayor

JMcA/TS/7/PWK
001-09-08-15L-E-1

Enclosure

Recycled Paper

Comments to the South Bay Salt Pond Restoration Project – Phase 2, Draft Environmental Impact Statement/Report

The City of Mountain View has the following comments to the South Bay Salt Pond Restoration Project – Phase 2, Draft Environmental Impact Statement/Report (EIS/EIR):

L-CMV-1

Overview comments regarding the project and the document:

1. The analysis indicated that sea water intrusion is not a concern to the groundwater supply. However, it did not analyze the potential change in groundwater level as a result of opening Ponds A1 and A2W to tidal flow. The potential change in groundwater level is a significant concern to the City's closed landfill operation. Any increase in groundwater level in the closed landfill will reduce gas collection capacity and increase risk of surface emissions and groundwater contamination. Any increase in groundwater level in the landfill will also increase leachate generation in the landfill and adversely impact the leachate pumping and production of recycled water at the Palo Alto Regional Water Quality Control Plant. It may affect Impact 3.3-5 from LTS to LTSM.

L-CMV-2

2. The portion of the City's landfill levee along Ponds A1 and A2W will be subject to potential tidal scouring after Ponds A1 and A2W are open to tidal flow. While the proposed habitat transition zone will provide wave attenuation and erosion protection to the lower part of the landfill levee, there is no erosion protection along the portion of the landfill levee that is above the proposed habitat transition zone. Therefore, erosion protection measures would still be needed along the landfill levees.

L-CMV-3

3. From a biological point of view, especially for the benefit of burrowing owls, a larger area of habitat transition zone is preferable because it would provide more upland habitat for prey species and potentially more nesting habitat depending on the height of the vegetation. Additional analyses may be needed to justify the trade-off between habitat benefits and construction feasibility.

L-CMV-4

4. The City is working on a levee improvement project at Stevens Creek and Stevens Creek Tidal Marsh to provide flood protection at the North Bayshore Area. Since the project is in close proximity to Pond A2W, the EIS/R should consider if it has any potential impacts to the restoration project.

L-CMV-5

5. The EIS/R outlined the construction traffic routes along San Antonio Road and North Shoreline Boulevard. The proposed construction traffic route along North Shoreline Boulevard is not feasible due to heavy traffic. The CSCC must work with the City to develop an alternative construction traffic route for Pond A2W.

JMcA/TS/7/PWK/001-09-08-15L-E-1-Enc 1 of 6

L-CMV-6

6. The Audubon Society was very active during the City's North Bayshore Precise Plan planning process and provided input on potential policies that may negatively impact wildlife. The group may have an opinion on the viewing platforms or overall impact to wildlife. It would be helpful to seek this group's input.

L-CMV-7

7. A potential negative impact with the Inner Charleston Slough integration option is a reduction of mud flat areas which provide habitat diversity and benefit many species of birds, especially at low tide when foraging. The diversity at Inner Charleston Slough provides educational and recreational benefits. Many educators have school field trips and bird watchers visit Inner Charleston Slough to view different bird species. The project should address these potential impacts.

L-CMV-8

8. There is uncertainty on the future Sailing Lake Pump Station operation, although preliminary analysis does not indicate significant postproject adverse impacts. While additional detailed analysis during design is needed, the project team has also been developing possible improvement options, such as constructing a new intake structure at the Pond A1 levee breach to supplement the existing intake structure. In addition to the options analyzed in the EIS/R, the City is considering eliminating the existing water intake structure in the future. Under this scenario, the project may consider options for relocating the pump station to the southern end of the Pond A1 levee and be in-line with the pipe alignment from the new intake structure. It may affect Impact 3.15-5 from LTS to LTSM. The CSCC must continue to work with the City on this issue during design.

L-CMV-9

9. The EIS/R analysis is based on a scenario that the Palo Alto Flood Basin levee within Inner Charleston Slough will be improved to meet the City's sea level rise planning level and meet FEMA levee certification standards. However, considering the current planning work at the Palo Alto Flood Basin and the uncertainty of the basin's future configuration, the City may consider a less extensive improvement option to just meet the existing flood protection level. The EIS/R should reflect this potential option.

L-CMV-10

Detailed comments in reference to specific sections of the document:

10. Figure ES-9: Correct the labeling to match the legend. All "new" features such as pipeline intake should be highlighted in white.

L-CMV-11

11. Table 2-4: Why does Pond A1 in Alt B not include a breach at Permanente Creek, similar to Alt C?

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L-CMV-12 12. Page 2-24: Raise and improve western levee of Pond A1: (1) Second to last sentence, please define "normal operation." (2) What is the new levee crest elevation and how does it compare to the crest elevation of the existing northern levee at Charleston Slough?

L-CMV-13 13. Page 2-24: We discussed a possibility to have an interpretive viewing platform at the Vista Point in Shoreline Park. Is it still under consideration?

L-CMV-14 14. Table 2-3: Do the fill volumes include (1) levee construction and (2) filling the ponds to raise the bottom elevation?

L-CMV-15 15. Page 2-29: Please note that the Coast Casey levees must be designed with sufficient foundation support for future build up to meet the City high SLR level.

L-CMV-16 16. Page 2-29: As part of the new water intake, does the existing Pond A1 levee need to be widened, reinforced, and raised to support truck access? In addition, at the new water intake structure, the levee needs to be widened to provide space for truck turning.

L-CMV-17 17. Page 2-29: As part of the Coast Casey levee work, the existing viewing platform/ deck will be replaced. This should be noted in the write-up.

L-CMV-18 18. Page 2-29: Levee Improvements: The trail on Coast Casey levee needs to be paved to match the existing condition.

L-CMV-19 19. Page 2-34: Construction Habitat Window: The habitat window should also consider the burrowing owl breeding season. In addition, construction work should protect and prevent disruption to burrowing owl habitat.

L-CMV-20 20. Page 2-37: The construction method and sequence did not include the Sailing Lake Pump Station. It is important to ensure that the pump station operation will not be interrupted during construction.

L-CMV-21 21. Page 2-38: Does the construction schedule include the estimated time needed to transport the import fill material to the site? In addition, please verify if construction is expected to begin in summer 2016.

L-CMV-22 22. Section 3.11: The traffic impact study analyzed the Level of Service at North Bayshore Boulevard. The analysis focused on the capacity at the highway off-ramp. However, the limiting factor is on North Bayshore Boulevard. Therefore, the City suggests analyzing truck traffic impacts on North Bayshore Boulevard at Pear Avenue and Plymouth Street. Please provide information on how the number of truck trips at 200 trips per day was estimated.

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L-CMV-23 23. Section 3.11: Construction truck traffic, especially for soil material hauling, will likely have adverse impacts to the City's roadway network. The analysis should include consideration of the preproject and postproject roadway condition assessment, and a contingency plan in the project to repair the City roadway as needed to preproject condition.

L-CMV-24 24. Page 3.5-161: Impact 3.5-25: There are possibilities that burrowing owl habitats will be impacted due to close proximity to the construction, truck access, and staging areas. The noise and disruption to the foraging habitat will also negatively impact burrowing owls. Additional analysis on the impact is needed, and it may change the impact from LTS to LTSM.

L-CMV-25 25. Appendix M, Figure 4.10: The proposed habitat transition zone extended to the top of the lower levee in USFWS property. In this design, the City's landfill levee will be exposed to tidal flow as a result of this project (under the existing condition, the landfill levee is not subject to tidal flow impacts). The City is concerned with erosion and seepage via the landfill levee due to the tidal flow. Please provide additional information on the risk of erosion and seepage potential, and confirm the proposed habitat transition zone would not compromise the integrity of the existing levee system. Under this proposed design, erosion protection along the landfill levee may be needed.

L-CMV-26 26. Appendix M, Section 1.1: Please list Shoreline at Mountain View Regional Park as being one of the locations that borders the pond complex, in addition to the commercial and industrial areas.

L-CMV-27 27. Appendix M, Section 2.1: Maintain City of Mountain View's Sailing Lake water intake. The pump station and intake need to be operational during construction. In addition, the postproject condition should allow maintenance access to the pump station, ability to backwash the intake/channel, and will not increase the level of maintenance efforts to the City.

L-CMV-28 28. Appendix M, Section 2.1: The Design Constraints should include prevention of additional seepage to the City's landfill due to tidal flow and higher water level in Ponds A1 and A2W. Seepage into landfill cells will increase landfill leachate levels and it will affect the landfill's contaminated groundwater capture and landfill gas capture capabilities.

L-CMV-29 29. Appendix M, Table 3.1: Alternative C should include a line item on need to raise utilities at the Sailing Lake Pump Station and Coast Casey Pump Station.

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L-CMV-30 30. Appendix M, Figure 3.5: It does not show any drainage channels inside the ponds, as discussed in Section 3.3. Please clarify.

L-CMV-31 31. Appendix M, Figure 3.6: Please mark up the locations of "Stevens Creek," "Mountain View Slough," and "Charleston Slough" in a plan view figure, such as Figure 3.1.

L-CMV-32 32. Appendix M, Figures 3.7 and 3.8: Please explain why Pond A1 WSL patterns are the same between Alt B and C, but not the case for Pond A2. Since Pond A2 has little difference between Alt B and C, one would expect Pond A2 has same WSL patterns between Alt B and C but not for Pond A1.

L-CMV-33 33. Appendix M, Figures 3.7 to 3.12: Figures 3.7 and 3.8 plotted WSL under existing conditions, but Figures 3.9 to 3.12 shows the WSL in plan view. It is difficult to compare the two conditions. Please include plan view figures for the existing condition.

L-CMV-34 34. Appendix M, Figures 3.9 to 3.12: Why is the Charleston Slough outer channel assumed to remain in its existing channel size, instead of based on the widening assumption similar to Stevens Creek and Mountain View Slough, or in the Charleston Slough modeling analysis?

L-CMV-35 35. Appendix M, General: Mountain View Slough is also commonly named as Permanente Creek.

L-CMV-36 36. Appendix M, Figures 3.11 and 3.12: At Pond A1, the drainage channel leading out from the Charleston Slough breach has a southeast alignment towards Shoreline Park. Please explain the basis of this alignment and why the drainage channel would not route east to connect to other drainage channels. In addition, it does not show any drainage channel formation in Charleston Slough leading to the Pond A1 breach. Please clarify.

L-CMV-37 37. Appendix M, Figures 3.14 and 3.15: Are the WSL plots and the plots in Figures 3.9 and 3.10 at the same location in Ponds A1 and A2W, respectively?

L-CMV-38 38. Appendix M, Section 3.4.2: The report mentioned that Pond A1 outflow creates backwater to Charleston Slough to slow down the pond drain. Please explain how Pond A1 inflow during flood tide affects Charleston Slough inflow.

L-CMV-39 39. Appendix M, Section 3.4.2: As shown in Appendix B1, Figure 3, under "Proposed (widen Charleston) WSE," the available pumping time will be lower than existing condition, instead of returning to its original condition. Therefore, it may be a potential negative impact.

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L-CMV-40 40. Appendix M, Figure 3.17: Charleston Slough WSE (regular tide) and (100-yr): Please list the assumptions of the predicted WSL, such as the channel and breach conditions.

L-CMV-41 41. Appendix M, Section 4.1.2: Pond A1 West Levee: In addition to elevation increase, the levee needs to be improved to resist tidal erosion as a result of Pond A1 breach.

L-CMV-42 42. Appendix M, Section 4.1.3: Design Criteria: It should also note that the levee foundation is designed to accommodate future levee improvement to elevation 16', the City high SLR design criteria.

L-CMV-43 43. Appendix M, Section 4.1.5 and 4.1.7: A1 Southwest breach: Considering that a new drainage channel will be established at the breach, and the existing low elevation at Pond A1, could the breach invert elevation be set lower than 2', perhaps by dredging a pilot channel between Charleston Slough and Pond A1? A lower invert elevation will improve the proposed intake design. In addition, is it possible to armor the north bank to prevent the breach mitigating north?

L-CMV-44 44. Appendix M, Section 4.1.6: Could the pull boxes, vaults, and maybe the viewing platform be built to elevation 16'?

L-CMV-45 45. Appendix M, Figure 4.7: Do the proposed levee improvements and any needed improvements at the forebay impact the Coast Casey Pump Station operation?

L-CMV-46 46. Appendix M, Section 4.1.10: Is the elevation difference between the pond and the Bay such that complete draining is not possible? Is it possible to widen the breaches to increase pond drainage so pond filling is not needed?

L-CMV-47 47. Appendix M, Section 4.2.2.1: Please note that the breeding season for burrowing owls is February 1 to August 31; thus, there should be no disturbance during this time period that could cause abandonment of nests. Additionally, there is a 500' buffer zone around burrows used by burrowing owls year-round. No construction activity can occur within the buffer zone.

L-CMV-48 48. Appendix M, Table 4.4: Line Item 3 is lower than the City's estimate from the Shoreline SLR Study. Please provide comments on the cost estimate difference.

L-CMV-49 49. Appendix M, Figure 2.9b: Please provide more information on how the two sediment sumps will function, especially the need of the second sump along the new intake pipeline.

L-CMV-50 50. Report: Change all "Mt View Slough" references to "Mtn. View Slough."

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Response to City of Mountain View (L-CMV)

L-CMV-1

The Final EIS/R provides text in Section 3.2 (Hydrology) and 3.3 (Water Quality) to address the City of Mountain View's questions and concerns about seepage of tidal flows into local groundwater and then into the cells of the closed landfill.

A seepage analysis of the information taken during geotechnical investigations of the landfill levees in the fall of 2014 and from previously published studies was conducted. The results of that analysis indicate that there would be an extremely minor increase in the phreatic surface (i.e., an elevation of the groundwater levels across the levee between the pond and the landfill) that would not cause an increase in seepage into the landfill cells.

However, the SBSP Restoration Project intends to continue collaborating with Mountain View to assess and develop design options to avoid seepage if necessary. Design options include, for example, the addition of a geofabric (an impervious liner such as the one suggested by the comment) to be placed between the existing levee slopes and the areas where the habitat transition zones would be constructed. Another suitable option could be a cut-off wall built into the levee. Either of these or other approaches would satisfactorily reduce seepage, in the very unlikely event it is necessary to do so. There will also be a thorough regulatory permitting process in which these aspects of groundwater seepage, leachate, and other aspects of the City's closed landfill will be evaluated and approved.

L-CMV-2

Similar to the question of seepage in the response to the comment above, the SBSP Restoration Project is collaborating with the City of Mountain View to plan, design, and implement the necessary erosion protection to the existing landfill levees. These erosion protection design features may include cobbles or larger rip-rap, planted vegetation, and/or geofabric.

L-CMV-3

The SBSP Restoration Project shares the view expressed in this comment that larger (i.e., flatter or less steep) habitat transition zones provide greater ecological benefit than smaller, steeper ones. The current plan, described in Section 2.2.3 of the Draft EIS/R, provides habitat transition zones with a 30:1 slope (horizontal:vertical), though steeper slopes with less surface area are possible depending on material availability and regulatory/permitting approval. Because of limits of available material and regulatory concerns about the area and volume of fill in the Bay, slopes flatter than 30:1 (i.e., larger transition zones) do not seem feasible. See also responses to comments from the Regional Water Quality Control Board (RWQCB, comments L-RWQCB-1, -10, and -16).

L-CMV-4

The SBSP Restoration Project is aware of the City of Mountain View's Lower Stevens Creek Levee Improvement Project and has participated in several coordination meetings already and will continue to do so as the two projects proceed through their design, environmental, and construction phases. At present, the City's Preferred Alternative for that project does not appear to have any direct interactions with or adverse environmental impacts on the SBSP Restoration Project. The timing and other logistical impacts of construction and other parts of the project implementation will need to be coordinated.

L-CMV-5

The construction (material delivery) routes shown in the Draft EIS/R were those initially provided to the SBSP Restoration Project by the City of Mountain View as part of initial planning and assessments. As stated on Page 3.11-12 of Section 3.11, the primary access route to the Mountain View Ponds is U.S. 101 to the San Antonio Road exit and north on San Antonio Road. The secondary route was planned to utilize North Shoreline Boulevard for material delivery. The SBSP Restoration Project will work with the City to develop and plan for other routes that are acceptable for material delivery. The timing and location of those routes will be planned to avoid burrowing owl nesting season and to maintain the required year-round 500-foot buffer distance around active burrows to the maximum extent practicable. Biological monitor(s) will be present during construction activities to ensure that the buffer distances are maintained and to gage the visible responses, if any, of the burrowing owls to the work. The City of Mountain View keeps updated records of burrows and nests each year and can provide them to the SBSP Restoration Project as part of a refined planning and routing plan as construction approaches. In the unlikely event that a burrow needs to be relocated to allow access through a necessary section of Shoreline Park, there are protocols for relocation that can and will be implemented to allow safe construction routing.

L-CMV-6

The Santa Clara Valley Chapter of the Audubon Society (SCVAS) and Audubon California (AC) provided comments on the SBSP Draft EIS/R, which have been considered and responded to in this Final EIS/R. To review these comments and responses, please refer to letters coded O-SCVAS and O-AC.

L-CMV-7

This comment and several others expressed similar concerns about Charleston Slough and the reduction in easily available areas for public viewing of intertidal mudflats and the species that use them. The SBSP Restoration Project shares this concern. However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds. Master Comment Response #1 is about this removal, and Master Comment Response #6 summarizes the Preferred Alternative. Chapter 6 of the Final EIS/R contains the full description of the Preferred Alternative.

L-CMV-8

The SBSP Restoration Project has collaborated closely with the City of Mountain View to develop and evaluate possible design-based solutions to several aspects of connecting the SBSP Restoration Project with the city's infrastructure and amenities, one of which is the water intake for the Shoreline Park sailing lake. The option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds, but continued collaboration will be necessary to further develop and implement other overlapping or abutting parts of the Phase 2 projects (e.g., the Coast Casey Forebay levee improvements).

L-CMV-9

This comment suggests that the Final EIS/R include and analyze scaled-back versions of the western levee of Charleston Slough (adjacent to the Palo Alto Flood Basin) and the Coast Casey Forebay levee (along the southern edge of Charleston Slough) that are reduced, relative to the design presented and analyzed for Alternative Mountain View C. These scaled-back levees would more closely represent the

SBSP Restoration Project's requirement to maintain existing levels of flood control. The Final EIS/R does not include the development of this reduced design or an analysis of the environmental impacts of its implementation. The impacts analyzed for Alternative Mountain View C's larger (both higher and wider) levee designs are the largest that would result from including those levees in the Phase 2 project actions. A smaller (less high, less wide) levee would have fewer and smaller environmental impacts than those already analyzed and disclosed in the Draft EIS/R. As there would be no new significant impacts, the inclusion and analysis of a reduced levee improvement design is not necessary.

L-CMV-10

The legend for Figure ES-9 has been changed to clarify the existing features versus those proposed. The same changes have been made for Figure 2-9b, which is the same map figure but in the main text.

L-CMV-11

Alternatives Mountain View B and Mountain View C contain variations in several features to provide a range of options for habitat restoration. The numbers, sizes, and locations of breaches are among those variations. In Alternative Mountain View B, the single breach into Pond A1 would be larger than it would be in Alternative Mountain View C, which would instead have more, but smaller, breaches.

L-CMV-12

In response to this comment about Alternative Mountain View B, the text on Page 2-24 of the Draft EIS/R has been revised to remove reference to "normal operation." The levee crest elevation under Alternative Mountain View B would be 10 feet elevation NAVD88.

L-CMV-13

At the request of the City of Mountain View, the viewing platform considered for relocation to the top of Vista Point hill in Shoreline Park has been removed from further consideration. The viewing platform will remain along the southern shore of Pond A1, as shown on the map figures for Alternatives Mountain View B and C.

L-CMV-14

The fill volumes presented in Table 2-3 include the fill required for levee improvements as well as construction of habitat transition zones, islands, and other purposes as described in the EIS/R. The volumes in the table do not include material to raise pond bottoms, however, because the current plans do not call for material import for pond bottom elevation increase. There is no requirement to implement that action because analysis has shown that the ponds are likely to achieve marsh plain elevation without any supplemental sediment.

L-CMV-15

The relevant text on page 2-29 of the Draft EIS/R has been revised in response to this comment. The Final EIS/R text now reads, "To incorporate the highest sea-level rise prediction from the City of Mountain View's Sea Level Rise Study, Feasibility Report, and Capital Improvement Program (ESA PWA 2012), this levee improvement would build a levee base and foundation support sufficient to support a 16.0-foot NAVD88 cross section but without the top 2 feet (i.e., to a crest elevation of 14 feet NAVD88)."

L-CMV-16

Appendix M to the Draft EIS/R is the preliminary design memorandum for the Alviso-Mountain View Ponds. Section 4.1.7 of Appendix M describes improving the southern portion of the levee between Pond A1 and Charleston Slough that would be necessary under Alternative C, which incorporated Charleston Slough into the Phase 2 SBSP Restoration Project actions. That text notes the need to provide adequate space for a maintenance truck to turn around and that the levee itself would be improved enough to support the new intake, pipe, maintenance trucks, and a recreational trail to the viewing platform and intake maintenance area. However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative for the Mountain View Ponds (as discussed in Master Comment Response #1). There would be no need for this maintenance truck access under the Preferred Alternative. The City of Mountain View will continue to be involved in planning and reviewing the other aspects the project as they develop.

L-CMV-17

As noted in the second bullet on page 2-29 of the Draft EIS/R, the existing viewing platform will be elevated to match the elevation of the raised Coast Casey Forebay levee. In addition, Appendix M (described in the response to comment L-CMV-16), includes preliminary designs for raising the existing viewing platform to match the increased elevation of the Coast Casey Forebay levee.

L-CMV-18

As stated on page 2-31 of the Draft EIS/R, "All rebuilt trails on existing levees that would be raised or modified as part of this project would be resurfaced to match the existing conditions."

L-CMV-19

As indicated on Page 2-34 of the Draft EIS/R, the timing of project construction would include consideration of the bird nesting season (February 1 through mid-September). This bird nesting season includes the breeding season of burrowing owls, among other species. In addition, Section 3.5-25 includes species-specific avoidance and minimization measures that the project would implement to protect burrowing owls.

L-CMV-20

Discussion of the pump station is included in Item 5 of the construction sequence list on Page 2-37 of the Draft EIS/R, which states, "Construct new water intake system at breach location along Pond A1 west levee and make other improvements to pump station."

L-CMV-21

The projected dates for the initiation of construction have been updated in the Final EIS/R. Construction would not begin in summer of 2016. The general construction schedule for all alternatives included estimates of the time required to import material. However, the detailed construction schedule will develop this more fully.

L-CMV-22

The comment misstates the focus of the traffic analysis (provided in Appendix G to the Draft EIS/R) as being on the capacity of the off-ramps from the nearest highway (in this case, U.S. 101). Rather, the

traffic impact analysis focused on the impacts of the intersections at the off-/on-ramps and the local arterials. The analysis was conducted to assess the overall change in traffic conditions from the construction vehicles used to import fill material; it was done in a "worst-case scenario" so as to assess the greatest possible impact to local traffic at those intersections for the purposes of complying with CEQA and NEPA. The City of Mountain View has already noted that new routes for the import of the haul material will need to be developed (see response to comment L-CMV-5). Additional studies of traffic and route planning will be conducted in collaboration with the City of Mountain View as part of that planning.

The method used to estimate the number of truck trips required to import material was the same for each pond cluster and alternative. The volume of net fill required was calculated as the difference between the local cut activities and the total fill required. Then, a conservative assumption of 11 cubic yards per construction truck was used to calculate the number of truckloads needed. An experienced trucking company that has hauled fill material for similar projects in the Bay Area was consulted to estimate a feasible number of truckloads that could be imported each day into each pond cluster based on the haul routes provided.

L-CMV-23

The 2007 EIS/R included a list of programmatic mitigation measures that would apply to all future project phases, including Phase 2. Those measures committed the project to a roadway rehabilitation program following construction. One of the details was SBSP Mitigation Measure 3.12-4, which would require making pre- and post-project videos of the conditions of the roads used for hauling fill so that there would be an objective standard for comparing the amount of roadway rehabilitation needed. That measure is listed in Section 2.3.3.

L-CMV-24

Section 3.5-25 describes the avoidance and minimization measures that the project would implement to protect burrowing owls, among other birds.

L-CMV-25

See responses to comments L-CMV-1 and L-CMV-2 for discussions of how seepage through the landfill levees was assessed.

L-CMV-26

Appendix M to the Draft EIS/R is a preliminary design memorandum that was used to provide enough detail on a range of project alternatives to conduct impact assessments for the Draft EIS/R. It is a completed document and need not be changed to include details such as the one requested in this comment. In addition, the SBSP Restoration Project does not think it appropriate to modify completed documents that have been publicly available for some time. The preliminary design memorandum for the Mountain View Ponds (Appendix M) includes several memoranda that were appended to the preliminary design memorandum itself to address certain aspects of the restoration design that were developed subsequent to completion of the main design memorandum. Any further modifications to details that do not affect the environmental impact assessment will be made as warranted during the design process.

L-CMV-27

Section 4.1.7 of Appendix M describes improving the southern portion of the levee between Pond A1 and Charleston Slough that would be necessary under Alternative C, which incorporated Charleston Slough into the Phase 2 SBSP Restoration Project actions. That text noted the need to provide adequate space for a maintenance truck to turn around and that the levee itself would be improved enough to support access by maintenance trucks. In addition, Appendix M contains memoranda (compiled as Appendix B to the preliminary design memorandum) that analyze the effects of the proposed new water intake location on long-term functioning and maintenance.

However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative for the Mountain View Ponds. There would be no need for this maintenance truck access under the Preferred Alternative. The City of Mountain View will continue to be involved in planning and reviewing the other aspects of the project as they are developed.

L-CMV-28

See responses to comments L-CMV-1 and L-CMV-2 for discussions of how seepage through the landfill levees would be addressed.

L-CMV-29

As noted in the response to comment L-CMV-26, the preliminary design memoranda were intended largely to generate inputs for analysis in the NEPA and CEQA processes. Appendix M includes several memoranda (that were added as Appendix B to the preliminary design memorandum itself) to address certain aspects of the restoration design that were developed subsequent to completion of the main design memorandum. One of these memoranda includes conceptual designs for raising and/or modifying the utilities and other existing infrastructure associated with the Coast Casey Forebay levee. Those actions were included in the analysis done for the Draft EIS/R; Table 2-4 includes raising and improving all of the pump station, water intake, and others structures associated with raising the Coast Casey Forebay.

L-CMV-30

The long-term future conditions of Ponds A1 and A2W, including expected future topography such as the drainage channels requested in this comment, are provided in Appendix M's Figures 3-9 through 3-12. Figure 3-5 is intended to show the average or typical pond bottom elevations in the future but not to illustrate the drainage network.

L-CMV-31

The text indicates the approximate location of the cross-section in that figure as being 700 feet offshore from the foot of Charleston Slough. As noted in response to comment L-CMV-26, the preliminary design memorandum is a completed document. All new documents will include maps to indicate the location of the cross-sections.

L-CMV-32

Appendix M was prepared before the Draft EIR/S, and the labeling or naming of alternatives sometimes varies between documents prepared at different stages of the project development. Also, in conducting the

model runs, several options for each alternative were simulated to better understand the advantages and disadvantages of each. See footnote at the bottom of page 15 in Appendix M for more details. Appendix M's Figure 3-7 and Figure 3-9 represent the case with only one breach in Pond A2W. In Figure 3-8 there are 4 breaches in Pond A2W.

L-CMV-33

As noted in the response to comment L-CMV-26, the preliminary design memorandum is a completed document that is not going to be revised as part of preparing the Final EIS/R. Figures in future documents figures will include plan views as appropriate.

L-CMV-34

The existing size of the channels in the mudflats offshore of Stevens Creek and Mountain View Slough are not large enough to allow drainage of Ponds A1 and A2W, therefore, the effects of breach sizes and internal channels in Ponds A1 and A2W could not be analyzed unless channels were added to the mudflats to allow drainage of the ponds through the mudflats. The expectation is that the channels will eventually form once the ponds have been breached. The emphasis on the analysis presented in Figures 3-9 through 3-12 is on Ponds A1 and A2W and since Charleston Slough drains completely under existing conditions, it was not necessary to change the conditions offshore of Charleston Slough.

L-CMV-35

Comment noted. Project maps show both names as Permanente Creek transitions into Mountain View Slough.

L-CMV-36

The channels shown in Figures 3-11 and 3-12 of Appendix M generally follow the channels found on the historic t-sheets for the area. This includes the small channel aligned towards Shoreline Park. The channels shown in Figures 3-11 and 3-12 were therefore not meant to be proposed channel designs.

L-CMV-37

Yes, the plots in Figures 3-9 and 3-10 are at the same locations in Ponds A1 and A2W, respectively.

L-CMV-38

The inflow should be only minimally affected. The only limit is the size of the channel between the bay itself and the inlet to Charleston Slough.

L-CMV-39

Comment noted. The breach in the levee between Charleston Slough and Pond A1 is no longer included in the Preferred Alternative at the Mountain View Ponds (see Master Comment Response #1). Therefore, there is no additional analysis or discussion of it in the Final EIR/S.

L-CMV-40

As indicated in response to comment L-CMV-39, the breach in the levee between Charleston Slough and Pond A1 is no longer included in the Preferred Alternative at the Mountain View Ponds. See Master Comment Response #1.

L-CMV-41

Section 4.1.3 of the preliminary design memorandum included as Appendix M of the Draft EIS/R lists the design criteria for levee improvements; erosion control is included among them. The proposed concept includes rock slope protection on the tidal side of the levee.

L-CMV-42

The text of Section 4.1.3 in Appendix M does note a wider base to support future elevation increases to protect against a high sea-level rise scenario. The comment is correct in noting that in this instance, the specific elevation of 16 feet is not listed, but that value and statement are made several other places in the EIS/R and in the designs.

L-CMV-43

As indicated in response to comments L-CMV-39 and L-CMV-40, the breach in the levee between Charleston Slough and Pond A1 is no longer included in the Preferred Alternative at the Mountain View Ponds. See Master Comment Response #1.

L-CMV-44

Those structures could be built to 16 feet elevation, but that was not the request from the City of Mountain View, which requested improving or adjusting those structures to accommodate a levee that was raised to 14 feet elevation.

L-CMV-45

The new water intake and the other structures related to its location, as well as those associated with the height of the Coast Casey Forebay levee to 14 feet elevation were designed to minimize impacts to intake and pump operations and to meet the water volume demands without changing out the existing pump. Appendix M Section 4.1.7 explains how, in the short term, the designs in the proposed alternative may actually decrease required maintenance and extend the life of the pump. While further modeling and analysis would have been required to confirm that the combination of tidal response and a higher elevation intake would provide sufficient water for the lake, the Preferred Alternative no longer includes the integration of Charleston Slough into the Phase 2 designs. See Master Comment Response #1.

L-CMV-46

Ponds A1 and A2W would not initially drain completely after breaching because they are subsided. The ponds would resemble “tidal lagoons” until sediment accretes to marsh plain elevation. Eventually, this accretion would allow vegetated marsh to form. Wider breaches would not change the draining of the ponds or speed this process in the short term.

L-CMV-47

As noted in the response to comment L-CMV-19, the construction schedule will be determined with consideration toward avoiding the nesting season for burrowing owls. Section 3.5-25 also includes the avoidance and minimization measures for burrowing owls, which include 500-foot buffer zones among other protections.

L-CMV-48

A good portion of the difference in cost estimates is explained by the fact that the SBSP Restoration Project assumes that the material to improve the levees and create transition zones is free, so that only the trucking costs need to be considered. The City's sea-level rise study and capital improvement program assumes rock-slope protection. Also, the City's sea-level rise study included a stability berm that the analysis done for the Phase 2 EIS/R did not consider necessary.

L-CMV-49

The second sump was optional and intended to act as an additional sediment trap to reduce the delivery of sediment from the intake to the pump itself. The construction of either a larger or multiple sediment sumps could decrease the number of maintenance visits required. This could reduce maintenance costs and prolong the life of the pump itself, as described in the text.

L-CMV-50

The main text of the Draft EIS/R spelled out the full name "Mountain View Slough," whereas the maps showed it as "Mt View Slough." This has been changed in the Final EIS/R. Where technical appendices referred to it as "Mt. View Slough," it was in completed documents. As described in responses to previous comments, revising completed documents with relatively minor name changes is not necessary, but they will use the requested name in all work going forward.

County of San Mateo (L-CSM)

COUNTY OF SAN MATEO
PLANNING AND BUILDING

County Government Center
455 County Center, 2nd Floor
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September 22, 2015

Ms. Brenda Buxton, Project Manager
South Bay Salt Pond Restoration Project
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Dear Ms. Buxton:

SUBJECT: South Bay Salt Pond Restoration
Ravenswood Pond Alternative D

L-CSM-1 Based on our review of the Draft Environmental Impact Statement/Report for the Ravenswood portion of the South Bay Salt Pond Restoration Project Phase 2, County staff believes that Alternative D offers the most favorable solution for providing flood control and environmental restoration along Redwood City's shoreline area. In order to mitigate future impacts of sea level rise, and in consideration of FEMA's recently released tidal flooding maps, we recommend that the proposed levee height outlined in Alternative D, at 9 feet North American Vertical Datum of 1988 (NAVD88), be increased to at least 11 feet NAVD88, and that the levees be constructed wide enough so that they can be raised at least another 6 feet at a later date if necessary.

L-CSM-2

Thank you for the opportunity to comment. Should you have any questions, or wish to discuss the project further, please feel free to contact me.

Sincerely,

Steve Monowitz
Community Development Director

SM:BRA:pac - BRAZ0672_WPN.DOCX

cc: Board of Supervisors
John Maltbie, County Manager, County of San Mateo
Jim C. Porter, Director, County Department of Public Works
Jeffrey Gee, Mayor, Redwood City

Response to County of San Mateo (L-CSM)

L-CSM-1

Thank you for this input. As discussed in Master Comment Response #4, the Preferred Alternative at the Ravenswood Ponds does not include the Bayfront Canal and Atherton Channel Project.

L-CSM-2

The SBSP Restoration Project has the goal and the legal requirement to maintain or improve on the existing level of flood protection. The proposed alternatives achieve that by raising or otherwise improving certain levees to offset the loss of the incidental protection the former salt-production ponds have historically provided. This comment requests improvement of the remaining outboard and/or internal levees to a standard far beyond that required to maintain existing levels of protection. The requested improvement would be beyond the SBSP Restoration Project's ability to fund and are also not within the project's mission. The SBSP Restoration Project is willing to cooperate with city or county or special district agencies to incorporate improved levees beyond the level required by the project itself. Indeed such cooperation is a part of some improvements at the Alviso-Mountain View Ponds and in the first segment of the USACE's Shoreline Study. Similar cooperative efforts may also be a part of future project phases in collaboration with the San Francisquito Creek Joint Powers Authority's SAFER Bay Project or future phases of the USACE's Shoreline Study.

Santa Clara Valley Water District (L-SCVWD)

5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Santa Clara Valley Water District

October 30, 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

Email to: phase2comments@southbayrestoration.org

Subject: Comment Letter on the Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report

Dear Ms. Buxton:

L-SCVWD-1 Santa Clara Valley Water District is the water management agency for Santa Clara County with a mission of providing drinking water, flood protection and protection of local creeks and the Bay. We have been an enthusiastic partner in the South Bay Salt Pond Restoration (SBSPR) Program since its inception because we recognize that restored marshes along our Bayfront will enhance the local habitat and provide important natural flood protection by absorbing water and wave action. As a partner in the SBSP, our staff has been actively involved in developing this document and the alternatives described for the Alviso complex which forms the Bay shoreline for Santa Clara County. We appreciate the opportunity to comment on this important document.

L-SCVWD-2 The water district supports the program described in the Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report. We have evaluated the proposals for the Island Ponds, Pond A8 and Ponds A1 and A2 which are located in Santa Clara County, but did not evaluate the portion of the program in San Mateo County.

L-SCVWD-3 We would like to call out the Pond A8 work in particular. Alternative A8 B describes placing sediment along the Southern edge of Pond A8 to build a habitat transition zone. The expected source of that sediment is material that the water district has cleaned out of our streams to maintain their flood flow capacity. This program has the dual benefits of creating more habitat and saving the water district millions of dollars of disposal fees over the years. Right now the alternative includes creating up to 1400 feet of habitat transition zone in the southwest corner and up to 1500 feet in the southeast corner. Please consider completely filling the southern edge of Pond A8 with transition zone.

L-SCVWD-4 To summarize, the Santa Clara Valley Water District is committed to the South Bay Salt Pond Restoration and supports the program described for the Alviso Complex for Phase 2. We look forward to working through flood protection issues as needed during the design phase. Thank you for this opportunity to provide comments and please do not hesitate to contact me by phone at (408) 630-2632 or by email at nnguyen@valleywater.org with any questions.

Sincerely,

N. Nguyen

Ngoc Nguyen, P.E.
Assistant Operating Officer
Office of Watersheds

Our mission is to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.

Response to Santa Clara Valley Water District (L-SCVWD)

L-SCVWD-1

The SBSP Restoration Project appreciates the Santa Clara Valley Water District's support for the project and its participation in project planning.

L-SCVWD-2

The SBSP appreciates the Santa Clara Valley Water District's evaluation of the Draft EIS/R as it pertains to Santa Clara County.

L-SCVWD-3

The SBSP Restoration Project initially considered constructing habitat transition zone across the entire southern portion of the A8 Ponds, as the comment suggests. However, the action alternative at the A8 Ponds was intended to not foreclose the option to connect the A8 Ponds to the outflowing San Tomas Aquino Creek and Calabazas Creek. Placing transition zones across the entire southern border would preclude such a future action, which is the reason that those zones were limited to the corners of this pond cluster. However, it should be noted that a future addition of transition zone across the entire southern border is still possible if the decision is made that connecting the two creeks to the ponds is not appropriate. In the meantime, the surplus material described in this comment can be used for levee maintenance in a number of nearby locations within the Refuge.

L-SCVWD-4

The SBSP Restoration Project is grateful for the Santa Clara Valley Water District's continuing support for the project.

San Francisco Bay Trail (L-SFBT)

October 23, 2015

Brenda Buxton
Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Subject: **South Bay Salt Pond Restoration Project Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement & Environmental Impact Report**

Dear Ms. Buxton:

On behalf of the San Francisco Bay Trail Project, thank you for the opportunity to comment on the South Bay Salt Pond Restoration Project Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement & Environmental Impact Report. The San Francisco Bay Trail is a visionary plan for a bicycle and pedestrian path that will one day allow continuous travel around San Francisco Bay. Currently, 343 miles of trail are complete and open to the public. Eventually, the Bay Trail will extend over 500 miles to link the shoreline of nine counties, passing through 47 cities and crossing seven toll bridges.

L-SFBT-1

The following comments focus on the Phase 2 alternatives from the perspective of shoreline public access and Bay Trail improvements in the Alviso/Mountain View Pond Complex and the Ravenswood Pond Complex. All the new trail segments proposed in the DEIR/DEIS are not officially planned Bay Trail, but if implemented, they could become part of the Bay Trail system.

Alviso/Mountain View Pond Complex

The alternatives outlined for this pond complex include new recreation opportunities that provide increased public access to the restored marshes. New spur trails, observation platforms and extended levee trails would enhance wildlife-viewing opportunities and create places where the public can learn about the new habitats that are being created in the bay.

The report does not provide details about how wide the new levee spur trails will be and whether they will accommodate bicyclists in addition to pedestrians.

We recognize that significant and unavoidable impacts to existing trail facilities will occur with the construction of new trails and improvement of existing trails. The Bay Trail in Mountain View and Palo Alto is one of the most popular segments in the region. The project manager should coordinate with the Bay Trail Project to ensure advanced notice is provided to the public.

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Ravenswood Pond Complex

The alternatives outlined for this pond complex also include new recreation opportunities that provide increased public access to the restored marshes. New spur trails, observation platforms and loop trails would enhance wildlife-viewing opportunities and create places where the public can learn about the new habitats that are being created in the bay.

L-SFBT-2

The proposed loop trail around Ponds R5 and S5 will be a welcome new trail experience. The report states that the trail will be 6 feet wide. Will it also be open to bicyclists?

We recognize that significant and unavoidable impacts to existing trail facilities will occur with the construction of new trails, improvement of existing trails and the pipeline work at the entrance to Bedwell Bayfront Park. The project manager should coordinate with the Bay Trail Project to ensure advanced notice is provided to the public.

Table 3.6.2 Alviso-A8 Ponds Existing Public Access and Recreation

L-SFBT-3

Trails, Bay Trail Spine: Planned Bay Trail segment is located at the ~~southwest~~ southeast corner of Pond A8S. Existing Bay Trail spine is located south of Pond A8S on the south side of Guadalupe Slough, adjacent to Sunnyvale Baylands Park.

The Guadalupe River Trail does not yet connect to the Bay Trail as stated in this table.

Please add, as an existing recreational resource in the area, the 9-mile loop trail accessed from the Alviso Marina County Park around ponds A9 –A14.

Page 3.6-7 Association of Bay Area Governments

L-SFBT-4

The Bay Trail is now more than 2/3 complete, rather than slightly more than half as stated in this paragraph.

Thank you for considering these comments and please contact me at 510-464-7935 or laurat@abag.ca.gov if you have questions.

Sincerely,

Laura Thompson

Laura Thompson
Bay Trail Project Manager

Response to San Francisco Bay Trail (L-SFBT)

L-SFBT-1

Appendix F to the Draft EIS/R contains "typical" sections of the trails proposed for Phase 2 actions. That Draft EIS/R also noted the width of most of the trail segment included in Phase 2 as being planned to be 12 feet wide and the boardwalk trails to be 8 feet wide. The Preferred Alternative does not include any elevated boardwalk trails. The details about bicycle use of the various trail segments proposed for Phase 2 have not yet been determined.

The SBSP Restoration Project will coordinate with the Bay Trail Project and the cities of Mountain View, Menlo Park, Palo Alto, and Redwood City – whose existing recreation and public access facilities would be temporarily disrupted by construction.

L-SFBT-2

Appendix F to the Draft EIS/R contains "typical" sections of the trails proposed for Phase 2 actions. At the Ravenswood Ponds, the Draft EIS/R also noted the width of most of the trail segment included in Phase 2 as being planned to be 12 feet wide and the boardwalk trails to be 8 feet wide. One proposed portion of trail was initially planned to be narrower (6 feet wide), but that has been amended in the Final EIS/R to be 12 feet wide. The Preferred Alternative at the Ravenswood Ponds does not include any elevated boardwalk trails. The details about bicycle use of the various trail segments proposed for Phase 2 have not yet been determined.

As in response to comment L-SFBT-1, the SBSP Restoration Project will coordinate with the Bay Trail Project and affected cities for construction planning and public notification.

L-SFBT-3

Table 3.6.2 has been corrected in the Final EIS/R as suggested in this comment.

L-SFBT-4

The text referenced in the comment has been corrected in the Final EIS/R.

San Francisco Bay Regional Water Quality Board (L-RWQCB)

CALIFORNIA Water Boards

EDMUND G. BROWN JR. GOVERNOR

MATTHEW RODRIQUEZ SECRETARY FOR ENVIRONMENTAL PROTECTION

San Francisco Bay Regional Water Quality Control Board

Sent via electronic mail: No hard copy to follow

October 7, 2015
CIWQS Place ID No. 817607

State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Attn: Brenda Buxton, Project Manager (phase2comments@southbayrestoration.org)

Subject: South Bay Salt Pond Restoration Phase 2 Project, Draft Environmental Impact Statement / Report
SCH No. 2013092010

Dear Ms. Buxton:

San Francisco Bay Regional Water Quality Control Board (Water Board) staff appreciates the opportunity to comment on the subject *Draft Environmental Impact Statement / Report* (Draft EIS/R). The Water Board supports this important project, which is a key part of restoring and improving San Francisco Bay's beneficial uses, including for fishing, recreation, and wildlife habitat. Our comments below are intended to facilitate future Water Board Project permitting by ensuring potential Project impacts associated with fill of wetlands and other waters and urban runoff diversion are appropriately addressed. In addition, we have provided comments on other issues of interest to the Board.

Project Description

Phase 2 of the South Bay Salt Pond (SBSP) Restoration Project is a collaborative effort among federal, state, and local agencies working with scientists and the public to develop and implement project-level plans and designs for habitat restoration, flood management, and wildlife-oriented public access within portions of the former Cargill Inc. (Cargill) salt ponds in South San Francisco Bay (Bay), which were acquired by the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) in 2003. The former salt ponds included in this Draft Environmental Impact Statement/Environmental Impact Report (EIS/R) are part of the USFWS-owned and managed Don Edwards San Francisco Bay National Wildlife Refuge (Refuge), and cover approximately 9,600 acres in the South Bay. The Refuge ponds in Phase 2 are collectively nearly 2,400 acres in size.

The Draft EIS/R provides a project-level evaluation and analysis of the SBSP Restoration Project, Phase 2. The 2007 SBSP Restoration Project Programmatic EIS/R (2007 EIS/R) analyzed the larger, program-wide details of the SBSP Restoration Project and also included a full project-level analysis for the Phase 1 actions. Where feasible and appropriate, this Draft

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EIS/R uses information and analysis from the 2007 EIS/R for analysis of the project-level impacts of the SBSP Restoration Project, Phase 2.

Comment 1. Phase 2 of the SBSP restoration includes a new type of fill impact to waters of the State that should be analyzed in the Draft EIS/R.

Phase 2 of the SBSP Restoration introduces the proposed construction of broad transition zones between tidal marshes and uplands, adjacent to the Flood Risk Management (FRM) levees in some of the ponds. These transition zones, or "ecotones," would benefit the levee structure and provide significantly more acreage for marshes to retreat inland in the face of sea level change than a 2:1 slope levee design.

L-RWQCB-1

However, the creation of the ecotones will require the placement of fill material in waters of the State, since the fill to create the ecotones will be placed in a mixture of uplands, wetlands, and open water. Since the Draft EIS/R only specifies the length of the ecotones, it is not yet possible to assess the anticipated area of fill of wetlands and open water. The Draft EIS/R must be revised to provide the estimated acres of fill in waters of the State, including wetlands and open water, for the alternatives presented in the Draft EIS/R. Without this information, it is not possible to assess the extent of the Project's reasonably foreseeable impacts to waters of the State or to assess the amount of mitigation that may be appropriate for those impacts.

The proposed locations at which ecotones are being considered for construction in Phase 2 of the SBSP Restoration Project are presented in the discussion of Project Alternatives in Chapter 2 of the Draft EIS/R. If all proposed ecotones were constructed, they would have a total length of 19,900 linear feet.

The ecotone fill is an impact to waters of the State that was not reviewed in prior CEQA documents for the SBSP Restoration Project. Other impacts have been reviewed; during the Interim Stewardship Phase and Phase 1, two impacts to waters of the State were implemented: conversion of managed ponds to tidal wetlands and the placement of fill in borrow ditches. The conversion of managed ponds to wetlands does not result in a net reduction of waters of the State and the impacts associated with that conversion have been thoroughly reviewed in the prior CEQA documents. The placement of fill in borrow ditches changes the depth of waters of the State, but does not reduce the acres of waters of the State. In addition, the placement of fill in borrow ditches has been demonstrated to have a beneficial impact on water quality in the former salt ponds. Borrow ditches have been demonstrated to provide preferential flow paths for water in managed ponds, which allows larger areas of the pond to become stagnant. In stagnant areas of the ponds, water temperatures become warmer and dissolved oxygen levels become lower. Therefore, the SBSP Restoration Project's Adaptive Management Plan has demonstrated that the placement of fill in borrow ditches is beneficial to water quality in managed bonds.

The Draft EIS/R should be revised to fully assess the impacts to water quality and beneficial uses of waters of the State associated with creating ecotones in former salt ponds. Water Board staff support the Project and recognize that it is needed in order to increase the acreage of salt marsh and related habitats in South San Francisco Bay. However, the proposed ecotones present a permitting challenge, because they would place fill into a likely significant quantity of waters of the State, which may result in a net loss in area of those waters.

Based on analogy with the proposed South San Francisco Bay Shoreline Protection Project, creation of all proposed ecotones in Phase 2 of the SBSP Restoration Project is likely to fill

between 100 and 200 acres of waters of the State, consisting of wetlands and open water. This impact is unusually large for a single project and would usually require significant mitigation to be consistent with the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan), which incorporates the State of California's no net loss policy (Governor's Executive Order W-59-93 and Senate Concurrent Resolution No. 28). Therefore, it is important to establish that the proposed ecotones create sufficient habitat benefits to allow the Water Board to conclude that it is consistent with the directives of the Basin Plan to issue a project with significant fill a Clean Water Act (CWA) Section 401 water quality certification (Certification) and Waste Discharge Requirements (WDRs) pursuant to the California Water Code.

L-RWQCB-1 cont.

The Basin Plan directs the Water Board to consider specific guidelines and requirements, including the following, as a part of its mandated duty to protect waters of the State. These should also be referenced and appropriately considered in the Draft EIS/R as a part of considering ecotone fill impacts:

- The California Wetlands Conservation Policy (Governor's Executive Order W-59-93 and Senate Concurrent Resolution No. 28), requiring no net loss and a long-term net gain in the quantity, quality, and permanence of wetlands in California, including the San Francisco Bay region.
- The *Baylands Ecosystem Habitat Goals* (1999) (*Habitat Goals*), and the *Baylands Ecosystem Species and Community Profiles* (2000) (referred to collectively as the "Habitat Goals Reports"), which are to be used as guides for wetlands restoration in the vicinity of San Francisco Bay.

The Habitat Goals Reports envision the restoration of tidal marsh and similar habitat throughout the South Bay region and contain recommendations for enlarging tidal marshes and protecting and enhancing marsh transition areas. The Basin Plan recommends that the Habitat Goals Reports, which were written by over 100 local scientists and resource managers, be used as guides for wetland restoration to protect beneficial uses of waters in San Francisco Bay, not only for species but also to purify and store State waters. Use of the Habitat Goals Reports will help ensure that developments in the Project area are implemented in a manner that benefits tidal species, migratory and resident shorebirds, waterfowl, and the federally listed California Ridgeway rail (formerly California Clapper Rail) and salt marsh harvest mouse (SMHM).

Chapter 5 of the Habitat Goals contains goals for the South Bay Subregion of San Francisco Bay.

> The overall goal in the South Bay subregion is to restore large areas of tidal marsh connected by wide corridors of similar habitat along the perimeter of the Bay. Several large complexes of salt ponds, managed to optimize shorebird and waterfowl habitat functions, should be interspersed throughout the subregion, and naturalistic, unmanaged salt ponds (facsimiles of historical, hypersaline backshore pans) should be restored on the San Leandro shoreline. ***There should be natural transitions from mudflat through tidal marsh to adjacent uplands*** **[*emphasis added*]**, wherever possible. Adjacent moist grasslands, particularly those with vernal pools, should be protected and improved for wildlife. Riparian vegetation and willow groves should be protected and restored wherever possible

The highlighted text in the quote from the Habitat Goals Reports is supportive of the need to create ecotones between marshes and uplands. Ecotones can be created by filling existing waters and wetlands, or by adjusting the slopes of adjacent uplands, or a combination of both. The

L-RWQCB-1 cont.

Draft EIS/R should be revised to assess these options for creating ecotones. The assessment should address the fill associated with ecotone creation and the feasibility of obtaining adjacent uplands for the creation of ecotones.

The unique characteristics of the restoration opportunities in Phase 2 of the SBSP Restoration Project Salt Ponds may justify a focus on listed species that depend on tidal marshes. Both the Habitat Goals and the *USFWS Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Recovery Plan) (USFWS, August 27, 2013), which include recovery actions for the California Ridgeway rail (formerly California Clapper Rail) and salt marsh harvest mouse (SMHM), support both the restoration of as many acres of tidal marsh as feasible and the creation of ecotones between marsh habitats and upland high water refuges. Reasons for believing that the creation of ecotones will provide significant benefits to listed species are summarized below. However, the large amount of fill of waters of the State that will be associated with the creation of ecotones will require that the Project document that these assumed benefits to listed species are being observed after ecotones are created. We encourage the Coastal Conservancy to develop a robust monitoring program to track the use of created ecotones by the species covered by the Recovery Plan. Such a monitoring program may be a viable mitigation element for the proposed fill of waters of the State. Data from the monitoring program would demonstrate whether or not listed species are using the ecotone habitat, as well as providing data for adaptive management as future ecotones are designed and constructed.

The Recovery Plan features five endangered species: two endangered animals, California clapper rail (*Rallus longirostris obsoletus*) and salt marsh harvest mouse (*Reithrodontomys raviventris*), and three endangered plants, *Cirsium hydrophilum* var. *hydrophilum* (Suisun thistle), *Chloropyron molle* ssp. *molle* (soft bird's-beak), and *Suaeda californica* (California sea-blite). The biology of these species is at the core of the recovery plan, but the goal of this effort is the comprehensive restoration and management of tidal marsh ecosystems. According to the Recovery plan, "California clapper rails occur almost exclusively in tidal and brackish marshes with unrestricted daily tidal flows, adequate invertebrate prey food supply, well developed tidal channel networks, and suitable nesting and escape cover providing refugia during extreme high tides." In the restored marshes, the ecotones will provide critical refuge during extreme high tides.

The Recovery Plan also states that "[v]iable populations of salt marsh harvest mice also appear to be limited by the distribution of high tide cover and escape habitat. Recurrent but shallow flooding by saline water is probably needed to maintain habitat that favors the salt marsh harvest mouse over its potential competitors. Anticipated sea level rise presents a severe threat in the long-term, especially in the central and South San Francisco Bay where opportunities for landward migration of habitat are absent." The proposed ecotones are anticipated to provide high tide cover and escape habitat, as well as providing some opportunities for landward migration of habitat.

Figure I-1, *Intertidal distribution of the focal species covered in this recovery plan,* in the Recovery Plan shows the distribution of listed species covered in the Recovery Plan along the tidal gradient. As is illustrated in this figure, the upland ecotone is used by both the California clapper rail and the SMHM, and also provides the majority of habitat for the three plant species covered in the Recovery Plan: *Cirsium hydrophilum* var. *hydrophilum, Cordylanthus mollis* ssp. *mollis,* and *Suaeda californica.*

L-RWQCB-1 cont.

Ecotones are anticipated to contribute to the value of the marsh and future success of special status species using the marsh by providing an important transitional zone and high-tide refugia. This sort of upland transitional habitat is not well represented in the South Bay due to severe loss of habitat. In the South Bay, ecotones are mostly absent along levees due to the abrupt transition between middle marsh habitat and steep-sided levees. In the long term, the transitional ecotone areas may provide some resilience to the potential impacts of sea level rise in the Bay by providing space for marshes to retreat inland in the face of sea level change.

Comment 2. Alternative Ravenswood D of Phase 2 of the SBSP Restoration Project includes Redwood City's proposal to use Ponds S5 and R5 for flood control purposes, but the proposal lacks sufficient background data to support assessing the proposal's potential consistency with the Basin Plan.

The City of Redwood City's proposed flood management program is summarized in Chapter 2 of the Draft EIS/R.

> **Ravenswood Pond Cluster**
> **Alternative Ravenswood D**
> Incorporate Redwood City's Bayfront Canal and Atherton Channel Project. In this component, a combination of culverts and open channels would be installed to direct peak stormwater runoff from the Bayfront Canal into the triangular forebay of Pond S5 and into Ponds S5 and R5 beyond that. Open channel improvements would be made upstream and downstream of the proposed culvert installation to enhance flow to and from the culvert. The water control structures described above would allow the freshwater outflow from the culvert to move between ponds, and ultimately to the Bay, and also to manage water quality in the ponds during the dry season.

L-RWQCB-2

Redwood City first approached the Water Board to discuss its proposal to divert peak flood flows from the Bayfront Canal to former salt ponds in 2013. During a meeting at the Water Board's offices on May 21, 2013, we explained that Redwood City would need to establish that the diverted flood flows were not having a negative impact on water quality or beneficial uses in the former salt ponds. As is explained in detail below, Redwood City has not yet developed an adequate sampling program for characterizing first flush flows at Bayfront Canal, for assessing contaminant levels in the flood waters that are proposed to be diverted to the former salt ponds, or for evaluating changes to water quality in the ponds after flood flow diversions are implemented. Developing appropriate sampling programs and implementing those programs to collect necessary background data may take one or more years. Therefore, Water Board staff encourages the Coastal Conservancy to evaluate whether or not the flood control proposal should be retained in Phase 2 of the SBSP Restoration Project, or deferred to a later phase.

We requested that Redwood City staff develop a proposed sampling plan, acceptable to the Water Board, to assess water quality in the Bayfront Canal during major storm events. Unfortunately, Redwood City developed and implemented a sampling program for the 2013/2014 wet season without seeking pre-sampling review from the Water Board. The results of the 2013/2014 wet season sampling were provided in the *Draft Summary of Water Quality Sampling for Bayfront Canal* (Moffatt & Nichol, June 12, 2014). Based on Water Board staff review of the Draft Summary, the collected data are of no use in assessing the potential water quality impacts associated with diverting peak flood flows into Ponds R5 and S5. The sampling program implemented in the 2013/204 wet season was compromised by the following flaws:

L-RWQCB-2 cont.

- The sampling program did not include appropriate background sampling locations. The "background" sample location receives urban runoff during a storm event (in fact, it had the highest dissolved copper concentrations measured in the sampling event). Therefore, it does not provide a true background sample for use in assessing the constituent levels associated with urban runoff in the Bayfront Canal.
- The sampling program did not include a receiving water sample location that was unaffected by water quality in the Bayfront Canal. The receiving water sample was collected from Flood Slough, immediately adjacent to the tide gates between the Bayfront Canal and Flood Slough. During a major storm event, almost all of the water present in the sample location consists of water that has just discharged from the Bayfront Canal. Therefore, water quality at the receiving water sampling point is expected to be almost identical to water quality in Bayfront Canal. The receiving water sample should have been collected much further away from the tide gates.
- The sampling program collected and analyzed grab samples. As we explained in May 2013, to adequately assess water quality related to stormwater runoff, it is necessary to collect flow-weighted composite samples throughout the duration of the storm event.
- The sampling program used measurements of dissolved copper and salinity as surrogates for contaminants in urban runoff, but did not provide an adequate justification for only assessing one dissolved metal and salinity levels. Typical sampling programs intended to identify urban runoff impacts would analyze a range of constituents. A prior study had suggested that copper was the constituent of concern most likely to exceed water quality objectives (WQOs) in the Basin Plan, but, as is discussed below, this prior study was severely flawed.

The June 2014 *Draft Summary* describes the sample collected in the Atherton Channel, which is collected upstream from the confluence with the Bayfront Canal, as a background sample. Since the Atherton Channel receives urban runoff, it is unclear how this location can be considered a background sample location (i.e., one unaffected by urban runoff) with respect to monitoring the water quality impacts associated with urban runoff. Because the Atherton Channel sample had the highest detected dissolved copper concentration of the samples summarized in the *Draft Summary*, it is especially unlikely that the sample collected from the Atherton Channel represents a true background sample for assessing pollutants in urban runoff.

According to the *Draft Summary*, dissolved copper was the only analyte that exceeded an applicable Basin Plan water quality objective (WQO). However, as is discussed in the following paragraphs, the decision to limit constituent monitoring to dissolved copper was based on a flawed sampling program.

The City also took stormwater samples in 2012-13, and the results of that program were summarized in *City of Redwood City Bayfront Canal & Ravenswood Salt Ponds: 2013 Stormwater Monitoring* (Pacific Eco Risk, April 2013) (April 2013 memorandum). This effort sampled three collection points: the Bayfront Canal, upstream of the confluence with the Atherton Channel; the Atherton Channel, upstream of the confluence with the Bayfront Canal; and the Bayfront Canal, downstream of the confluence (this sample location is most likely representative of the water that would discharge to S5 in Ravenswood Alternative D). Results from a sample collected in Flood Slough, just beyond the tide gates that discharge flow from the Bayfront Canal, were proposed to show background conditions. However, by the time that the grab samples were collected, it is likely that the water in Flood Slough, especially near the tide

L-RWQCB-2 cont.

gates, was heavily influenced by the water exiting from Bayfront Canal via the tide gates. In other words, the "background" or "receiving water" sample contained a significant amount of the "effluent." The April 2013 Memorandum also appears to confuse "background" and "receiving water" samples. For a stormwater runoff monitoring program, a background sample would be a freshwater sample, consisting of runoff from a non-urbanized (or significantly less urbanized) area. A receiving water sample would consist of Bay water that was not directly or recently impacted by urban runoff. An alternate receiving water sample should have been established.

In addition, for the 2013 program, reporting limits for arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, and zinc were higher than their respective 4-day average and/or 1-hour average water quality objectives (WQOs). Therefore, the data from this event cannot be used to show that water in the Bayfront Canal did not exceed WQOs for these metals.

Many chemical concentrations were inappropriately reported in the April 2013 memorandum as "0." The number "0" should not be used in data reporting. The appropriate format for analytes that are not detected is to report "ND (R.L.)." In other words, results should be reported as "non-detected" at the "reporting limit" (R.L.) determined for that analyte in that particular laboratory batch. Reporting limits vary from analytical batch to analytical batch, so it is always necessary to include reporting limits in data summary reports. If a sample required significant dilution, a reporting limit may have been raised above the WQO for one or more analytes in that batch.

The memorandum also stated that only dissolved metals were analyzed, because total metals would give an unrealistically high value of those metals that are biologically available to aquatic organisms. While it is true that the dissolved form is the biologically available form, NPDES permits require that we regulate metals in the total recoverable form (40 CFR Part 122.45(c)). This is because as effluent interacts in the environment, metals in the total form can be converted into the biologically available dissolved form. This is especially true of the stagnant, nutrient rich conditions that may be created in Ponds S5 and R5 if stormwater runoff is diverted to those ponds.

Only a subset of the pesticides that were analyzed for in early 2013 have WQOs in the Basin Plan. The discussion of pesticides in the April 2013 memorandum concluded with the following statements.

> There are no Basin Plan WQO requirements for organophosphate or pyrethroid pesticides. No pesticides were measured at concentrations that would adversely affect aquatic life.

The absence of an established WQO for a pesticide does not constitute proof that the pesticide has no adverse effect on aquatic life. To assess potential impacts of pesticides on water quality in Ponds S5 and R5, the study should have used other environmental screening levels, where available, to supplement WQOs for any analytes detected in the samples. For chemicals that do not have established WQOs, other environmental screening levels are available and should have been included in the assessment of the data. Another alternative for assessing contaminants in stormwater runoff is to run acute and chronic aquatic toxicity tests on benthic macro invertebrates.

The early 2013 sampling program also did not include analysis for PCBs. PCBs are a common constituent in urban runoff, present a serious risk to aquatic life, since they bio-accumulate, and there is a TMDL for PCBs in San Francisco Bay.

L-RWQCB-2 cont.

Also, as the April 2013 memorandum acknowledged, the samples collected were grab samples, rather than 1-hour composites or the 4-day averages specified for comparison with the WQOs in the Basin Plan. The memorandum even acknowledges that it is inappropriate to compare dissolved metal concentrations based on individual grab samples to one-hour and four-day WQOs. For stormwater sampling, composite samples collected in combination with local rainfall data (so that they can be flow-weighted) are necessary to determine the extent to which the collected samples can be assumed to be representative of the complete storm event. Local rainfall data are necessary to determine whether samples are collected on the rising or falling segments of the storm's hydrograph. Time-averaged composite samples help in the collection of samples that are more representative of runoff from the complete storm event. Grab samples are also unable to provide guidance on determining the duration of the first flush event, if any.

Finally, since the first flush of a storm event typically carries the highest concentrations of suspended pollutants, it is important to avoid diverting first flush flows into the salt ponds. Since the Bayfront Canal is at the bottom of the watershed, it is also likely that the first flush period may be fairly extended, since the first flush from various portions of the watershed will arrive at the Canal at differing times. Rainfall intensity also plays a role in the duration of a first flush event, since more intense rainfall is more effective at mobilizing urban contaminants. Therefore, it is necessary to monitor several rainfall events to adequately assess the magnitude of typical first flush events in a watershed. The City will need to develop a protocol, based on appropriate data collection protocols, for ensuring that the full "first flush" flow is discharged to the Bay before flow is diverted to ponds R5 and S5.

The City should also develop a sampling protocol for water and sediment quality in Ponds R5 and S5 after flood flows are diverted into these ponds. Data from such a sampling program are necessary to assess whether or not pollutants in the flood flows are accumulating in the ponds, as well as to assess the effect of the diverted flows on salinity levels in the former salt ponds. In the absence of the requested sampling programs, the Draft EIS/R cannot assert that Alternative Ravenswood D will not have significant impacts to water quality or beneficial uses.

L-RWQCB-3

Comment 3. Alternative Ravenswood D of Phase 2 of the SBSP Restoration Project includes Redwood City's proposal to use Ponds S5 and R5 for flood control purposes, but the proposal does not include an assessment of the impacts on habitat quality in the ponds that may result from diverting large amounts of fresh water to a saline habitat.

The summary of alternatives notes the operations and maintenance activities that would be associated with the proposed alternatives. For Alternative Ravenswood D, the following summary is presented:

> **Operations and Maintenance: All Action Alternatives**
> In Alternative Ravenswood D only, these same activities would be required for the Redwood City stormwater connection. Inspection would be required every month until the first year and semi-annually thereafter. Maintenance would be required on an annual basis. O&M would be accomplished during low tides in Pond R4 and sloughs and by maintaining low storage conditions in the managed ponds.

For Alternative Ravenswood D, Operations and Maintenance should also require regular water quality monitoring and monitoring of trash levels in the Ponds R5, S5, and the S5 forebay, since this alternative would divert flood flows containing urban runoff into these ponds. Also, periodic sediment sampling should be conducted to assess whether or not pollutants in the stormwater

runoff diverted to the ponds are accumulating in the pond bottoms to levels that may impact beneficial uses.

L-RWQCB-3 cont.

Since the diverted peak flood flows would consist of freshwater, operations and maintenance of the ponds should also include tracking of salinity in the influent water and the pond sediments; this will be useful to verifying whether or not occasional diversions of stormwater runoff to the ponds is having a beneficial impact on residual salinity in the ponds. If the ponds become colonized by aquatic life, sudden inputs of low salinity water into a tidal, brackish environment could result in fish mortality. The current diversion proposal does not address the potential negative impacts of discharging fresh waters to saline habitats. The proposal should be revised to include monitoring of salinity levels, as well as monitoring for potential mortality of fish or benthic macro invertebrates in the former salt ponds.

Comment 4. The Draft EIS/R makes a flawed comparison between managed ponds that receive and discharge Bay waters and a proposal to divert fresh water flows to a pond.

In Section 3.3 Water Quality and Sediment, Section 3.3.3 Environmental Impacts and Mitigation Measures Phase 2 Impact 3.3-2: Degradation of water quality due to low dissolved oxygen levels, the discussion of impacts in the Ravenswood Ponds, includes the following text with respect to potential water quality impacts under Alternative Ravenswood D.

L-RWQCB-4

> ***Alternative Ravenswood D.*** Alternative Ravenswood D would open Pond R4 to tidal flows, remove levees within and between Ponds R5 and S5, convert Ponds R5 and S5 to enhanced managed ponds, allow stormwater outflow from Redwood City's Bayfront Canal and Atherton Channel to Ponds R5 and S5, and install water control structures on Pond R3. The structure connecting Pond R3 to Ravenswood Slough would be opened only during the incoming tide to reduce potential discharges.
>
> Alternative Ravenswood D would have similar effects to those described for Alternative Ravenswood B, with the exception that stormwater inflow would increase circulation during and shortly after heavy rains, but may also contribute additional nutrients. The contribution from stormwater inflow would occur only during winter storms. Depending on how the water control structures are operated (i.e., opened for continuous directional flow or primarily closed to provide maximum water depth), the residence time in the ponds could be on the order of hours to days. If residence times are long, water in the managed ponds would likely be stagnant and rich in nutrients, particularly in summer months, and therefore dissolved oxygen concentrations may be low.
>
> Adaptive management measures (e.g., changing residence times and/or water depths) would be implemented during low dissolved oxygen conditions to reduce the potential for adverse conditions associated with low dissolved oxygen levels, such as mortality of aquatic or benthic organisms, odors that cause nuisance, degraded habitat, or unacceptably high methylmercury production rates. Because of monitoring and implementation of adaptive management measures, impacts would be less than significant.
> **Alternative Ravenswood D Level of Significance: Less than Significant**

The proposed diversion of flood flows to salt ponds is new to the SBSP Restoration Project. The linear flow from the Bayfront Canal to the forebay to Pond S5, Pond S5, Pond R5, and, ultimately, the Bay is not analogous to the control of flow in the managed ponds that are common in the SBSP Restoration Project. The managed ponds have inlet and outlet structures

L-RWQCB-4 cont.

that can be used to regulate the rate of flow into a pond and the rate of flow out of a pond, and water is taken from and discharged to Bay waters. This gives the SBSP management team a level of control over water in the ponds that can be readily manipulated in response to low dissolved oxygen levels or other water quality concerns. By contrast, once the peak flood flow has passed in the Bayfront Canal, it may be difficult to introduce new flow into Ponds R5 and S5, if dissolved oxygen levels (or other water quality parameters) present impairments to the habitat value in the ponds. Also, it is not clear from the Draft EIS/R whether or not Ponds R5 and S5 can be completely drained via the proposed water control structures. For example, there may be areas of the pond bottoms that are lower than the outlet structure(s), which would result in stagnant pools of water that may precipitate out contaminants associated with stormwater runoff onto the pond floor; this could have a long term negative impact on water quality in the ponds. In addition, prior sampling of water in the Bayfront Canal referenced above only analyzed dissolved metal concentrations. As is noted in the quoted text from the Draft EIS/R, water in the ponds may "be stagnant and rich in nutrients" and suspended forms of metals may be transformed into bio-available forms under these conditions (See Comment 2). In addition, the proposed flood peak diversion would direct freshwater into tidal, brackish ponds; this is a significant difference from the managed ponds which accept and discharge saline waters. The text of this section of the Draft EIS/R should be revised to provide a more complete discussion of the means by which adaptive management can be implemented to maintain water quality and dissolved oxygen levels in Ponds R5 and S5 in Ravenswood Pond Cluster Alternative D. At present, the text does not support the conclusion that impacts to water quality would be less than significant.

L-RWQCB-5

Comment 5. Additional water quality data and analyses are needed to appropriately evaluate potential urban runoff impacts on salt ponds.

Section 3.3, Water Quality and Sediment, Section 3.3.3 Environmental Impacts and Mitigation Measures Phase 2 Impact 3.3-4: Potential impacts to water quality from other contaminants, includes the following text.

> *Urban Runoff Management.* Increased exchange of urban runoff with restored tidal marshes and managed ponds (via tide gates connected to flood control channels or through direct diversion) could transport and/or deposit contaminants, including trash, from urban sources into the restored areas. Urban runoff in the South Bay has been shown to have contaminants such as PAHs, metals (copper and zinc), and urban pesticides (diazinon, pyrethroids) (McKee et al. 2006). Restored tidal marshes and managed ponds could sequester urban pollutants, thereby reducing overall pollutant loads from urban runoff to the Bay. However, the sequestering of urban pollutants in the biologically active restored areas could also render the pollutants more available to biological uptake. The project proponents will notify the appropriate urban runoff program of any physical changes (such as breaches) that will introduce urban discharges into the project area and request that the urban runoff program consider those changes when developing annual monitoring plans.

Alternative Ravenswood C Level of Significance: Less than Significant

Alternative Ravenswood D. Alternative Ravenswood D would open Pond R4 to tidal flows, remove levees within and between Ponds R5 and S5, convert Ponds R5 and S5 to enhanced managed ponds, allow stormwater outflow from Redwood City to Ponds R5 and

L-RWQCB-5 cont.

S5, and install water control structures on Pond R3. Levees would be improved, lowered, or removed and a habitat transition zone would be constructed in Pond R4.

Potential effects to water quality from contaminants other than mercury, methylmercury, and dissolved oxygen would be similar to those discussed under Alternative Ravenswood B, with the exception that stormwater inflow from the Bayfront Canal could be discharged into Ponds R5 and S5. The Bayfront Canal is the stormwater transmission canal for Atherton Channel that discharges through Flood Slough and into the Bay. Peak stormwater flows would be routed from the Bayfront Canal and Atherton Channel into Ponds R5 and S5, bypassing Flood Slough.

Increased exchange of urban runoff with restored tidal marshes and managed ponds (via tide gates or other water control structures connected to flood control channels or through direct diversion) could transport and/or deposit sediments and contaminants, including trash, from urban sources into the restored areas. However, the water control structure used to divert stormwater flows into Ponds R5 and S5 would generally allow the first flush of the storm, which often has higher concentrations of urban pollutants, to pass by the ponds. The quality of the stormwater would be managed as part of Redwood City's municipal separate storm sewer system (MS4) permit and in accordance with the Water Quality Monitoring Plan that the City of Redwood City is developing for this project. That plan will include monitoring of stormwater flows in Bayfront Canal prior to diversion into Ponds S5 and R5, installation of trash racks, and an operations plan that would only divert the peak runoff (i.e., after the first flush of the storm) into the restoration area. Therefore, adverse impacts to the ponds would be minimized. Implementation of Programmatic Mitigation Measure 3.3-4a would reduce construction impacts to less-than-significant levels.

Alternative Ravenswood D Level of Significance: Less than Significant

The discussion of potential impacts associated with the introduction of urban runoff to former salt ponds lacks sufficient detail to support the conclusion that impacts to water quality in the ponds would be less than significant. The discussion of urban runoff impacts states that "the project proponents will notify the appropriate urban runoff program of any physical changes (such as breaches) that will introduce urban discharges into the project area and request that the urban runoff program consider those changes when developing annual monitoring plans." A simple notification of potential impacts does not actually provide any mitigation for those impacts. It remains the responsibility of the project proponents to assess negative impacts to beneficial uses of waters of the State in the ponds and to provide appropriate mitigation when beneficial uses may be compromised. This is especially true of Alternative Ravenswood D, which would directly divert urban runoff into former salt ponds. Also, Water Board staff would like to note that annual monitoring plans for urban runoff programs are typically regional in nature and not focused on doing in-depth analyses of a singular water body with the goal of addressing potential impacts to that water.

The discussion of Alternative Ravenswood D proposes to bypass the "first flush," which typically has the highest loadings of pollutants in runoff, before diverting urban runoff to former salt ponds. However, no protocol for assessing when the first flush, or runoff with high pollutant loadings or concentrations, has passed the diversion structure is presented. At the bottom of a large watershed, it is difficult to isolate a first flush event. This is because the first flush from

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various locations within the watershed will arrive at the outlet of the watershed at different times. First flush runoff from the neighborhoods near the Bay may pass by the diversion structure within the first half hour of a storm event, while first flush runoff from higher in the watershed may reach the diversion structure more than an hour into the storm event. Since most of the water quality samples collected from the Bayfront Canal have been grab samples, there are no data that characterize when a first flush event has passed through the Bayfront Canal. Much more site-specific water quality data is needed to demonstrate that first flush contaminant levels can be successfully avoided when stormwater is diverted to former salt ponds. And more data are needed to assess the potential impacts on the ponds of introducing low salinity water. At present, the Draft EIS/R lacks sufficient detail to demonstrate that these alternatives will have less than significant impacts on water quality in the former salt ponds.

L-RWQCB-6

Comment 6. The Draft EIS/R should address impacts to habitats subject to federal and State jurisdiction.

Section 3.5.1 Physical Setting, includes the following text:

> Following the methodology in the 2007 South Bay Salt Pond Restoration Project Programmatic EIS/R (2007 EIS/R), this section characterizes the existing biological conditions related to Phase 2 of the SBSP Restoration Project. The principal biological components of concern are the vegetation and habitats, the wildlife, and the area of habitat subject to United States Army Corps of Engineers (USACE) jurisdiction.

This section of the Draft EIS/R should be revised to include an assessment of impacts in areas subject to Water Board jurisdiction, as well as USACE jurisdiction. See Comment 9 for a discussion of differences between federal and State jurisdiction.

L-RWQCB-7

Comment 7. Lists of beneficial uses of waters of the State should be consistent in the Draft EIS/R.

Section 3.5.2 Regulatory Setting, makes the following statement about Water Board regulatory activities.

> The San Francisco Bay Regional Water Quality Control Board (RWQCB) has primary authority for implementing provisions of the federal Clean Water Act and California's Porter-Cologne Water Quality Control Act. These statutes establish the process for developing and implementing planning, permitting, and enforcement authority for waste discharges to land and water. The *San Francisco Bay Basin (Region 2), Water Quality Control Plan (Basin Plan)* establishes beneficial uses for surface and groundwater resources and sets regulatory water quality objectives that are designed to protect those beneficial uses (RWQCB 2011). Under the current Basin Plan, designated beneficial uses of the San Francisco Bay Area's surface waters include municipal and domestic supply; agricultural supply; industrial service supply; groundwater recharge; contact and noncontact recreation; warm freshwater fish habitat; cold freshwater fish habitat; wildlife habitat; migration of aquatic organisms; and spawning, reproduction, and/or early development of fish.

The list of beneficial uses omits the beneficial use of the preservation of rare and endangered species. This beneficial use is listed in the discussion of the *San Francisco Bay Region Basin Plan and California Toxic Rule*, in Section 3.3.2 of the Draft EIS/R, and should be added to Section 3.5.2.

Comment 8. The Project is subject to coverage under the Statewide General NDPES Construction Stormwater Permit.

L-RWQCB-8

Section 3.5.2, Regulatory Setting, lists the permits required by the Project from the Water Board. However, only a Section CWA 401 Water Quality Certification is identified. Please revise this section to include the need to obtain Waste Discharge Requirements, issued pursuant to the authority of the State of California's Porter-Cologne Water Quality Control Act, and coverage under and compliance with the Statewide NPDES Construction Storm Water Permit.

Comment 9. CEQA significance criteria should address impacts to waters that are subject to State jurisdiction, even if they are not subject to federal jurisdiction.

Section 3.5.3, Environmental Impacts and Mitigation Measures, lists CEQA significance criteria for biological impacts. One of these significance criteria is:

> Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

L-RWQCB-9

This significance criterion should be improved by replacing "federally protected wetlands as defined by Section 404 of the Clean Water Act" with "wetlands or other waters of the State." At the time when these significance criteria were developed, the difference between federal waters and State waters was much smaller than it is today, after several U.S. Supreme Court rulings that have reduced the extent of waters subject to federal jurisdiction. Those rulings have also identified State regulation as the means by which disclaimed waters could be regulated. In any case, biological impacts associated with adverse effects to wetlands may be significant whether the wetlands are federal or State.

Comment 10. The Draft EIS/R should estimate the total amount of fill that may occur during Phase 2 of the SBSP Restoration Project.

L-RWQCB-10

Section 3.5.3, Environmental Impacts and Mitigation Measures, Table 3.5-3 Biological Impact Significance Thresholds, includes impact 3.5-24, Potential impacts to jurisdictional wetlands or waters. The "threshold of significance for this impact is defined as measurable, long-term loss of jurisdictional wetlands or waters not compensated for by equivalent increases in jurisdictional wetlands or waters as a result of SBSP Restoration Project activities."

Section 3.5.3 includes project-level evaluations of potential biological resources impacts. Of the 25 potential impacts discussed in the Draft EIS/R, 23 are the same ones used in the 2007 EIS/R. However, two new impacts were added for consideration Draft EIS/R. The following discussion is provided for Impact 3.5-24.

> Impact 3.5-24 covers the potential impacts to jurisdictional wetlands or waters. This impact was added to more specifically call out and assess the changes to jurisdictional wetlands that would occur as part of connecting former salt ponds with tidal flows. Many of the ponds are surrounded by fringing marsh that would necessarily have channels excavated through them, and the Project Management Team (PMT) wanted to explicitly account for and analyze those channels.

The discussion of this impact should be expanded to include an assessment of the net fill of wetlands and other waters associated with the proposed creation of ecotones in several of the

L-RWQCB-10 cont.

former salt ponds (See Comment 1). Appropriate mitigation for this fill should also be discussed in the Draft EIS/R.

Comment 11. More information is needed to support the conclusion that Alternative Mountain View C would not significantly impact steelhead trout.

The discussion of Phase 2 Impact 3.5-13: Potential effects of habitat conversion and pond management on steelhead, includes the following text:

> **Alternative Mountain View C.** Under Alternative Mountain View C, steelhead would receive the same habitat enhancements via access to the newly opened ponds as in Alternative Mountain View B. The main difference between Alternatives B and C that could impact steelhead habitat would be additional breaches in Charleston Slough under Alternative C to open the slough to fully tidal flows, with the purpose of enhancing habitat connectivity during the transition from mudflat to vegetated tidal marsh. In Alternative C, two additional breaches are proposed for Charleston Slough. In both alternatives, Pond A2W would be breached adjacent to the mouth of Stevens Creek/Whisman Slough. The south and west levees of Charleston Slough would be raised and improved to meet City of Mountain View requirements. A water intake for Shoreline Park's sailing lake would be added to the levee between Pond A1 and Charleston Slough; the intake would be at the breach. The associated pumps and other utilities would be modified as needed for access and maintenance. The same PG&E infrastructure improvements noted for Alternative B would also be made for Alternative C.
>
> Stevens Creek/Whisman Slough contains upstream steelhead spawning habitat, and access to tidal marsh at the mouth of Stevens Creek would create beneficial habitat for out-migrating steelhead. Because of the location of the Mountain View Ponds (adjacent to Stevens Creek, which has connectivity to upstream steelhead spawning areas), these restored aquatic habitats are expected to be used by steelhead.
>
> General construction impacts and the avoidance measures described for Alternative Mountain View B would apply to Alternative Mountain View C. However, the restored tidal marsh in Charleston Slough would create increased beneficial habitat for out-migrating steelhead. Actions taken in Alternative C would continue to create diversified estuarine habitat offering shelter and foraging habitat for juvenile steelhead. Actions proposed for Alternative C could be more beneficial than those proposed under Alternative B because increased estuarine habitat would result from the restored tidal marshes in Charleston Slough.
>
> However, the enhanced habitat connectivity could increase the potential for steelhead to enter the water intake systems for Shoreline Park's sailing lake in either the new location at the breach between Pond A1 and Charleston Slough or the current location (which would be left in place as a secondary or backup intake). The water intake for Shoreline Park's sailing lake currently takes in 8 to 10 million gallons per day. The current risks of entraining steelhead (discussed under Alternative Mountain View B) would increase in the new location due to the increased use of the adjacent ponds by smolts and juvenile fish. However, as noted above, Alternative Mountain View C would provide large areas of improved estuarine habitat for steelhead, particularly in the smolt stage. Overall, the improvement in nursery and foraging habitat that would be created by the restoration of Charleston Slough and Ponds A1 and A2W to tidal marsh would outweigh the potential

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L-RWQCB-11 cont.

impact to steelhead from entrainment at the sailing lake water intake (Hobbs, pers. comm., December 14, 2014). As a result, the impact of Alternative C on steelhead is expected to be less than significant.

Alternative Mountain View C Level of Significance: Less than Significant

The Draft EIS/R concludes that "the improvement in nursery and foraging habitat that would be created by the restoration of Charleston Slough and Ponds A1 and A2W to tidal marsh would outweigh the potential impact to steelhead from entrainment at the sailing lake water intake (Hobbs, pers. comm., December 14, 2014)." However, the information provided in the Draft EIS/R is insufficient to support this conclusion. Please provide more detail with respect to the referenced personal communication so that readers of the Draft EIS/R can assess the technical basis for this conclusion. Without this information, the conclusion that the impact is less than significant does not appear to be supported.

Comment 12. More information is needed to support the conclusion that Alternative Mountain View C would not significantly impact estuarine fish.

L-RWQCB-12

The discussion of Phase 2 Impact 3.5-14: Potential impacts to estuarine fish, includes the following text for Alternative Mountain View C:

Alternative Mountain View C. Under Alternative Mountain View C, estuarine fish would receive the same habitat enhancements via access to the newly opened ponds as in Alternative Mountain View B. The difference in Alternative Mountain View C is that additional breaches in Ponds A1 and A2W and at Charleston Slough and the removal of the levee between Pond A1 and Charleston Slough would result in a larger and more connected estuarine habitat as the ponds and Charleston Slough transition to tidal marshes. The south and west levees of Charleston Slough would be raised and improved to meet City of Mountain View requirements. A water intake for Shoreline Park's sailing lake would be added to the levee between Pond A1 and Charleston Slough; the intake would be at the breach. The associated pumps and other utilities would be modified as needed for access and maintenance. The same PG&E infrastructure improvements noted for Alternative B would also be made for Alternative C.

In-water work would be timed to the extent possible to avoid impacts to estuarine fish that might be present within the ponds or adjacent sloughs. If fish rescue and/or relocation are required during construction, it would be completed under an agency-approved plan to limit impacts. Tidal marsh also provides valuable nursery habitat for fish, and the transition to tidal marsh habitat at an increased rate is expected to benefit fish species.

However, the enhanced habitat connectivity could increase the potential for estuarine fish to enter the water intake systems for Shoreline Park's sailing lake in either the new location at the breach between Pond A1 and Charleston Slough or the current location (which would be left in place as a secondary or backup intake). The sailing lake water intake currently takes in 8 to 10 million gallons per day. The current risks of entraining fish (discussed in Alternative Mountain View B) would increase in the new location and with the increased habitat connectivity and expected increase in use of Ponds A1 and A2W by estuarine fish. Overall, the improvement in nursery and foraging habitat, particularly for juvenile life stages, that would be created by the restoration of Charleston Slough and Ponds A1 and A2W to tidal marsh would outweigh the potential impact to estuarine fish

from entrainment at the sailing lake intake systems. As a result, impacts to estuarine fish under Alternative Mountain View C would be less than significant.

Alternative Mountain View C Level of Significance: Less than Significant

L-RWQCB-12 cont.

The Draft EIS/R concludes that "improvement in nursery and foraging habitat, particularly for juvenile life stages, that would be created by the restoration of Charleston Slough and Ponds A1 and A2W to tidal marsh would outweigh the potential impact to estuarine fish from entrainment at the sailing lake intake systems." However, the information provided in the Draft EIS/R is insufficient to support this conclusion. Without more information, the conclusion that the impact is less than significant does not appear to be justified.

Comment 13. The Draft EIS/R does not address potential fish mortalities associated with sudden diversions of fresh water to saline habitats.

The discussion of Phase 2 Impact 3.5-14: Potential impacts to estuarine fish, includes the following text for Alternative Ravenswood D:

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Alternative Ravenswood D. Under Alternative Ravenswood D, Pond R4 would be breached and restored to tidal marsh, as described for Alternatives Ravenswood B and Ravenswood C. Unlike Alternative C, there would be no levee lowering for improved connections to Greco Island, but water control structures would still be provided at Ponds R3, R5, and S5, and the habitat transition zones would still be constructed as described above. Alternative D would also include construction to connect Pond S5 with the Bayfront Canal to allow temporary floodwater detainment during storm events.

The benefits and impacts associated with Alternative Ravenswood D would be similar to those described for Alternative Ravenswood C. It is unlikely that estuarine fish in Ponds R5/S5 would be adversely affected by the occasional stormwater inputs from the Bayfront Canal and Atherton Channel Project. Estuarine fish could, however, use the created tidal marsh habitat. Therefore, impacts would be less than significant under CEQA and beneficial under NEPA.

Alternative Ravenswood D Level of Significance: Less than Significant (CEQA); Beneficial (NEPA)

The Draft EIS/R provides no justification for the conclusion that:

It is unlikely that estuarine fish in Ponds R5/S5 would be adversely affected by the occasional stormwater inputs from the Bayfront Canal and Atherton Channel Project. Estuarine fish could, however, use the created tidal marsh habitat. Therefore, impacts would be less than significant under CEQA and beneficial under NEPA

Sudden influxes of fresh water into a brackish, tidal habitat can have potentially fatal impacts to salt water fish when salinity levels drop quickly. Citizen observers of the Berkeley Aquatic Park lagoons have reported bat ray fatalities following major storm related influxes of fresh water to the lagoons. In addition, sudden influxes of fresh water into tidal lagoons can result in stratification of fresh and salt water layers, which results in dissolved oxygen depletion in the lower layer of water. The Conservancy should develop a monitoring program that would detect negative impacts of freshwater flows on fish or benthic macro invertebrates, as well as a monitoring program for assessing dissolved oxygen levels if stratified levels of saline and fresh water develop in Ponds R5 and S5.

Comment 14. The Draft EIS/R should assess proposed impacts to waters of the State for consistency with the State's no net loss policy.

The discussion of Phase 2 Impact 3.5-24: Potential impacts to jurisdictional wetlands or waters, includes the following text:

L-RWQCB-14

> Most of the Phase 2 project alternatives involve levee breaching to open ponds to take tidal flows. The overarching mission of the project is the restoration and enhancement of tidal marsh wetlands in the South San Francisco Bay while providing for flood management and wildlife-oriented public access and recreation. To achieve these goals, the Phase 2 alternatives would initially create impacts to wetlands and WUS resulting from breaches to the levees and the surrounding fringing marshes. Additional fill-related impacts would come from building islands and habitat transition zones, installing water control structures, and adding or making improvements to the PG&E maintenance infrastructure. However, the impacted acreage would be significantly smaller than the area of the restored wetlands.
>
> The majority of conversion would be from non-wetland waters (WUS) to wetlands, which the USACE considers special aquatic sites; special aquatic sites have increased value due to their increased ecological functions and values. The wetlands, in comparison to WUS, will provide higher-quality habitat for sensitive plant and animal species and refugia for many bird species.

In assessing impacts to waters of the State, the significance of the impact should not be evaluated by comparing the acres of impacted waters to the acreage of restored waters. Rather, it should be evaluated in light of the State's no net loss policy (see Comment 1). The Draft EIS/R should attempt to quantify the net fill of wetlands and other waters of the State and to assess the significance of that fill, as well as discussing factors that may reduce the level of significance of that fill.

Also, as is discussed in Comments 1, 10, and 16, the discussion of impacts to jurisdictional waters should be expanded to provide a better assessment of impacts associated with creating ecotones.

Comment 15. Changing the relative amounts of open waters and wetlands does not result in a net increase in waters of the State.

The discussion of Phase 2 Impact 3.5-24: Potential impacts to jurisdictional wetlands or waters, includes the following text for Alviso Island Ponds Alternative B:

L-RWQCB-15

> ***Alviso-Island Ponds***
> **Alternative Island B.** Under Alternative Island B, two additional breaches would occur in Pond A19, levees would be lowered in two areas, and levees would be removed along the western side of Pond A19 and the eastern side of Pond A20. Alternative B would impact jurisdictional wetlands both temporarily (due to disturbance during construction) and permanently (loss of wetland habitat along breached levees). Further, all breached or excavated material would be sidecast into deeper portions of the ponds to raise bottom elevations. This action would constitute fill in jurisdictional waters. However, the breaching efforts would lead to the enhanced connectivity during and after the conversion of mudflats to tidal marsh areas. Overall, the construction activities would result in the creation of significantly more wetlands and waters than would be impacted. The loss of

L-RWQCB-15 cont.

waters habitat would be replaced by high-value wetland habitat. This impact would be considered less than significant.

Alternative Island B Level of Significance: Less than Significant

The statement "[o]verall, the construction activities would result in the creation of significantly more wetlands and waters than would be impacted," appears to be incorrect. This alternative does not actually create wetlands and waters. It only affects the relative distribution of wetlands and other waters within the total area of waters of the State at the Alviso Island Ponds.

Comment 16. The Draft EIS/R does not attempt to estimate the total acres of waters of the State that may be filled during implementation of Phase 2 of the SBSP Restoration Project.

The discussion of Phase 2 Impact 3.5-24: Potential impacts to jurisdictional wetlands or waters, includes the following text for Alviso Island Ponds Alternative B and C and *Alviso-A8 Ponds,* Alternative A8 B.:

Alternative Mountain View B. Alternative Mountain View B would breach Ponds A1 and A2W, and convert them to tidal marsh and add habitat transition zone. Alternative B would also create habitat transition zones and habitat islands within Ponds A1 and A2W. PG&E infrastructure improvements would include adding a new section of boardwalk in an existing marsh just north of Pond A1's bayside levee, raising and improving the existing boardwalk within Pond A2W, and adding more concrete footings around the bases of the transmission towers. All of these would be fill in jurisdictional waters.

L-RWQCB-16

The breaching of the levees and the creation of upland areas would impact wetlands, both temporarily (disturbance during construction) and permanently (loss of wetland habitat along breached levees). Wetlands and waters would be impacted during construction as fill is added for the creation of the habitat transition zones and island habitat and as levees are breached. Overall, the construction activities would result in the creation of significantly more wetlands than would be impacted. The loss of waters habitat would be replaced by high-value wetland habitat. This impact would be considered less than significant.

Alternative Mountain View B Level of Significance: Less than Significant

Alternative Mountain View C. Alternative Mountain View C would also breach Ponds A1 and A2W and convert them to tidal marsh and add habitat transition zone. In addition, Alternative C would breach Charleston Slough, lower the levee between Pond A1 and Charleston Slough, and fortify the levee south and west of Charleston Slough to meet the City of Mountain View requirements. A water intake for Shoreline Park's sailing lake would be added to the levee between Pond A1 and Charleston Slough; the intake would be at the breach. The associated pumps and other utilities would be modified as needed for access and maintenance. Alternative C would also create habitat islands within Ponds A1 and A2W. These actions would facilitate the transition of Charleston Slough to tidal marsh. The same PG&E infrastructure improvements noted for Alternative Mountain View B would also be made in Alternative C. All of these actions, except those that are on the crest of the levee (e.g., trail improvements and some intake structure improvements) would be fill in jurisdictional waters.

The breaching of the levees and the creation of upland areas would impact wetlands, both temporarily and permanently, as described for Alternative Mountain View B. The impacts of Alternative Mountain View C would be greater than under Alternative B due to more

L-RWQCB-16 cont.

and larger construction elements (e.g., additional breaches, the larger levee footprint south and west of Charleston Slough.). Overall, the construction activities would result in the creation of significantly more wetlands than would be impacted. The loss of waters habitat would be replaced by high-value wetland habitat. This impact would be considered less than significant.

Alternative Mountain View C Level of Significance: Less than Significant

Alviso-A8 Ponds

Alternative A8 B. Alternative A8 B proposes to create upland transition zones in the southern portions of the A8 Ponds. The construction of the upland transition zones would fill areas that are jurisdictional non-wetland waters of the U.S. This action would be considered an impact related to fill in jurisdictional waters. Overall, jurisdictional waters in Pond A8 would be decreased; however, the losses would be of non-wetland WUS that are already modified by Phase 1 activities [NOT A GOOD REASON]. Further, the habitat transition zones would provide a more natural transition between the remaining waters and the adjacent uplands, providing enhanced habitat functions and values. Therefore, the impact of filling small amounts of non-wetland waters in Pond A8S would be considered less than significant.

Alternative A8 B Level of Significance: Less than Significant

Since these discussions of the alternatives do not include the actual acres of impacts to wetlands and other waters of the State that would be impacted, it is not possible to assess whether or not impacts to jurisdictional waters would be less than significant for these alternatives. Also, in the absence of projected acres of impacts, the Draft EIS/R should not claim that Alternative A8 B would fill "small amounts of non-wetland waters in Pond A8S."

The Draft EIS/R states that the Project will result in an increase in the amount of wetlands.

> Overall, the construction activities would result in the creation of significantly more wetlands and waters than would be impacted. The loss of waters habitat would be replaced by high-value wetland habitat. This impact would be considered less than significant.

However, these wetlands will be created from existing open waters, which are also jurisdictional waters of the State. Since no new waters of the State are created by the transformation of open waters to wetlands, the creation of these new wetlands does not inherently provide mitigation for Project impacts to waters of the State, especially if Project activities result in a net loss of jurisdictional waters of the State.

Thank you for the opportunity to comment on the Draft EIS/R. We look forward to continuing to work with you to move this important project forward.

Please contact me at (510) 622-5680 or brian.wines@waterboards.ca.gov if you have any questions. All future correspondence regarding this Project should reference the CIWQS Place ID Number indicated at the top of this letter.

Sincerely,

Brian Wines

Digitally signed by Brian Wines
DN: cn=Brian Wines, o=Regional Water Quality Control Board, ou=Watershed Division, email=brian.wines@waterboards.ca.gov, c=US
Date: 2015.10.07 16:04:31 -07'00'

Brian Wines
Water Resource Control Engineer
Watershed Management Division

cc: State Clearinghouse (state.clearinghouse@opr.ca.gov)

Response to San Francisco Bay Regional Water Quality Board (L-RWQCB)

L-RWQCB-1

This comment covers several related aspects of its stated topic of the fill in waters of the State that should be analyzed in the EIS/R. These are addressed in turn below. As an introductory response, however, that the SBSP Restoration Project agrees that that the material for the habitat transition zones is a form of fill in waters of the U.S. and of the State of California, but also agrees that they are a beneficial form of fill from several perspectives – including high-tide refugia habitat, sea-level rise adaptation, levee failure protection, and others.

The comment states that the Draft EIS/R only presented the length of the proposed transition zones and that there is no parsing out of how much of that material would be placed in what is currently open water, wetlands, or uplands. The alternative maps in the Draft EIS/R did show the separation of the transition zones into what would be placed in elevations of intertidal habitat or lower and what would be placed in the high marsh areas above mean higher high tides. So there was some information presented in that document, but the RWQCB makes a good point in requesting more details on these restoration features. These have been added to Chapter 6 of the Final EIS/R, which now includes tables to list the length and width of each proposed transition zone included in the Preferred Alternative, along with the total volume of material each would require. Chapter 6 also includes a breakdown of the elevational differences of the area and volume of fill that would be placed into open waters, existing wetlands, or uplands. Converting open waters to wetlands by adding habitat transition zone is not a loss of waters of the State (or of the U.S.). The Final EIS/R presents the fill associated with transition zone construction in such a way as to separate out the conversion of waters from one type to another from the actual loss of waters. The comment also notes the effect of borrow ditches on water quality in ponds following breaching and other restoration efforts. The Final EIS/R also includes more specific statements about and locations of where ditch blocks would be placed to reduce flow through borrow ditches and/or where borrow ditches would be filled with sidecast material.

The Final EIS/R presents estimates of the total acreage of fill from the various forms of habitat enhancements, including habitat transition zones, islands, and levee improvements. The designs conservatively assume sufficient material availability to construct transition zones at a slope of 30:1. Those slopes would use the maximum amounts of fill, so anything less than that (i.e., if lesser amounts of material are available) would be a reduced impact from fill. Refined estimates (i.e., not substantially greater than those conservatively developed for and presented in the Draft EIS/R) will be included in the permitting documents.

The next step of the Phase 2 planning will include applications for permits and other regulatory agreements, including a water quality certification under Section 401 of the Clean Water Act and the satisfaction of Waste Discharge Requirements of the California Water Code. The SBSP Restoration Project appreciates the guidance and direction included in this comment to specifically identify the habitat benefits from converting open waters (in largely closed former salt ponds) to tidal marsh wetland habitat, particularly for Endangered Species Act-listed species as well as to reference and satisfy the conditions in the San Francisco Bay Basin Water Quality Control Plan, the California Wetlands Conservation Policy, and the Habitat Goals Reports..

The comment also suggests that transition zones (ecotones) be created by modifying existing uplands (cutting them back away from the interface with the water) rather than by filling the waters themselves.

While this suggestion would have reduced environmental impacts from fill, in the Phase 2 ponds, it is not really feasible. At the Mountain View Ponds, both of the proposed transition zones would be built up against a closed landfill, which cannot be modified. In fact, one environmental benefit of the transition zones is to help protect those landfills from sea-level rise or erosion/scour. This is also the case for one of the two transition zones proposed at the A8 Ponds and for one of the two proposed at the Ravenswood Ponds. The second transition zone at the A8 Ponds is on the southwest corner of the pond, against a levee that separates the pond from Guadalupe Slough, so there is no adjacent upland to modify. Finally, at Ravenswood, the transition zone proposed to extend into Pond R4 from the improved levees at the All-American Canal would similarly lack an adjacent upland behind it.

L-RWQCB-2

The RWQCB's comment suggests that the SBSP Restoration Project reconsider including the Bayfront Canal and Atherton Channel (BCAC) Project, proposed by the City of Redwood City, because of concerns about the water quality of input from that project. The comment contains a recap of the history of the proposed BCAC Project and its incorporation into Phase 2, as well as the city's failure to product a water quality monitoring plan that satisfies the requirements of the RWQCB.

The SBSP Restoration Project shares the concern expressed by the RWQCB in this comment and agrees with the need to ensure that storm water runoff delivered into the Ravenswood Ponds meets water quality standards. As described in Master Comment Response #4, the BCAC Project is no longer a part of the Preferred Alternative for the Phase 2 efforts at the Ravenswood Ponds.

L-RWQCB-3

This comment concerns two different aspects of BCAC Project-related water quality than the ones addressed in comment L-RWQCB-1. It is about (a) the effects of occasional freshwater inputs on the habitat quality in what would be enhanced managed ponds R5 and S5, and (b) the additional water quality monitoring in those two ponds that would be required because of that occasional diversion of storm water inputs. As discussed in Master Comment Response #4, the BCAC Project is no longer a part of the Phase 2 Preferred Alternative.

L-RWQCB-4

This comment elaborates on another water quality issue – the fact that the BCAC Project's inputs would not be as readily controlled as the inputs and outputs to the more typical form of managed ponds included in the SBSP Restoration Project – and questions several aspects of the project's designs related to the use of Ponds R5 and S5 as possible temporary storm water retention areas. As discussed in the preceding responses and in Master Comment Response #4, the BCAC Project is no longer a part of the Phase 2 Preferred Alternative.

L-RWQCB-5

As discussed in the preceding responses and in Master Comment Response #4, the BCAC Project is no longer a part of the Phase 2 Preferred Alternative, reducing the need to develop a monitoring plan for controlling the quality of storm water runoff diverted into the Ravenswood Ponds from the BCAC Project.

L-RWQCB-6

Chapter 6 of the Final EIS/R contains tables that present the areas (in acres) of impacts from the habitat transition zones planned for the Preferred Alternative, as requested in other comments. A full assessment of the acreages of impact to the various lands and habitats under federal and state jurisdiction that would result from that alternative, as requested in this comment is beyond the scope of an EIS/R. The Draft EIS/R disclosed the impacts of the alternatives on wetlands and waters based on project design information available at the time to inform the public and decision makers as required by NEPA and CEQA. The detailed designs to support a permitting level analysis are in process but are not yet complete. Further refinement of the impacted acres in each regulatory agency's jurisdiction will be developed and presented in the permitting stage of the project later this year.

L-RWQCB-7

This comment provides an additional beneficial use of waters of the State that was omitted from Section 3.5.2 of the Draft EIS/R on the project's regulatory setting. This beneficial use – preservation of rare and endangered species – has been added to this section's text in the Final EIS/R.

L-RWQCB-8

Section 3.5.2 of the Final EIS/R contains the suggested text additions to include the need to obtain Waste Discharge Requirements and the Statewide NPDES Construction Storm Water Permit. The SBSP Restoration Project is grateful for this helpful suggestion and others like it in this comment letter.

L-RWQCB-9

The significance criteria included in the Draft EIS/R for the Phase 2 project-level actions were generally the same as those used for the 2007 EIS/R, which included impacts and significance thresholds for the SBSP Restoration Project as a whole. In most cases, retaining those thresholds is an important way for the Project's Adaptive Management Plan to avoid an overreaction to a perceived change in the environment or an overly sensitive perception of such changes. However, in this case, the SBSP Restoration Project agrees with the assertion that waters of the State matter as much as waters of the U.S. in terms of significant environmental impacts. The Final EIS/R contains a rewording of Section 3.5.3 to include waters under the jurisdiction of the State of California as well as those of the United States.

L-RWQCB-10

This comment suggests the addition of a different type of impact to jurisdictional waters and wetlands. It requests adding impacts from fill in waters and wetlands for habitat transition zones to Impact 3.5-24 to the other type of impact already mentioned there (i.e., channeling through the existing wetland to connect a pond's breach with the bay or a waterway). This has been added to the text in Chapter 2 of the Final EIS/R, and the analysis and discussion of Impact 3.5-24 has been expanded to include the areas and volumes of fill from the restoration project.

The comment also requested identification of appropriate mitigation for that fill. As the comment itself notes, the SBSP Restoration Project considers the losses of small amounts of existing wetlands (tidal marsh) to be self-mitigating because the amount of tidal marsh wetland created would be at least two orders of magnitude greater than that lost. The impacts of fill, however, must be treated differently. First, as comment L-RWQCB-1 explained in detail, the fill in open waters would generally not be creating uplands, but would be creating intertidal wetland habitat. This conversion would therefore represent a

change in the type of waters but not an actual loss of them, which greatly reduces (and in some cases, eliminates) the amount of lost waters. Second, the ecological functions of habitat transition zones and habitat islands are higher than those of the existing pond areas, which range from largely open water ponds at Mountain View, seasonally dry salt pannes at Ravenswood, and heavily muted tidal waters at the A8 Ponds. The SBSP Restoration Project believes that the small amount of actual loss of jurisdictional waters from fill would be more than offset by the increases in jurisdictional waters from the breaching, removal, and lowering of levees; improved habitat quality; enhanced ecological function; added flood protection; and sea-level rise adaptation from the various Phase 2 components, as well as compliance with the recommendations of documents such as the Tidal Marsh Recovery Plan and the Baylands Ecosystem Habitat Goals Update. The Project therefore believes that mitigation is not necessary.

L-RWQCB-11

The SBSP Restoration Project shares the concern for steelhead and other estuarine fish that the RWQCB expressed in this comment. This concern is essentially a question of whether the combined elements of what was initially proposed as Alternative Mountain View C in the Draft EIS/R would have an impact on these fish. The increased connectivity between Stevens Creek, Pond A1 and Pond A2W were planned to provide additional nursery habitat for outmigrating steelhead and good general use habitat for other estuarine fish. However, the relocation of the water intake for the Shoreline Park sailing lake into the breach at the corner of Pond A1 has potential to entrain some of these fish.

In coordination with NMFS, the SBSP Restoration Project has concluded that without a fish screen in place at the new water intake location, the effects could rise to the level of a significant impact and "take" of a species listed under the Endangered Species Act. A fish screen is likely to be a required part of this project component. However, the limited area available for the water intake would be inadequate when the intake was enlarged to offset the screen's effect on overall intake size. That technical and logistical infeasibility combined with the very high initial capital cost and ongoing operations and maintenance costs have made it impracticable to include the fish screen and thus the incorporation of Charleston Slough into the Preferred Alternative at the Mountain View Ponds.

Therefore, as discussed in Master Comment Response #1, the Preferred Alternative at the Mountain View Ponds does not include Charleston Slough. The current configuration of the water intake, the Charleston Slough tide gate, and alignment of existing pond levees would not change, and thus, there would be no change to the existing conditions regarding adverse impacts to fish. Ponds A1 and A2W would still be opened to the tides, and estuarine fish and outmigrating steelhead from Stevens Creek would receive habitat benefits from these ponds being made available to them for forage and growth prior to entering the South Bay

L-RWQCB-12

This comment expresses the same concern as comment L-RWQCB-11 except directed toward estuarine fish. The response to that comment addressed both steelhead and estuarine fish in general.

L-RWQCB-13

This comment was about the biological effects of storm water input into Ponds R5 and S5 as part of the BCAC Project. This concept was also included in comment L-RWQCB-3. The response to that comment addressed those concerns by noting that the BCAC Project has been removed from the Phase 2 Preferred Alternative at the Ravenswood Ponds.

L-RWQCB-14

The SBSP Restoration Project understands and appreciates the guidance (in this comment and the others listed within it) about providing a more detailed analysis of impacts from fill and other impacts to waters of the State as well as in evaluating those impacts in light of the State's policy on no net loss. This direction has been followed. The Final EIS/R contains more of these details in several sections, including Section 3.5-24, as listed here, and as noted in the responses to comments L-WRQCB-1, -10, and -16.

L-RWQCB-15

The text was referring to the removal and breaching of levees and to the tidal marsh that would replace them. So there actually would be a net increase in wetlands and waters relative to the existing condition. In the Final EIS/R, this section has been reworded to clarify and address this point.

L-RWQCB-16

As requested by this comment and others in this comment letter, the Final EIS/R contains new tables and text that list the areas and volumes of fill from different Phase 2 project features at each of the pond clusters included in Phase 2. The Final EIS/R also contains a clarification of text about the conversion of open waters to wetlands and the net effect of such conversions on the total amount of waters of the State and waters of the U.S. that would be affected by the Phase 2 actions.

City of San Jose – Trail Program (L-CSJ)

From: Zsutty, Yves
To: phase2comments@southbayrestoration.org
Cc: Laura Thompson
Subject: [phase2comments] Comments: South Bay Salt Pond Restoration
Date: Wednesday, July 22, 2015 11:04:29 AM

Just a few comments:

L-CSJ-1 Table 3.6-1 Table. The "Trails" entry indicates that the nearest segment of trail is by Pond A-19. Please be aware that the HIghway 237 Bikeway (between Zanker Road and Coyote Creek, north side) is designated Bay Trail, and may be in closer proximity to the project.

L-CSJ-2 Table 3.6-2 Table. The "Trails" entry should be confirmed with County staff. Equestrians may be permitted.

L-CSJ-3 Page 3.6.7. ABAG does have an oversight role pertaining to the Bay Trail, but there should be a local agency "owner" noted in your discussion of the trail segment. ABAG does not manage the individual segments of the trail system, its up to local agency to develop and operate the trail in their jurisdiction.

- Yves

Yves Zsutty, Trail Manager

City of San Jose - Trail Program
Parks Recreation and Neighborhood Services
200 East Santa Clara Street, 9th Floor
San Jose, CA 95113
408 793 5561, fax 408 292 6416

Trail Program homepage
Twitter SanJoseTrails
Instagram SanJoseTrails NEW
Park/Trail Concerns email

Response to City of San Jose – Trail Program (L-CSJ)

L-CSJ-1

The portion of the Bay Trail closest to Pond A19 appears to be along Fremont Boulevard near Gateway Boulevard, which at approximately 2,000 feet away, is closer to Pond A19 than the bikeway portion of the Bay Trail noted in the comment.

L-CSJ-2

The closing paragraph of Section 3.6.1 states that Table 3.6-1, 3.6-2, 3.6-3, and 3.6-4 are intended to provide a sense of the existing conditions for public access and recreation near the Phase 2 pond clusters. They are not intended to be exhaustive lists of all available public access and recreation amenities in the vicinity.

L-CSJ-3

Section 3.6.2 of the EIS/R describes the role of the Association of Bay Area Governments (ABAG) in regards to the Bay Trail as a partner and a potential funding source. The text does not indicate that ABAG either owns or manages the Bay Trail or its segment. Text has been added to that section to note that local agencies develop and operate the trail segments that are within their jurisdictions.

2.3.3 Businesses and Organizations

Comments from businesses and organizations and the responses to those comments are presented in this section.

Bay Planning Coalition (O-BPC)

Bay Planning Coalition

September 23, 2015

Ms. Brenda Buxton
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Re: Supporting Comments on the Draft EIR/EIS for Phase 2 of the South Bay Salt Pond Restoration Project (Alviso and Ravenswood Ponds)

Dear Ms. Buxton:

The Bay Planning Coalition (BPC) writes to express its strong support of the proposed South Bay Salt Pond Restoration Project, Phase 2.

The South Bay Salt Pond Restoration Project, Phase 2 will bring very significant environmental and economic value to our region by restoring habitats, improving flood protection, and providing recreation opportunities and public access to Bay Area citizens. Wetland restoration is crucially important to support mitigation and planning efforts in light of climate change, sea level rise, and changing environmental conditions in the Bay. The restoration of the South Bay's wetlands through the South Bay Salt Pond Restoration Project and the beneficial reuse of dredged material will help protect the economic, social, and environmental interests of our shoreline for future generations to come.

BPC therefore strongly supports the proposed South Bay Salt Pond Restoration Project, Phase 2. If there is anything else that we can do to help support this Project, we would be very happy do so.

O-BPC-1

Sincerely,

John A. Coleman
Chief Executive Officer

1970 Broadway, Suite 940 Oakland, CA 94612 Tel. (510) 768-8310 Fax (510) 291-4114
www.bayplanningcoalition.org

Response to Bay Planning Coalition (O-BPC)

O-BPC-1

The SBSP Restoration Project appreciates this supportive comment.

Sierra Club Loma Prieta Chapter (O-SC2)

SIERRA CLUB
FOUNDED 1892

Loma Prieta Chapter serving San Mateo, Santa Clara & San Benito Counties

November 3, 2015

Brenda Buxton, Project Manager
Brenda.buxton@scc.ca.gov
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

RE: South Bay Salt Pond Restoration Project - Phase II

Dear Ms. Buxton,

Sierra Club Loma Prieta Chapter welcomes the opportunity to comment on the SBSPRP Phase for the Ravenswood Ponds and Ponds.

San Francisco Bay is an economic, aesthetic and recreational resource for the residents of the Bay Area. We would like to weigh in on one particular issue: The importance of public access to appreciate the wildlife and habitat value of the Bay and restored bay frontage.

O-SC2-1

We are keenly aware that public access and habitat, for endangered species, in particular, can be in conflict. We would encourage the team to ensure increased public access while protecting habitat, especially the requirements for increasing habitat for endangered species.

- To quote the famous conservationist Jacques Cousteau, *"People protect what they love"*. When people thought of the Bay as a fowl-smelling dumping ground, they were prepared to fill it in to make it go away.
- When people relate to the bay and its amazing wildlife up close, it instills in them the visiral belief that it is critical to work toward a healthy bay - for the ecology of the bay as well as for the health of the whole bay area. We believe it is important for people to feel an up-close connection with the bay and its ecology, wildlife and beauty.
- As we move towards a Bay Restoration Authority, this is of critical importance for educational and recreational reasons as well as to provide access to passive "Open Space".

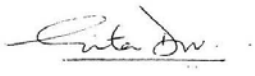
O-SC2-2

We are concerned about the alternative of including Charleston Slough because it could make it more difficult for the public to access bird watching. It is currently the most popular point for bird watching on the mid peninsula and is accessible to people of all ages and abilities. One sees seniors mingling with young children on tricycles, parents with baby carriages, disabled people with walkers and wheelchairs, a wide variety of bird watchers, bird watching clubs, photographers and educators. It also supports a wide range of hikers, bikers, joggers, walkers and many who are just out there to take deep breaths of the "Open Space" and admire the vistas of the bay and hills and wetlands.

O-SC2-3

We are supportive of improving the Bidwell Bayfront Park as an improved access point, at ponds R5 and S5 in particular, for the public to learn about the bay and the wildlife it supports. We have some concerns that the public access point at pond R4 at the NE corner of Bayfront Park not conflict with habitat goals.

Respectfully submitted



Gita Dev
Co-chair, Sustainable land use Committee
Sierra Club Loma Prieta Chapter

3921 E. Bayshore Rd., Suite 204
Palo Alto, CA 94303

Response to Sierra Club Loma Prieta Chapter (O-SC2)

O-SC2-1

The SBSP Restoration Project agrees that public access is an important part of the overall restoration efforts in the South Bay. One of the three main project goals is to increase the amount and quality of public access and recreation features. That is why the Phase 2 Preferred Alternative includes the addition of several public access features at the Ravenswood Ponds and at the Alviso-Mountain View Ponds. As the comment notes, the proper balance of habitat for endangered species and public access is a challenge that the Project Management Team (PMT) believes has been successfully met through the careful development and design of the Phase 2 alternatives and the ongoing monitoring and implementation of the Adaptive Management Plan (AMP). Master Comment Response #9 provides general background on the topic of public access-related impacts on wildlife as well.

O-SC2-2

This comment and several others expressed similar concerns about Charleston Slough and the reduction in easily available areas for viewing of intertidal mudflats and the species that use them. The SBSP Restoration Project shares this concern. The option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds. Master Comment Response #1 is about this removal. Master Comment Response #6 summarizes the Preferred Alternative, and Chapter 6 of the Final EIS/R contains the full description.

O-SC2-3

The Ravenswood Preferred Alternative for Phase 2 includes the full loop trail around Ponds R5 and S5 similar to the ones shown on Alternatives Ravenswood C and D and a viewing platform along that trail. The levee-top trail or boardwalk trail that had been considered for construction at the northwest corner of Pond R4 (referred to by the commenter as the public access point at Pond R4) has been removed from consideration due to concerns about potential adverse effects to endangered species and their habitats that could result from these trail options. Master Comment Response #9 provides general background on the topic of public access-related impacts on wildlife as well.

Sierra Club Loma Prieta Chapter (O-SC)

Sierra Club Loma Prieta Chapter
3921 East Bayshore Road, Suite 204, Palo Alto, CA 94303
loma.prieta.chapter@sierraclub.org (650) 390-8411

October 30, 2015 *via email*

Brenda Buxton, Project Manager
State Coastal Conservancy
phase2comments@southbayrestoration.org

Re: Draft environmental analysis document for Phase 2 alternative plans at the Alviso and Ravenswood ponds (Environmental Impact Statement/Report, EIS/R).

Dear Ms. Buxton,

O-SC-1 The Sierra Club Loma Prieta Chapter (SCLP) has more than 16,000 members of the Sierra Club in San Mateo, Santa Clara, and San Benito counties. Our members enjoy, explore, and protect the planet.

We are writing in support of Santa Clara Valley Audubon's letter regarding the proposed Alternative Mountain View C and mitigation for impacts to burrowing owls.

O-SC-2 In addition, we wish to comment that the DES/R, if it includes Charleston Slough, will resolve Mountain View's mitigation requirement to create 53 acres of tidal marsh. Unfortunately, Mountain View Alternative C appears to propose turning the entire 115 acre Charleston Slough tract into tidal marsh, action that would destroy existing mudflat and marsh habitats that provide for a wide array of species. When only half of the tract is required for tidal marsh, why doesn't the alternative provide for means of retaining the land to support biodiversity?

Thank you for consideration of our comments.

Michael Ferreira
Executive Committee Member,
Conservation Committee Chair

Response to Sierra Club Loma Prieta Chapter (O-SC)

O-SC-1

The comment references and expresses agreement with the Santa Clara Valley Audubon Society's comment concerning burrowing owls at or near the Mountain View Ponds. Please see the response to comment O-SCVAS-3.

O-SC-2

As this comment correctly notes, it is true that the regulatory requirements for Charleston Slough are for 53 acres of tidal marsh out of the 115 acres currently within it. There are a number of constraints on project elements in Charleston Slough that need to be managed. These are discussed in the response to comment O-CCCR2-39. However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds. Master Comment Response #1 is about this removal. Master Comment Response #6 summarizes the Preferred Alternative at each Phase 2 pond cluster, and Chapter 6 of the Final EIS/R contains the full descriptions.

Citizens Committee to Complete the Refuge (O-CCCR)

CITIZENS COMMITTEE TO COMPLETE THE REFUGE

453 Tennessee Lane, Palo Alto, CA 94306 Tel: 650-493-5540 www.bayrefuge.org cccrrefuge@gmail.com

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

18 September 2015

Anne Morkill
Refuge Complex Manager
San Francisco Bay National Wildlife Refuge Complex
U.S. Fish & Wildlife Service
1 Marshlands Road
Fremont, CA 94555

Re: Request for extension of comment deadline for the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/EIR) for Phase 2 of the South Bay Salt Pond Restoration Project until October 30, 2015.

Dear Ms. Buxton and Ms. Morkill,

O-CCCR-1 The Citizens Committee to Complete the Refuge is requesting an extension for the comment deadline until October 30, 2015. We realize this is an extraordinary request, but believe it is warranted. It is extremely unfortunate the DEIS/EIR was released in advance of the South Bay Salt Pond Restoration Project Science Symposium. While the project management team may be privy to the information that will be revealed to the public during this symposium, the conclusions or trends revealed by targeted applied science studies are not apparent to the public in reviewing the DEIS/EIR. Our review of the DEIS/EIR will benefit from the information and the question and answer exchange that occurs during the symposium.

O-CCCR-2 Unlike other projects under environmental review, we are not aware of any time constraints in terms of funding that would be adversely impacted by extending the comment period.

O-CCCR-3 One big issue for our group has always been the question of the impacts of the proposed actions on migratory waterbirds. We understand there is a 10-year study that is wrapping up on bird abundance and biodiversity by location within the bay ecosystem. To our knowledge, that information is not represented in any detail in the DEIS/EIR and should help to guide future restoration actions. We feel information such as this is needed by the public prior to finalizing our comments on the DEIS/EIR. We also believe the symposium will assist us in developing our comments regarding the value of the alternatives addressed, or not addressed within the DEIS/EIR.

O-CCCR-4 As has often been stated, the South Bay Salt Pond Restoration Project is the largest restoration project on the West Coast. While we recognize Phase 2 is only considering actions on a small area of the Bay (approximately 2,500 acres) and that we are only a fraction of the way up the restoration staircase, we believe a bit more time to comment is warranted and will not cause project delays. It is imperative we understand the trade-offs we are making for the various suites of wildlife (and plants), and how that may or may not impact necessary actions in the future, especially given the uncertainties swirling around climate disruption, sediment availability, etc.

For these reasons, we hope you will give serious consideration to our request for a suspension of the process, or a time-extension.

Regards,

Carin High

CCCR Vice-Chair

Response to Citizens Committee to Complete the Refuge (O-CCCR)

O-CCCR-1

This comment requested the extension of the deadline for comments until after the October Science Symposium so that information presented to the public at that event could be included in comments from the Citizens Committee to Complete the Refuge (CCCR). That request was granted.

O-CCCR-2

The deadline for submission of comments was extended per this request, as described in the response to comment O-CCCR-1. Note, however, that the grant funding that helps support this project does require consistent progress through the various stages of design, planning, environmental clearance, permitting, and construction.

O-CCCR-3

The deadline for submission of comments was extended per this request, as described in the response to comment O-CCCR-1.

O-CCCR-4

The deadline for submission of comments was extended per this request, as described in the response to comment O-CCCR-1.

Citizens Committee to Complete the Refuge (O-CCCR2)

CITIZENS COMMITTEE TO COMPLETE THE REFUGE

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Comments submitted via electronic mail

Anne Morkill, Refuge Complex Manager
U.S. Fish and Wildlife Service
Don Edwards San Francisco Bay NWR
1 Marshlands Road, Fremont, CA 94555

30 October 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA 94612

Electronic Mail address: *phase2comments@southbayrestoration.org*

Re: Draft Environmental Impact Statement/Report (DEIS/DEIR), Phase 2, South Bay Salt Pond Restoration Project

Dear Ms. Morkill and Ms. Buxton,

O-CCCR2-1

This responds to the DEIS/DEIR for proposed Phase 2 actions of the South Bay Salt Pond Restoration Project (SBSPRP). Thank you for the opportunity to provide comments and for extending the comment deadline until after the Science Symposium was held. Citizens Committee has been involved in the South Bay Salt Pond Restoration Project from the beginning. We support the restoration of tidal marsh in the South Bay and are pleased to see the progress being made in the island ponds. Another benefit of the project is the growing body of scientific information stemming from the applied science studies of the project.

While we strongly support tidal marsh restoration in the South Bay, we do have questions, comments and concerns regarding the actions proposed in Phase 2. The concerns addressed in this letter regard an incomplete project description, the selection of alternatives considered, the need for a projection of future conditions, critical missing data, and the need to ensure that the alternative selected provides the ability to course correct. In addition to this comment letter, we are attaching separate memoranda regarding the proposed alternatives, concerns regarding impacts to shorebirds submitted by Matt Leddy, and a memorandum prepared on behalf of CCCR, by coastal ecologist and botanist, Dr. Peter Baye.

Phase 2 Project Description and the Alternatives Discussed Under the Programmatic EIS/EIR:

O-CCCR2-2

The Programmatic EIS/EIR for the SBSPRP selected as the preferred alternative the tidal marsh emphasis alternative, also known as the 90:10 alternative. However, that document also acknowledged progress towards that ultimate goal might need to be re-evaluated due to the potentially competing and conflicting goals of restoring lost tidal marsh habitat, while maintaining migratory waterbird populations and species that rely on existing salt ponds and the salt pond associated infrastructure (e.g. levees, islands, etc.). Therefore, the Programmatic EIS/EIR analyzed two bookends, a managed pond emphasis (AKA the 50:50 alternative) and the aforementioned 90:10 alternative. The Programmatic EIS/EIR provided conceptual maps depicting the two bookends for each of the three major pond complexes (Eden Landing, Alviso, Ravenswood). That mapping informed our understanding of the geographic location of ponds and types

of managed pond habitats that might still be available to migratory and resident waterbirds once the 50:50 bookend was reached.

O-CCCR2-2 cont.

The alternatives described in the Phase 2 DEIS/DEIR are consistent with our previous understanding of how we would progress up the restoration staircase (e.g. ponds A1 and A2W are identified for tidal marsh restoration under both the 50:50 and 90:10 scenarios).

However, we don't have a clear picture of how quickly we are moving up the restoration staircase as we do not know what actions will be proposed in Phase 2 of the Eden Landing ponds. We understand that the Phase 2 project for Eden Landing will not be released for another year, but at minimum a conceptual description should have been provided within this document.

O-CCCR2-3

Of greater concern however, is that the mitigation proposed in the Shoreline Study FEIS was not discussed with any detail under the cumulative impacts analysis of this DEIS/DEIR. The Shoreline Study proposes the restoration of ponds A9-A15 and A18 as mitigation for the construction of the flood control levee. While it is true, the proposed mitigation of ponds A9-A15 was discussed within the Shoreline Study environmental review documents, these ponds fall within the SBSPRP project boundaries, the ponds are owned the U.S. Fish and Wildlife Service (Service), and the Service and/or the California Coastal Commission are indicated as the agencies that would implement the in-pond preparations and levee breaches.

O-CCCR2-4

While we realize the U.S. Army Corps of Engineers (Corps) process is a lengthy one, and still subject to many twists and turns, the Shoreline Study mitigation proposal is a departure from what was conceptually proposed in the 50:50 managed pond emphasis in the Programmatic EIS/EIR for the SBSPRP. Under the Programmatic EIS/EIR managed pond scenario, all the A9-A15 ponds were retained as managed ponds.

O-CCCR2-5

- Please provide a revised map of what a 50:50 managed pond emphasis would look like for all three major pond complexes, including Phase 2 proposals for the Eden Landing ponds, and including the Shoreline Study proposal to restore tidal marsh in ponds A9-A15.

O-CCCR2-6

- Under a 50:50 scenario, which ponds would be retained and could be sustained as managed ponds? This question is warranted, as even under the managed pond scenario, ponds AB1, AB2, A3N, A5 and A7 were identified for tidal marsh restoration.

O-CCCR2-7

- What is the projected time frame for Phase 2 implementation? Is it possible Phase 2 actions could be completed before the Shoreline Study mitigation is completed? Would the restoration treatment of the remaining Alviso ponds change if it is determined the SBSPRP restoration cannot proceed further than the 50:50 point? If so, what happens to the Corps' mitigation responsibilities? If not, what additional sites (within or outside of the project boundaries) would be suitable to maintain migratory waterbird populations and species diversity?

Alternatives Analysis -

O-CCCR2-8

The Phase 2 DEIS/DEIR describes proposed actions and alternatives within four groupings of ponds in South San Francisco Bay, the island ponds (A21, A 20, and A19), pond A8S, the Mountain View cluster (A1, A2W, and Charleston Slough), and a portion of the Ravenswood Cluster (ponds R3, R4, R5, and S5). Two sets of alternatives (island ponds and pond A-8S) involve modifications of earlier actions. The alternatives for the Mountain View cluster considers the possibility of including Charleston Slough in the restoration actions and the impacts that would have on the location of new public access trails, the number and extent of levee breaches, the extent of transition zone habitat, the location of flood protection levees, and the location of the intake for the sailing lake. The alternatives for the Ravenswood cluster vary in the extent and location of transition zone, the number of levee breaches and water control structures, the

addition of the Bayfront Canal and Atherton Channel project, and location of public access. All alternatives considered are locked into these four groupings of ponds.

O-CCCR2-8 cont.

The DEIS/DEIR acknowledges the pond clusters identified were selected for ease of implementation as in the actions proposed for the island ponds and pond A8S, or as in the case of the Ravenswood and Mountain View clusters, because they were "large ponds without major infrastructure conflicts or flood-risk constraints that would provide large tracts of tidal marsh habitat and other habitats once restored."

Our concern however, is feasibility of restoration of the ponds selected through the Phase 2 actions. The SBSPRP is a huge undertaking and the Project Management Team acknowledges the that the project could have adverse impacts on the surrounding bay ecosystems and suites of species, and is committed to monitoring and the implementation of adaptive management if necessary. We are now nearly 10 years into this large undertaking, and additional pieces of data have been collected to inform our decision process.

O-CCCR2-9

- Why isn't it appropriate at this juncture to ask the fundamental question of whether tidal marsh restoration continues to be appropriate for 50% or 90% of the ponds within three complexes?

O-CCCR2-10

- Given our evolving understanding of increasing predictions of sea level rise, and potentially decreasing supplies of sediment, why doesn't this document explore whether alternatives exist within the lands currently owned in fee title by the Service, or identified within the Refuge expansion boundary, that might restore to tidal marsh more quickly than the ponds proposed at Mountain View and Ravenswood, and with less impact to the sediment budget of the South Bay? The feasibility study prepared by Siegel and Bachand in 2002[1] assessed the feasibility of tidal marsh restoration of salt ponds on both sides of the bay from the San Mateo Bridge to Alviso, and concluded that Ravenswood ponds 1, 2, and 4, Mowry ponds 1, 2, and 3, and Alviso ponds 17 and 21 had the highest feasibility of all the ponds considered. The alternatives analysis should at least acknowledge the feasibility of these ponds in terms of appropriate pond bottom elevations and proximity to tidal waters, and then also discuss why the ponds were eliminated from further consideration at this point in time. As an example, we assume the major constraint for Ravenswood ponds 1 and 2 are flood risk concerns. What would be the costs of providing appropriate flood control, in contrast to the cost of providing flood control at the Mountain View ponds. We assume the constraint for the Mowry ponds is that Cargill is still producing salt on these ponds and still holds the mineral rights over these ponds despite the fact that the Refuge owns fee title of these ponds. Decision-makers should be informed of these facts so they are aware of the economical and environmental trade-offs that are being made, as well as the potential feasible alternatives that exist.

O-CCCR2-11

- During the recent Science Symposium, it was reported that approximately 71 million cubic yards of sediment will be needed to restore the Alviso (59.5 million cy), Eden Landing (11.4 million cy), and Ravenswood (0.5 million cy) ponds to tidal marsh. Yet there is a tremendous uncertainty regarding the amount of sediment that will be available to meet these needs without adverse impacts to the surrounding mudflats and fringe marshes.

O-CCCR2-12

- How quickly are the Mountain View and Ravenswood ponds predicted to restore to tidal marsh?

Adaptive Management Plan:

O-CCCR2-13

The Phase 2 DEIS/DIER references the Adaptive Management Plan. The Adaptive Management Plan referenced in Appendix C is dated November 14, 2007.

- This plan needs to be updated to identify the actions that have already taken place under the ISP and Phase 1, and those that are planned for Phase 2, both in the federally controlled ponds and the state controlled ponds. The AMP must also identify actions proposed by the Shoreline Study.

[1] Siegel, S.W. and P. A.M. Bachand. 2002 Feasibility Analysis South Bay Salt Pond Restoration San Francisco Estuary, California. Wetlands and Water Resources, San Rafael, California. 228p.

CCCR Comments SBSPRP Phase 2 DEIS/DEIR 10-30-15 Page 3 of 5

O-CCCR2-14
- Management triggers should be re-evaluated to determine if they are still pertinent and updated if needed.

O-CCCR2-15
- "Potential Management Actions" in response to "triggers" must be revised to focus on actual remedial actions rather than "convening study sessions", or "reviewing all available data", or "considering additional applied studies", as these types of actions could delay the implementation of remedial actions. Also, it is hoped applied studies would be designed to provide answers to specific questions, and that the science team would be reviewing all available data as part of the implementation and monitoring processes.

O-CCCR2-16
- The AMP should also inform the public of applied studies that have been completed, studies that are currently underway, and studies for which funding will be sought. The key uncertainties need to be re-evaluated and updated given the new estimates of accelerated sea level rise, potential reduction in sediment supply, impacts of climate disruption on waterbird populations, etc.

O-CCCR2-17
- The AMP should be updated to include consideration of the Tidal Marsh Ecosystem Recovery Plan and the recently released Bay Ecosystem Habitat Goals Update.

O-CCCR2-18
- The previous AMP was released for public comment, we hope that the update to the AMP will include the opportunity for public comment.

Additional information that is needed to inform the SBSPRP process. We are aware that funding is limited for applied studies, however there is critical information needed to inform the decision-making process.

O-CCCR2-19
- Is information regarding the sediment processes north of the Dumbarton Bridge available? We are aware that studies of scour have been conducted in Alviso and Guadalupe Sloughs, and that there has been a several year study to understand the export of sediment in and out of the region south of the Dumbarton Bridge. Everyone has acknowledged these subsided ponds will act as sediment sinks, while scientific studies have indicated the major import of sediment is from north of the Dumbarton Bridge, and not from local fluvial contribution. The question must be asked, not only for what is happening on the mudflats around the Alviso ponds, but also in the mudflats and shallows north of the Dumbarton Bridge. We are aware of only one study that was conducted off Ravenswood pond SF2, but we were told in response to a question at the recent Science Symposium that this was a one-time study, and that currently there are no sediment transport studies being conducted in that reach of the bay (e.g. north of Dumbarton Bridge, south of the San Mateo Bridge). This is puzzling as R4, and an unknown number of ponds at Eden Landing, are being proposed for tidal marsh restoration in Phase 2.

O-CCCR2-20
- How can the impacts of opening subsided and deeply subsided ponds for tidal marsh restoration on the surrounding mudflats, fringe marshes and shallows be understood or monitored and altered to avoid significant adverse impacts? We are encouraged to see innovative tools are being investigated that may allow monitoring of erosion or deposition of mudflats in the Alviso area, but stress the need to monitor and understand the geographic extent of impacts resulting (or not) from the Phase 1 and Phase 2 actions.

O-CCCR2-21
- Has waterbird population and species diversity monitoring occurred for areas outside of the salt ponds and salt pond levees? Do we have a good understanding of what alternative habitats might exist for migratory and resident waterbirds that will be displaced as we open more ponds for restoration to tidal marsh. Most of the studies that appear on the SBSPRP website under "Technical Documents" reference monitoring efforts of salt ponds within three salt pond complexes and associated levees and islands. There are a few monitoring efforts that include the Coyote Hills salt pond complex and portions of the Dumbarton or Newark complexes, but caution is necessary regarding any assumptions that ponds currently used will supply alternative habitat for species displaced by restoration of ponds to tidal marsh, as we have no control over the salinities, or pond depths for salt ponds still in production and conditions within these ponds may shift as needed for salt production.

O-CCCR2-22
- In the Phase 2 alternatives, R3 has been identified for continued use by the threatened Snowy Plover (SNPL). We are very supportive of efforts to recover this species, but as we inquired during the public scoping period, is the R3 pond sustainable as SNPL habitat as sea level rises? Will it be possible to maintain the conditions necessary to support nesting populations of SNPL, or are there alternatives within the three complexes, or within other areas currently owned by the Refuge, or identified within the Refuge expansion boundary that would be better suited to providing long-term SNPL habitat?

CCCR Comments SBSPRP Phase 2 DEIS/DEIR 10-30-15 Page 4 of 5

O-CCCR2-23

- The same information needs to be provided for pond specialists like Eared-Grebes and phalaropes.
- Studies of the impacts of climate disruption on changes in the arrival or departure of migratory waterbirds and the availability of adequate food supply may be undertaken by other agencies, if so, the SBSPRP should incorporate the findings into the decision-making process. If not, this is information that needs to be obtained through applied studies. Rowan et al[2] found in their analysis of the effects of the SBSPRP on mud flats and carrying capacity for small shorebirds that, "In fact, prey stocks on the Dumbarton Shoal were only able to provide 31% of the energy needed by small shorebirds visiting in April," and advised, "These large flocks must find prey elsewhere in the region to meet their energy needs. In recent decades, these additional foods have been provided by nearby salt ponds, which may soon be converted to tidal marsh and support much lower shorebird densities."

O-CCCR2-24

- The Programmatic EIS/EIR stated at page 2-127, "Prior to implementation of Phase 1 actions at Pond A8, water depths in other ponds would be lowered to replace the loss of shallow water foraging habitat presently offered in Ponds A5 and A7 (possible candidate ponds include: Ponds A1 and A2W; A9 and A11; AB1 and AB2; and A3N)." Of these candidate ponds, only ponds AB1, AB2, and A3N will remain after implementation of Phase 2 and Shoreline Study actions. Even under the 50:50 bookmark ponds AB1, AB2, and A3N are all proposed for tidal marsh restoration. What ponds are being proposed to offset this loss of habitat?

O-CCCR2-25

- The continued recommendation for the construction of island habitat within managed ponds, is that rather than creating many islands as in SF2, island creation should be limited to 3-5 small and linear islands per pond that are spread out over a greater number of managed ponds. Will sufficient habitat remain for nesting, roosting, and foraging (e.g. small shorebirds on submerged slopes of ponds) waterbirds even under a 50:50 scenario?

O-CCCR2-26

- The SBSPRP DEIS/DEIS needs to discuss what contingency measures could be implemented should the subsided or deeply subsided ponds do not restore to tidal marsh as hoped. The DEIS/DEIR should also consider avoidance of investing heavily in infrastructure that cannot be abandoned or altered should future course corrections be necessary.

O-CCCR2-27

As we stated at the beginning of our letter, we are strongly supportive of tidal marsh restoration within the south bay, but we are also deeply committed to sustaining habitat and species diversity. We are concerned about the ever increasing projected rates of sea level rise, coupled with the growing concerns over dwindling sediment supply to the bay ecosystem. Thus, we have substantive concerns with the approach of opening subsided and deeply subsided ponds as quickly as possible to capture remaining sediment supplies, and what that approach portends for existing mudflat, fringe tidal marsh and the shallows of the south bay (and the species that depend upon these habitats). We urge the SBSPRP to identify and discuss and consider alternatives that range from identification of more ideally suited locations for tidal marsh restoration, even if they exist outside of the three pond clusters, or alternative methods of accelerating sediment accretion.

O-CCCR2-28

Thank you for the opportunity to provide comments. We ask that we be kept informed of any additional opportunities to provide public comments.

Sincerely,

Carin High

Carin High
CCCR Vice Chair

[2] Rowan, A., I. Woo, J. Takekawa, J. Lovvorn, J. Davis. 2011. Effects of the South Bay Salt Pond Restoration Project (San Francisco Bay, California) on Mud Flats and their Carrying Capacity for Small Shorebirds. RLF contract #2009-0210. South Bay Salt Pond Restoration Project.

O-CCCR2-29

CCCR Comments on Pond Cluster Alternatives

CCCR Preferred Alternative – Alviso-Island Pond Cluster

Table ES-1 Components of the Phase 2 Action Alternatives at the Island Ponds with CCCR Preferred Alternative

ALTERNATIVE ISLAND B	ALTERNATIVE ISLAND C	CCCR PREFERRED ALTERNATIVE
Breach north side of Pond A19 in two places.	Breach north side of Pond A19 in two places.	ALTERNATIVE C with modifications: 1) Retention of levee remnants for high tide refugia/roosting habitat in Ponds A19 and A20 2) Use of dredge material from pilot channels to create islands for high tide refugia/roosting habitat in proximity of pilot channels
Lower or remove much of Pond A19's northern and southern levees.	Lower or remove much of Pond A19's northern and southern levees.	
Remove Pond A19's western levee and Pond A20's eastern levee to connect these two ponds.	Remove Pond A19's western levee and Pond A20's eastern levee to connect these two ponds.	
—	Breach the north sides of Ponds A20 and A21.	
—	Lower portions of Pond A20's northern and southern levees.	
—	Widen existing breaches on Pond A19's southern side.	
—	Excavate two pilot channels within Pond A19.	

South Bay Salt Pond Restoration Project Phase 2 July 2015 Draft Environmental Impact Statement/Report ES-5

According to the DEIS/R, Alternative Island C would be the most effective at increasing habitat complexity and connectedness, speeding return to marsh plain elevation and improving distribution of sediment accretion. This alternative would also lower or remove significant portions of the existing perimeter pond levees in the central region of Ponds A19 and A20.

To the extent possible, remnants of levee should be retained for habitat diversity and to ensure there is adequate high tide refugia, which will be essential once salt marsh vegetation is established and the Ridgway's rail and salt marsh harvest mouse colonize these ponds. Additionally, dredge material from excavation of the two pilot channels (proposed in Alternative C) should be utilized to construct islands in the center of Pond A19.

Including a number of levee remnants and small islands in the plan for this pond complex would also provide roosting habitat and potential nesting areas for a variety of waterfowl within the restored marsh.

1

O-CCCR2-30

CCCR Preferred Alternative - Alviso-A8 Pond Cluster

In Alternative Alviso-A8 B, two habitat transition zones would be constructed in this pond if an adequate amount of material is available.

During the construction period, the diversity of habitats in the pond could be augmented with the addition of islands placed near the outer perimeter, similar in design to the proposed islands for Mountain View Ponds A1 and A2W. The islands could provide additional high-tide refugia as well as roosting sites or nesting habitat for other waterbirds.

CCCR Preferred Alternative - Ravenswood Pond Cluster

Table ES-3 Components of the Phase 2 Action Alternatives at the Ravenswood Ponds with CCCR Preferred Alternatives

O-CCCR2-31

ALTERNATIVE RAVENSWOOD B	ALTERNATIVE RAVENSWOOD C	ALTERNATIVE RAVENSWOOD D	CCCR PREFERRED ALTERNATIVE
Improve All-American Canal levee	Improve All-American Canal levee	Improve All-American Canal levee	Improve All-American Canal levee
—	All-American Canal habitat transition zone	All-American Canal habitat transition zone	All-American Canal habitat transition zone
Bedwell Bayfront Park habitat transition zone	Bedwell Bayfront Park habitat transition zone	—	Bedwell Bayfront Park habitat transition zone
—	—	Pond R4 Northwest habitat transition zone	___ (breach/lower northwest R4 levee)
Remove parts of Ponds R5 and S5 internal levees	Remove parts of Ponds R5 and S5 levees	Remove all of Ponds R5 and S5 internal levees	Remove parts of Ponds R5 and S5 internal levees
—	Grade and partially fill Ponds R5/S5	—	—
Ponds R4/R5 water control structure	Ponds R4/R5 water control structure	Ponds R4/R5 water control structure	Ponds R4/R5 water control structure
—	Ponds R3/S5 water control structure	Ponds R3/S5 water control structure	Ponds R3/S5 water control structure
Pond R3/Ravenswood Slough water control structure	Pond R3/Ravenswood Slough water control structure	Pond R3/Ravenswood Slough water control structure	Pond R3/Ravenswood Slough water control structure
—	—	Connect to Bayfront Canal and Atherton Channel Project	Connect to Bayfront Canal and Atherton Channel Project
Pond S5/Flood Slough water control structure	Pond S5/Flood Slough water control structure	Pond S5/Flood Slough water control structure	Pond S5/Flood Slough water control structure
Pond R4 pilot channel	Pond R4 pilot channel	—	Pond R4 pilot channel
Pond R4 east breach	Pond R4 east breach	Pond R4 east breach	Pond R4 east breach
—	Pond R4 northwest breach	—	Pond R4 northwest breach
Lower Pond R4 northwest levee	Lower Pond R4 northwest levee	—	Lower Pond R4 northwest levee
Ponds R5 and S5 bird habitat island	Ponds R5 and S5 bird habitat island	—	Ponds R5 and S5 bird habitat island
Viewing platform near Pond R5	Viewing platform near Pond R5	Viewing platform near Pond R5	Viewing platform near Pond R5

2

O-CCCR2-31 cont.

—	Pond R4 boardwalk trail at northwest corner	Pond R4 trail on northwest levee	___ (no trail or boardwalk)
—	Pond R4 viewing platform	Pond R4 viewing platform	___
	Complete loop trail around Ponds R5 and S5 to connect to Bay Trail	Complete loop trail around Ponds R5 and S5 to connect to Bay Trail	Complete loop trail around Ponds R5 and S5 to connect to Bay Trail

South Bay Salt Pond Restoration Project Phase 2 July 2015 Draft Environmental Impact Statement/Report Pg.ES-22

The components CCCR has selected from the three Ravenswood Phase 2 Action Alternatives (B, C and D) provide for a diversity of habitats, maximum flood protection for nearby communities, protection for existing endangered species from human disturbance, and an increase in recreational trails in the Refuge.

Pond R4 Northwest Breach and Lowering of the Levee

O-CCCR2-32

Lowering the levee and breaching the northwest corner of Pond R4 (Alternative C) are important hydrological components for the tidal restoration of this pond. Both actions would help provide important connectivity with the adjacent marsh on Greco Island. The endangered Ridgway's rail is found on Greco Island and in the existing marsh outboard of the R4 levee; for this reason, the boardwalk and viewing platform proposed in Alternative C should not be included in the project. Adjacent Bedwell Bayfront Park trails providing public access to this corner of Pond R4 are used by many local residents on a daily basis, and impacts from human disturbance would occur if the recreational trail is extended over endangered species habitat.

The DEIS/R does not specifically address this potentially significant adverse impact to an existing endangered species. Under Phase 2 Impact 3.5-18 "Potential recreation – oriented impacts to sensitive species and their habitats", the DEIS/R concludes impacts are "Less Than Significant" for Ravenswood Alternative C, without providing any analysis or justification.

Ponds R5 and S5

O-CCCR2-33

The critically needed flood protection provided by connecting Ponds R5/S5 to the Bayfront Canal and Atherton Channel Project (as proposed in Alternative D) is compatible with managing these ponds and improving habitat for diving and dabbling waterfowl (as proposed in Alternative B).

The removal of the outer portions of the internal levee between the two ponds to create a central island (Alternatives B and C) would diversify the pond habitat because the island would be utilized by a variety waterbirds, including roosting shorebirds. The loss of the small amount of flood retention capacity from the island could be offset by the new R3/S5 control gate which would allow storm event overflow into Pond R3 for short durations, if needed.

Completing the loop trail around R5 and S5 would provide additional recreational trail access around the two ponds that are located adjacent to the more heavily used area of Bedwell

3

O-CCCR2-33 cont.

Bayfront Park. Siting trails in other parts of the Ravenswood Phase 2 project area would adversely impact endangered species.

Importance of Maintaining Pond R3 as a Seasonally Wet Pond Habitat for Migratory Shorebirds

In all of the Phase 2 alternatives, Pond R4 would be converted to tidal marsh, eliminating 295 acres of "seasonally wet pond" habitat currently utilized by migratory shorebirds for high tide roosting and foraging. These birds are most likely foraging on the mudflats offshore of the Ravenswood ponds during low tide.

O-CCCR2-34

Ravenswood Pond R4 collects rainwater during winter but dries out to become salt panne in summer. (Page 3.5-17). Takekawa et al. (2006) found that R4 is the second-most important pond for small shorebirds in this complex (27% of the total). Pond R1 had the most birds with 43% of the total; however, this pond is also slated for conversion to tidal marsh (South Bay Salt Pond Restoration Project Final Environmental Impact Statement/Report December 2007 Alternatives A, B and C) and will eventually be lost to roosting and foraging shorebirds. Pond R3 was third for small shorebird numbers with 14%.

The Phase 2 EIS/R should include detailed information on current waterbird use of all ponds in the Ravenswood Complex; otherwise, conclusions regarding project impacts and the necessity of mitigation measures are questionable. For example, the current DEIS/R states that *"Large numbers of waterfowl and shorebirds roost and forage to varying degrees in Ponds R1, R2, and SF2"* (page 3.5-16). No mention of Pond R4 is made (except for snowy plovers) or of Pond R3, which seems to contradict the findings of Takekawa et al. (2006).

Two basic mitigations to address the habitat conversion of R4 from seasonally wet pond to tidal marsh are presented in the DEIS/R: 1) the tidal marsh will offer shelter and food for small shorebirds; and 2) newly established habitat transition zones will provide foraging and shelter for small shorebirds. Alternative D states, "*Like Alternative Ravenswood B, the diversified tidal marsh expected to develop in Pond R4 and the creation of habitat transition zones would offer shelter and foraging habitat for small shorebirds, offsetting the seasonal pond habitat that currently exists in Pond R4*" (Page 3.5-39).

If salt marsh is expected to provide shelter and foraging habitat comparable to seasonally wet ponds for small shorebirds, then the EIS/R needs to provide references to studies supporting these claims. In a study on Western Sandpipers in South San Francisco Bay, Warnock and Takekawa (1995) found that, "*salt marsh plains are the least preferred habitats*" of these small shorebirds. This apparent discrepancy needs to be clarified in the DEIR. In addition, salt marshes won't provide high-tide roosting for small shorebirds, so the DEIR needs to clarify what kind of shelter the salt marsh will provide for small shorebirds.

The EIS/R needs to define "diversified tidal marsh" and provide evidence demonstrating to what extent this tidal marsh has the same habitat value as seasonally wet ponds for small shorebirds.

4

O-CCCR2-34 cont.

The Phase 2 EIS/R must provide references for studies that demonstrate the habitat value of anthropogenic transition zones to small shorebirds. In addition, the transition zone may work for shorebird roosting along the All American Canal (Alternatives B,C and D), but may not work for the Bedwell Bayfront Park transition zone (Alternatives B and C) because this transition zone would be contiguous with the adjacent upland and subject to predation pressure from native and introduced predators.

With the loss of R4, it is important that the remaining 270 acres of "seasonally wet pond" habitat in Pond R3 be managed for roosting and foraging shorebirds during winter. In addition to providing enhanced spring/summer nesting habitat for snowy plovers, the proposed R3/Ravenswood Slough and R3/R5 water control structures can provide the means to seasonally regulate water depths in the winter as well, allowing a diversity of birds to utilize this pond.

The EIS/R should specifically highlight the seasonal management of water depths in Pond R3 as a mitigation measure for the loss of shorebird roosting habitat in the Ravenswood Pond Complex from the Phase 2 conversion of R4 to tidal marsh.

O-CCCR2-35

Bedwell Bayfront Park Habitat Transition Zone

Once tidal marsh is established in Pond R4, how will the Project mitigate potential impacts from terrestrial predators and human disturbance on the endangered species (Ridgway's rail and salt marsh harvest mouse) that will be colonizing the marsh and utilizing the Bedwell Bayfront Park transition zone as a high tide refugia? Feral cats are currently present at Bedwell Bayfront Park (Matthew Leddy personal observation), dogs are allowed on the trail directly adjacent to this specific transition zone, and hikers and bicyclists utilize the trail on a daily basis.

The DEIS/R does not address these potential impacts associated specifically with this transition zone. If these impacts will be mitigated through elements of project design, the EIS/R should include information on the specific design elements and evaluate whether they will be effective in preventing predation and disturbance.

5

O-CCCR2-36

CCCR Preferred Alternative – Alviso-Mountain View Pond Cluster

Table ES-2 Components of the Phase 2 Action Alternatives at the Mountain View Ponds with CCCR Preferred Alternative

ALTERNATIVE MOUNTAIN VIEW B	ALTERNATIVE MOUNTAIN VIEW C	CCCR PREFERRED ALTERNATIVE
Do not include Charleston Slough in tidal marsh restoration.	Include Charleston Slough in tidal marsh restoration.	See Charleston Slough Alternatives Discussion Below
Raise and improve western levee of Pond A1.	Lower and breach western levee of Pond A1.	
Breach the west side of Pond A1 at one location.	Breach Pond A1 at three locations.	
—	Breach Charleston Slough and connect it to Pond A1: • Open Charleston Slough to full tidal exchange, by breaching the northern levee or by removing the tide gate structure itself, to allow vegetation to colonize the mud flats surrounding the slough's main channel; • Raise and improve the western levee 1 of Charleston Slough, which separates it from the Palo Alto Flood Basin; • Raise the Coast Casey Forebay levee 1 along southern border of Charleston Slough and associated sailing lake water intake and pump station structures; • Add a primary water intake 2 for the Mountain View Shoreline Park sailing lake at the breach in the levee between Charleston Slough and Pond A1; • Lower western levee of Pond A1; • Rebuild the existing viewing platform along the Coast Casey Forebay levee; rebuild the existing trail and replace benches and signage along the improved western levee of Charleston Slough; and • Armor levee on landward side of breach between Pond A1 and Charleston Slough.	
Construct bird habitat islands in Ponds A1 and A2W.	Add bird habitat islands in Ponds A1 and A2W.	Construct bird habitat islands in Ponds A1 and A2W.
Construct habitat transition zones across entire southern extent of Ponds A1 and A2W.	Construct a habitat transition zone across entire southern extent of Pond A1 but only across a portion of A2W.	Construct a habitat transition zone across entire southern extent of Pond A1 but only across a portion of A2W.
Breach Pond A2W at four locations.	Breach Pond A2W at four locations.	Breach Pond A2W at four locations.
Armor the two eastern breaches of Pond A2W and add railcar bridges over the two breaches for Pacific Gas and Electric Company (PG&E) access.	Armor the two eastern breaches of Pond A2W and add railcar bridges for PG&E access and recreational trail access.	Armor the two eastern breaches of Pond A2W and add railcar bridges over the two breaches for Pacific Gas and Electric Company (PG&E) access.

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O-CCCR2-36 cont.

Raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from Pond A2W to connect to existing boardwalk over Bay outside of the Palo Alto Flood Basin.	Raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from A2W to connect to existing boardwalk over Bay outside of Palo Alto Flood Basin.	Raise concrete footings of PG&E towers in Pond A2W; elevate existing PG&E access boardwalk in Pond A2W; construct new sections of boardwalk from A2W to connect to existing boardwalk over Bay outside of Palo Alto Flood Basin.
Add viewing platform in Shoreline Park south of Pond A1.	Add viewing platform in Shoreline Park south of Pond A1.	Add viewing platform in Shoreline Park south of Pond A1.
Construct spur trail on improved western levee of Pond A1 to a viewing platform.	Construct spur trail on improved west levee of Pond A1 to a viewing platform at the armored breach.	Construct spur trail on improved western levee of Pond A1 to a viewing platform.
—	Add a spur trail from Bay Trail spine along Charleston Slough's northern levee to a viewing platform at or near the breach location.	Add a spur trail from Bay Trail spine along Charleston Slough's northern levee to a viewing platform at or near the breach location (*if breached.*).
—	Add recreational trail on eastern and northern sides of Pond A2W to a bay side viewing platform near PG&E turnaround point.	— (no trail)

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CCCR selected components from the two Mountain View Phase 2 Action Alternatives (B and C) related to proposed changes to Ponds A1 and A2W, and several elements are discussed below.

Bayside Recreational Trail on Pond A2W

O-CCCR2-37

Although public trails are an important component of the SBSP Restoration Project, the proposed new recreational trail on the eastern and northern sides of Pond A2W (Mountain View Alternative C) could create "potential recreation-oriented impacts to sensitive species and their habitats" by placing a trail near the bird nesting islands that would be constructed in both of the Mountain View alternatives.

The EIS/R should discuss the potential for impacts to nesting birds from human disturbances associated with the proposed trail. Additionally, as shown in Figure ES-6 (Alternative Mountain View A), there is an existing recreational trail out to the edge of the Bay directly across Whisman Slough from Pond A2W, so an alternative trail in this area already provides public access.

Habitat Transition Zones in Ponds A1 and A2W

O-CCCR2-38

Similar to the tidal marsh transition zone proposed for Ravenswood Pond R4 that borders Bedwell Bayfront Park, the transition zones in Mountain View Ponds A1 and A2W would be directly adjacent to recreational trails in Mountain View Shoreline Park. The need for the EIS/R to address potential impacts to wildlife using this transition zone habitat from terrestrial predators and human disturbance would also apply here.

7

O-CCCR2-38 cont.

The remaining components in Mountain View Alternatives B and C are dependent on the overarching decision on whether to include Charleston Slough in SBSPRP Phase 2 tidal marsh restoration. Below is a discussion on issues and alternatives related to Charleston Slough.

Charleston Slough Alternatives

CCCR has actively worked for decades to recover the pristine and unique cordgrass habitat of Charleston Slough that was destroyed in 1975, and ensure that the City of Mountain View fulfilled the BCDC mitigation requirement to restore 53 acres to vegetated tidal marsh (Phase 2 DEIS/R pg. 1-19).

In the intervening decades of failed attempts, habitat has evolved in the slough that now provides for a rich diversity of bird species dependent upon exposed mudflats and shallow ponds.

O-CCCR2-39

Charleston Slough is located in an area of unparalleled public access and this site currently provides an intense and up-close wildlife experience and invaluable educational opportunities. This is an area embraced and cherished by the public who, regardless of age or physical limitations, have the opportunity to see the diversity of species supported by the bay and to understand why it is necessary to continue to protect the bay.

The Phase 2 DEIS/R provides only two alternatives for this 115-acre muted tidal pond:

Alternative B - Do not include Charleston slough in tidal marsh restoration; or

Alternative C - Include Charleston slough in tidal marsh restoration.

If Charleston Slough is to be included in the Phase 2 SBSP Restoration Project under Alternative C, several important deficiencies in the DEIS/R must be addressed:

1) Lack of analysis of impacts and mitigation for the significant loss of established and accessible wildlife viewing opportunities for the public currently provided by the close proximity of a diversity of shorebirds foraging on the existing mudflats in Charleston Slough.

2) Absence of information on the management of a restored Charleston Slough, and the responsible agency for the maintenance of the flood control levee, tidal marsh and trails/viewing platforms going forward; the methodology that will be used to determine allocation of restoration costs, and possible USFWS liability issues if Charleston Slough is not incorporated into the Refuge.

3) Lack of a range of reasonable alternatives that evaluate combinations of habitats and marsh features. For example, unlike other Phase 2 ponds that will be undergoing restoration, there is no information or detail on proposed measures for increasing marsh complexity in Charleston Slough.

Since only half of this pond must be converted to vegetated tidal marsh, there is an unprecedented opportunity to actually increase the mosaic of habitats and associated wildlife that visitors to the adjacent trails and viewing platforms can visually experience. Alternatives proposed for the restoration of Charleston Slough should include measures to increase marsh

8

O-CCCR2-39 cont.

complexity, including features like roosting islands (so the shorebirds no longer completely disappear during high tide!), small internal ponds, sloped vegetated areas for high-tide refugia and topographical diversity in the marsh plain.

Even more importantly, all of the alternatives considered for restoration of Charleston Slough must include design elements that will:

- Ensure that at least 53 acres of cordgrass and pickleweed marsh will actually become established when full tidal flow is restored; and
- Retain low-tide mudflat habitat for shorebirds in areas that are visible and accessible to the schoolchildren, birdwatchers and recreational visitors to this unique spot on the Peninsula's edge of the Bay

Additionally, incorporation of Charleston Slough into the proposed A1-A2W tidal marsh restoration should not be made infeasible (in the future), if the SBSPRP selects Alternative B that does not include restoration of Charleston Slough in the Phase 2 actions.

References

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9

SBSP Restoration Project Impacts on Shorebirds

High- tide roost availability and shorebird population size

With respect to shorebird high-tide roosts, the Phase 2 DEIS/R states the following:

"*High-tide roosting habitat is unlikely to limit populations, as pond levees, islands, and other alternative habitats can support high densities of roosting birds. However, conversion of managed ponds to tidal habitats would reduce the numbers of sites where shorebirds can congregate at high tide, potentially resulting in increased predation, possibly increased susceptibility to disease, and increased disturbance (and associated increases in energy expenditure) by predators and humans* (pg. 3.5-44).

This conclusion regarding the impact of high-tide roosting habitat availability on shorebird populations needs to be substantiated with appropriate data, as this may not always be the case. For example, evidence contrary to the conclusion above can be found in a study demonstrating that the availability of roosting sites can limit populations of wintering shorebirds by limiting the number of foraging mudflat habitats within the flying range of the birds (Dias et al, 2006).

O-CCCR2-40

Ensuring adequate quality high-tide roosting sites for the shorebirds that are using mudflats in and adjacent to the project area should be planned for in advance. Optimal roosting sites are closest to foraging mudflats, and therefore a sufficient amount of this habitat is an essential element that should be identified in initial restoration and project plans for **each pond complex**. The environmental analysis must identify concrete measures that will be implemented in the Phase 2 Project to mitigate the significant impacts to the diverse species of shorebirds in the South San Francisco Bay, and prevent potential under or over utilization of mudflat areas.

All three Phase 2 alternatives (B, C and D) for Ravenswood Pond 3 (R3) call for enhancing the pond for snowy plovers. The impacts of this action on roosting shorebirds is unknown. Prior to conversion of this pond to snowy plover nesting habitat, Applied Studies Question 5 should be answered : "*Will shallowly flooded ponds or ponds constructed with island or furrows provide breeding habitat to support sustainable densities of snowy plovers while providing foraging and roosting habitat for migratory shorebirds compared to existing ponds not managed in this manner?*" (DEIR Vol. 2, Appendix 1, pg. 72). If these two uses turn out to be incompatible in R3, and R4 – a current roosting site – is converted to tidal marsh, only SF2 will provide substantial roosting acreage within the entire Ravenswood Complex.

The Phase 2 EIS/R should either state that the conversion of R3 and R4 will wait until Applied Study Question 5 is answered, or identify alternate ponds within the Ravenswood Complex, i.e. R1 or R2, that will be used, at least in part, for high-tide roosting habitat.

The location of roosting sites with respect to distance to mudflat foraging habitats should be considered in the environmental analysis. For example, Warnock and Takekawa (1996) found that the average distance western sandpipers move between their foraging and roosting areas was 2.2 km. If Phase 2 Project activities result in only SF2 being available to these birds, the

1

O-CCCR2-40 cont.

mudflats outboard of Greco Island may be underutilized by some shorebirds due to a lack of nearby roosting sites (Fig. 1). The privately-owned Redwood City Cargill ponds may not be available in the future for high-tide roosting.

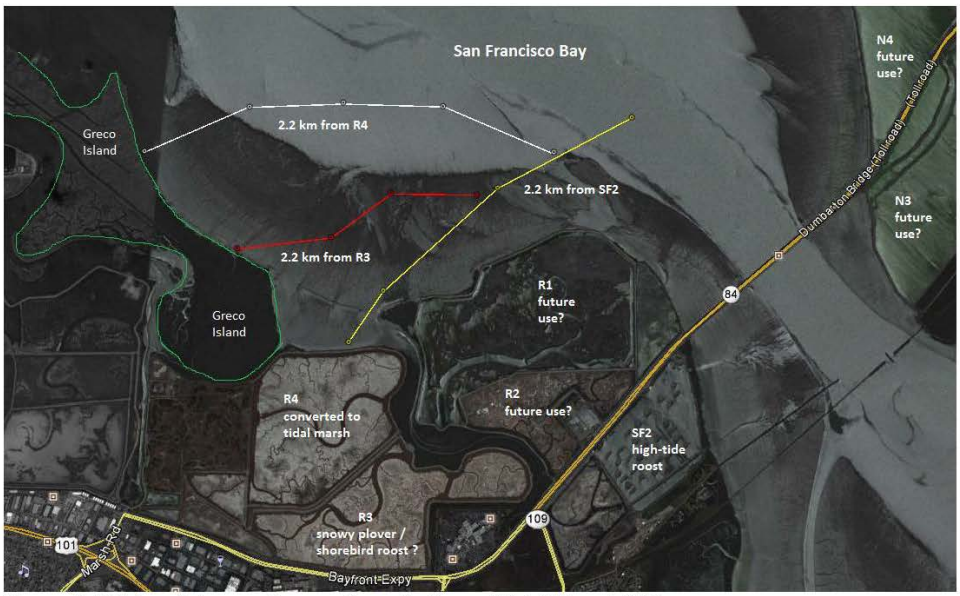

Figure 1. 2.2 km distances from outboard edges of R4, R3 and SF2.

O-CCCR2-41

Pond levees as shorebird high-tide roosts

The Phase 2 DEIS/R mentions the use of levees by high-tide roosting shorebirds in several places (pgs. 3.5-3., 3.5-9, 3.5-43 and 3.5-44). With respect to the relative importance of levee roosts, the DEIS/R states that, "*Large numbers of shorebirds use salt pond levees for roosting, particularly when intertidal foraging habitats are inundated during high tide*" (pg. 3.5-9).

In contrast, the following studies suggest that levees are one of the least preferred roosting habitats for shorebirds:

- Ackerman et al. (2014) observed shorebirds on Pond SF2 in the Ravenswood Complex with the following results: 82% on the pond surface, 14% on islands, and only 4% on levees.
- H.T. Harvey and Associates (2007) reporting on SFBBO shorebird surveys in the South San Francisco Bay observed 28% of the birds roosting in the pond shallow water, 23% on islands, and only 10% on levees.

2

O-CCCR2-41 cont.

- Warnock et al. (2002, 2004) observed the majority of roosting birds on pond mud (38%), with about 30% of the roosting shorebirds utilizing man-made structures for roosting (this includes dikes, roads, pilings, boardwalks etc.), 18% on islands, and 15% on water.

- Warnock and Takekawa (1995), using radio-marked western sandpipers, found the birds on levees when the ponds were flooded, then moving into the ponds when they were drained with water < 5 cm deep. They also found a large proportion of birds in former salt ponds that were filled by rainwater.

- Rosa et al. (2006) observed a three-fold increase in raptor abundance and 3.5 times more time was spent in vigilance among dunlin roosting on salt pond levees compared to birds roosting on nearby mudflats at high tide. Neap-period high tides do not completely submerge mudflats in the Tangus Estuary.

Based on the information above, it appears that levees are not the preferred roosting habitat for shorebirds at high tide. The Phase 2 EIS/R should be more specific regarding the relative use of the different roosting habitats used by various waterbird groups. Pond bottoms, islands and levees may not all be used to the same extent. Conversion of managed ponds currently used for roosting to tidal marsh habitats may result in a significant loss of high-quality shorebird roosting habitat in the south San Francisco Bay.

O-CCCR2-42

Provision for high-tide nocturnal roosts for shorebirds

Nocturnal roosting requirements of wintering shorebirds can be very different from diurnal roosting requirements (Conklin et al. 2007, Rogers 2003, and Sanders et al. 2013); however, the Phase 2 DEIS/R makes no distinction between these two different habitat resources. Nocturnal roost availability may be more critical to shorebird populations than diurnal roosts.

Technology that enables researchers to track or observe birds at night has allowed biologists to learn that nocturnal roosting habitat requirements can be quite different from those utilized during the day. The following studies demonstrate how nocturnal roosts differ from diurnal, illustrating why the location of current nocturnal roost habitats should be determined and shorebird abundance and species composition in the various ponds be evaluated prior to converting managed ponds to tidal marsh:

- As a consequence of predation pressure, birds may need to fly farther from mudflat foraging areas to nocturnal roosts than they do to daytime roosts. (Conklin et al. 2007, Rogers 2003, Sanders et al. 2013).

- Conklin et al. (2007) studying dunlin at Humboldt Bay found that, "At night Dunlin used fewer roosts, were more faithful to primary roosts, and moved shorter distances between successive roosts than during the day."

The EIS/R for the Phase 2 Project should treat diurnal and nocturnal roosts as separate resources. Determining the relative use of specific habitats/microhabitats by nocturnal roosting birds is

3

O-CCCR2-42 cont.

necessary to ensure that management decisions proposed in Phase 2 do not impact populations due to the loss of this habitat resource. The potential loss of nocturnal roosting habitat from conversion of the ponds to tidal marsh with the Phase 2 Project should be evaluated in the EIS/R.

Phase 2 impacts on large shorebirds

O-CCCR2-43

The potential Phase 2 impacts on Pacific Flyway populations of several wetland bird groups are discussed and analyzed in the DEIS/R (Table 3.5-3 and Table ES-4). The analysis includes small shorebirds, pond-associated waterbirds (avocets, stilts, and terns), non-breeding, salt-pond-associated birds (e.g., phalaropes, eared grebes, and Bonaparte's gulls), diving ducks, ruddy ducks, piscivorous birds and dabbling ducks.

The Phase 2 DEIR analysis appears to omit discussion of potential impacts of the project on large shorebirds (i.e., willet, marbled godwit, long-billed curlew and whimbrel), even though the Goals Project (2000) states that, *"A comprehensive management plan for San Francisco Bay Area wetlands will need to recognize the importance of expansive tidal flats as foraging habitat during ebbing tides for large shorebird species and will need to identify important roosting and alternative foraging habitat during high tides"* (pg. 284).

Marbled Godwit

One of the reasons the San Francisco Bay Area Wetlands Ecosystem Goals Project selected the marble godwit as a "focus species" is because the godwit's *"habitat requirements may well represent those of all large shorebird species as a group"*, (Goals Project. 2000, pg. 284).

O-CCCR2-44

The marbled godwit (non-breeding) is listed in the 2008 USFWS Birds of Conservation Concern in Region 32 which includes San Francisco Bay (U.S. Fish and Wildlife Service. 2008). In addition, this species is listed in 2011 as a USFWS "*focal species,*" which is a "*subset of the Birds of Management Concern, and are those the program believes need additional investment of resources to address pertinent conservation or management issues*" (U.S. Fish and Wildlife Service. 2011).

Concerns about the marbled godwit, "*… have prompted a number of organizations and agencies to assign special conservation status to the Marbled Godwit. The United States (U.S.) and Canadian shorebird conservation plans list the Marbled Godwit as a species of 'high concern' and 'high- priority', respectively. Partners in Flight has assessed the godwit as a top conservation priority in nearly every physiographic region where it occurs during breeding or non-breeding season, and the National Audubon Society gives it 'yellow status' on its Watch List"* (Melcher, C.P., A. Farmer, and G. Fernández. 2010, pg. 10. References within quotes omitted). Issues cited by Melcher et al. (2010) include habitat loss/degradation and lack of monitoring to determine population trends.

Marbled godwits winter primarily along the west coast of central California to Sinaloa in Baja California, and within the United States, the largest wintering population (about 10% of the global population) is in San Francisco Bay (Melcher et al. 2010), with the South San Francisco Bay accounting for 50-60% of the Bay's godwit population (Goals Project. 2000). Unlike other

4

O-CCCR2-44 cont.

shorebird species that may use the Central Valley for wintering, the marbled godwit is dependent on San Francisco Bay, so any project changes to South Bay habitats that may adversely affect these birds should be specifically analyzed in the Phase 2 EIS/R.

Long-billed Curlew

The US Shorebird Conservation Plan, 2004, lists the status of the long-billed curlew as "Highly Imperiled", with non-breeding threats being a "High Concern". In addition, the long-billed curlew (non-breeding) is listed in the 2008 USFWS Birds of Conservation Concern in Region 32 which includes San Francisco Bay (U.S. Fish and Wildlife Service. 2008), and this species was listed in 2011 as a USFWS "*focal species*" which is a "*subset of the Birds of Management Concern, and are those the program believes need additional investment of resources to address pertinent conservation or management issues*" (U.S. Fish and Wildlife Service. 2011).

O-CCCR2-45

The 1990 – 2008 shorebird population study by Wood et al. (2010), noted that long-billed curlew populations increased in San Francisco Bay during the time frame of the study, that most of that increase occurred in the South Bay, and that from 2006- 2008, 53.8% of the Bay's curlews were counted in the South Bay.

Because it does not nest in the Project area, the Phase 2 DEIS/R does not consider Project impacts to the non-breeding long-billed curlew in the South Bay (Table 3.5-2). Using the curlew's breeding status as a criterion for omitting it from environmental analysis appears to be inconsistent with US Fish and Wildlife findings (U.S. Fish and Wildlife Service 2008 and 2011). The Phase 2 EIS/R should address potential impacts to this species.

The long-billed curlew also uses the Central Valley in the winter, so alterations in habitat affecting the San Francisco Bay population may be cushioned by wetland availability in the Valley; however, the Valley wetlands are not a stable habitat as we are seeing in this fourth year of drought in California. Cutbacks in water allocations to the Sacramento National Wildlife Complex and Sacramento rice growers have reduced available wetlands for all waterfowl. Currently, the Sacramento National Wildlife Complex is planning to keep 10-15% of their managed wetlands dry through the 2015-16 winter (USFWS. 2015). In light of predicted climate change impacts, the EIS/R should address the potential combination of Phase 2 and Central Valley habitat reductions on this species.

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7

Response to Citizens Committee to Complete the Refuge (O-CCCR2)

O-CCCR2-1

This comment is introductory and expresses general support for the project and tidal restoration. It does not require additional response.

O-CCCR2-2

This comment accurately describes the selection of Programmatic Alternative C (the 90%/10% or tidal marsh emphasis alternative) and the concepts of "bookends" of restoration between that alternative and Programmatic Alternative B, a 50%-50% ratio of restored tidal marsh and enhanced managed ponds. It also accurately describes the "restoration staircase" between these two extremes. It ends by requesting information on the development of Phase 2 alternatives at the Eden Landing pond complex, the non-National Wildlife Refuge portion of the SBSP Restoration Project.

The Eden Landing Phase 2 Alternatives Analysis was made available on the SBSP Restoration Project's website in June 2014. The link to that document is: http://www.southbayrestoration.org/planning/phase2/.

The Phase 2 planning process for Eden Landing will design and analyze potential alternatives for the entirety of southern Eden Landing (everything between the Alameda Creek Federal Flood Control Channel and Old Alameda Creek). The Phase 2 alternatives at Eden Landing are expected to include a range of restoration options including (1) full restoration to tidal marsh in a single implementation phase, (2) phased restoration to tidal marsh, and (3) restoring the outer, Bay-facing ponds to tidal marsh and retaining some or all of the interior, landward ponds as enhanced managed ponds. Options (2) and (3) involve the use of a mid-complex levee to isolate the 4 large, bay-facing ponds from the rest of the complex. That would allow either a temporary (a decade or so in option 2) or a permanent (in option 3) separation of these ponds to allow different types and rates of restoration. That decision will be informed by the results of the ongoing applied science and by other wildlife responses to prior SBSP Restoration Project actions, the NEPA/CEQA process for Eden Landing itself, and outcomes of other restoration and management efforts around the bay. Text has been added to the Final EIS/R to note the availability of that Alternatives Analysis document and the next planning and design steps for southern Eden Landing. Finally, the Eden Landing – Phase 2 portion of the SBSP Restoration Project has been added to Chapter 4 – Cumulative Impacts.

O-CCCR2-3

See the response to comment I-LL-1, I-LL -5, and I-LL -6, which discussed the interaction of the SBSP Restoration Project and the U.S. Army Corps of Engineers Shoreline Study. See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study. Text has been added to the cumulative impacts analysis of the Final EIS/R to include more detail about the Shoreline Study.

O-CCCR2-4

The comment correctly notes that Ponds A9-A15 were retained as managed ponds in Programmatic Alternative B. However, the selected alternative was Programmatic Alternative C, and in that alternative, Ponds A9-A15 were planned for restoration to tidal marsh. The "bookends" and "restoration staircase" concepts described in the response to comment O-CCCR2-2 mean that selecting Alternative C does not require the project to go all the way to 90% restoration; the project may indeed stop tidal marsh

restoration somewhere between Programmatic Alternative B's 50%-50% balance and Alternative C's 90%-10% balance. But those percentages are on the total acreage of project ponds available. The bookends do not imply that the restoration destination of any individual pond or group of ponds needs to be exactly as shown in the maps of either of those two alternatives.

The Shoreline Study is proposing to only initially restore Pond A12 to tidal action. The restoration of the remainder of that pond cluster will be subject to the Adaptive Management Plan. If the Shoreline Study Project can achieve restoration of Ponds A9-A15 to tidal marsh, that action, in combination with full implementation of Phase 2 SBSP Restoration Project actions (including Eden Landing), would push the percent of total pond acreage restored to tidal marsh over 50%. However, the completion of Ponds A9-A15 and southern Eden Landing are both going to be phased and subject to the Adaptive Management Plan.

As discussed in Master Comment Response#3, the SBSP Restoration Project's actions subsequent to Phase 2 and the Shoreline Study are not likely to occur right away but would instead be timed to adequately assess marsh formation, sediment availability, sea-level rise, mercury, effectiveness of habitat islands and habitat transition zones, the response of the pond-dependent wildlife species to restoration efforts, and other longer-term dynamics. Following that assessment, the project would then consider whether or not additional restoration to tidal marsh is appropriate, or if moving further along the restoration staircase would cause one or more of the established triggers or thresholds to be crossed. See also Master Comment Response #7, which provides a general explanation of the impacts, thresholds of significance, and management triggers used in the 2007 program-level EIS/R and the way in which they were used in the Phase 2 EIS/R.

Master Comment Response #10 also provides a discussion of sea-level rise and its impacts and influences on habitat restoration planning and implementation.

O-CCCR2-5

The comment requested updated maps of a possible 50%-50% mix of tidal marsh and managed ponds following implementation of Phase 2 actions at the Refuge and Eden Landing and at Ponds A9-A15 as part of the Shoreline Study. Such maps would be speculative and potentially misleading if they were made before decisions about the Shoreline Study's implementation and about the alternatives at southern Eden Landing.

O-CCCR2-6

As in the response to comment O-CCCR2-4 and O-CCCR2-5, the decisions about the Shoreline Study and southern Eden Landing may force a reassessment of which ponds would be targeted for which type of future restoration (tidal marsh versus managed ponds). This reassessment will be made after Phase 2 implementation at Eden Landing and implementation of the Shoreline Study. It will be part of the response assessment described in the Master Comment Response #3 and in O-CCCR2-5.

O-CCCR2-7

Construction of Phase 2 at the Refuge is scheduled to begin in fall of 2017, which is prior to implementation of the Shoreline Study (scheduled to begin in 2018). There will be opportunities to adjust the balance of tidal marsh restoration and managed pond enhancements following Phase 2 implementation. Mitigation for impacts from USACE actions is covered by the restoration of Ponds A12

and A18 as part of the first phase of the Shoreline Study. Subsequent ponds are not factored in to their mitigation needs.

O-CCCR2-8

This comment is a summary description of the four pond clusters included in Phase 2 at the National Wildlife Refuge. It voices a concern about the feasibility of restoration in those pond clusters as part of Phase 2. See also Master Comment Response #8 and the response to comment O-CCC2-10, which speak to the ponds for included in the Phase 2 consideration and analysis, which was the main point of this comment.

O-CCCR2-9

Following the completion of Phase 2 implementation at the Refuge ponds (the Ravenswood pond complex and the three clusters in the Alviso pond complex: the Island Ponds, the A8 Ponds, and the Mountain View Ponds) and eventually at southern Eden Landing, the project will have addressed almost 50% of the total project pond area, but not all of these would have become tidal marsh. As explained in Master Comment Response #3, the SBSP Restoration Project plans to not begin Phase 3 planning or alternatives development until after reaching 50% tidal marsh restoration. This would allow the project to ask and answer the same question posed in this comment: Is it appropriate to continue restoration of former salt ponds to tidal marsh? One reason not to stop and ask that question yet is because the lower threshold of the bookends (the 50% tidal marsh restoration) would not have been reached. Indeed, prior to Phase 2 implementation, the restoration is at about 10% tidal marsh restoration, still well below the 50% threshold established in the programmatic portion of the 2007 EIS/R. As importantly, given the expected sea-level rise in San Francisco Bay (a concern shared by the CCCR and some of its external technical experts in other comments), it is important to do as much tidal restoration as is safe and feasible as soon as possible to not get behind the curve of sea-level rise. In fact, the newly released Baylands Goals 2015 Science Update[8] prioritizes maximizing tidal marsh restoration in areas like the south bay by 2030.

Master Comment Response #10 also provides a discussion of sea-level rise and its impacts and influences on habitat restoration planning and implementation.

O-CCCR2-10

The main question asked in this comment is why Phase 2 does not explore alternatives beyond those four pond clusters included in this EIS/R. In particular, the comment suggests that some ponds that are not currently part of the SBSP Restoration Project could be included in restoration planning and selection now. See Master Comment Response #8, which contains a discussion of the scope of the Phase 2 EIS/R, including the ponds selected for consideration and analysis in Phase 2 planning.

The selection of which ponds to consider in Phase 2 was made several years ago and was shaped by a number of charrettes, workshops, stakeholder forum meetings, and other processes intended to identify sets of ponds that could be restored with as few technical, regulatory, economic, and feasibility conflicts as possible. Those processes evaluated the economic and environmental trade-offs suggested by the commenter.

[8] Goals Project. 2015. The Baylands and Climate Change: What We Can Do. Baylands Ecosystem Habitat Goals Science Update 2015. Prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. California State Coastal Conservancy. Oakland, CA

Section 1.2.8 of the EIS/R explains the process of selecting ponds for analysis in Phase 2. In addition, documents detailing many of these processes are provided on the SBSP Restoration Project website. One of these documents is "Phase 2: Preliminary Options for Future Actions from 2010", which has been added as an appendix to the Final EIS/R.

Those processes drew from and built upon the foundation laid by the 2007 Programmatic EIS/R, which covered the 15,100 acres of ponds currently in the SBSP Restoration Project area. While that document did mention areas external to the overall project borders as part of the Authorized Expansion Boundary, it did not and could not include detailed analysis of them within its pages. The Programmatic EIS/R provided CEQA and NEPA analysis and disclosure for the program as a whole and allowed a great deal of flexibility in the selection of different sets of ponds (termed 'pond clusters' in this project-level EIS/R) that would go on to be chosen for subsequent project-level phases.

Once a set of Phase 2 ponds was chosen, the design and subsequent NEPA and CEQA processes were appropriately focused on developing and analyzing alternatives within those pond clusters, not reopening the questions of which ponds to include in Phase 2, as long as a no-action/no-project alternative is included in the Phase 2 document..

The motivation for the concern voiced in this comment seems to be based on two dynamics external to the project itself: a) the availability of sediment to accrete in the ponds and subsequent formation of tidal marsh, and b) sea-level rise. The comment asserts that sediment may potentially be limited in the future. That is a concern, but sediment is not currently limited. Further, progress is being made on the regulatory and economic constraints that have thus far held back the beneficial reuse of dredged materials in restoration projects in the South Bay. It is likely that the impetus for beneficial reuse would increase should natural sediment availability become limiting. Sea-level rise is also an acknowledged issue, which puts the emphasis on early restoration of ponds that are not yet so subsided that they cannot accrete sediment and form marsh. The Mountain View and Ravenswood Ponds assessed in Phase 2 meet that criterion.

The comment also suggests a number of ponds for restoration on which Cargill continues to hold salt-making rights. The release of that right by Cargill is not "reasonably foreseeable", making their consideration in the selection of ponds for analysis in Phase 2 unreasonable. The comment also suggests that there are some Refuge-owned and operated ponds that were suitable for inclusion in Phase 2 that were not considered. These included, for example, Ravenswood Ponds R1 and R2. These ponds are currently providing habitat for snowy plovers, but there are also major flood control requirements at those ponds that made their inclusion in Phase 2 prohibitively difficult and expensive at the present time. However, the San Francisquito Creek Joint Powers Authority's SAFER Bay Project is developing linked flood control and restoration plans for those two ponds now (as well as others), and the SBSP Restoration Project is collaborating with that project. It is prudent to make sure the restoration of Ponds R1 and R2 were closely linked with the efforts of the SAFER Bay Project.

O-CCCR2-11

This comment misstates the information presented at the SBSP Restoration Project Science Symposium in October 2015. The volumes presented there and listed in this comment were not sediment requirements for restoration. Rather they were maximum capacities that the ponds could hold. This is an important distinction. Some ponds could benefit from delivery of dredged material for beneficial reuse by raising

the pond bottom elevations, which would speed the time required to reach marsh plain elevation. That is not the same as that material being necessary or required to reach that elevation.

O-CCCR2-12

There is uncertainty about how quickly the Phase 2 ponds would take to be restored to tidal marsh. The only Ravenswood Pond included in Phase 2 that is intended to be restored to tidal marsh is Pond R4. That pond is very close to the elevation necessary to begin forming tidal marsh. Following breaching, vegetation should begin forming very quickly, within a few years, as has been the case at the Island Ponds. The Mountain View Ponds are subsided by several feet and were modeled as taking approximately 10 years to accrete enough sediment to reach marsh plain elevation and begin forming marsh. See also the preliminary design memorandum for each of these two pond clusters for more details. The memoranda are presented as Appendices M (Mountain View) and O (Ravenswood).

O-CCCR2-13

See Master Comment Response #2, which is about Refuge Management Activities versus SBSP Restoration Project Impacts, and Master Comment Response #5, which is about updating the Adaptive Management Plan (AMP).

The SBSP Restoration Project understands the concern about updates to the AMP. However, the AMP is not a set of actions or of results from scientific studies. Rather, it is a system and a process for how to identify, integrate, and act on such scientific information. Thus, while the inputs into that system or process must be and are updated frequently, the processes and systems of the AMP itself do not need to be. Nor is such an update is required under NEPA or CEQA. Rather, the requirements under NEPA and CEQA are to analyze and disclose environmental impacts from the project being proposed.

The AMP is intended to not only guide the selection and implementation of restoration actions within ponds but also to guide the ongoing management and operation of ponds that are part of completed, current, and possibly future phases of implementation. The contents of the AMP are included as part of the environmental analysis conducted in this Phase 2 EIS/R because the management actions triggered by AMP implementation are part of the environmental response to project activities. See also Master Comment Response #7, which provides a general explanation of the impacts, thresholds of significance, and management triggers used in the 2007 program-level EIS/R and the way in which they were used in the Phase 2 EIS/R.

Finally, the PMT has discussed conducting a formal evaluation of the project's status against the AMP's table of Targets and Triggers. This would a kind of "scorecard" to evaluate the specifics of the AMP table's contents. When the Pond Management Working Group has finalized the baseline bird numbers and the USGS has finished the Bird Survey Synthesis report, work on that scorecard would begin. This is not a requirement under NEPA or CEQA, but it does demonstrate the PMT's commitment to keeping the AMP's content current and appropriately applied.

O-CCCR2-14

See response to comment O-CCCR2-13.

O-CCCR2-15

See response to comment O-CCCR2-13.

O-CCCR2-16

See response to comment O-CCCR2-13.

O-CCCR2-17

See response to comment O-CCCR2-13.

O-CCCR2-18

See Master Comment Response #5 and response to comment O-CCCR2-13. The SBSP Restoration Project expects that – in keeping with its commitment to stakeholder and public engagement– any future updates of the AMP would be circulated in draft form to stakeholders, agencies, and other interested parties in the general public to invite their comment and input.

Note on Comments O-CCCR2-19 through O-CCCR2-27

Comments O-CCCR2-19 through O-CCCR2-27 were lists of additional information that the CCCR believes are necessary to adequately inform the decision-making processes used in the SBSP Restoration Project.

O-CCCR2-19

This comment asked for information about sediment processes north of the Dumbarton Bridge. There is some limited information on these sediment processes, as described by Dr. David Schoellhamer of the U.S. Geological Survey at the October 2015 Science Symposium. Dr. Schoellhamer summarized the data on sediment flux that has been finalized to date (from Water Years 2009 to 20011) showing that there is sediment flux into the South Bay (i.e., south of the Dumbarton Bridge) ranges from a net sediment flux of 220 kilotons of sediment entering the South Bay to a net sediment flux of 440 kilotons out of the South Bay in 2011. Dr. Schoellhamer has continued to study net sediment flux going into the South Bay through the Dumbarton Narrows, and the preliminary data for the years since 2011 have found a net sediment flux going into South Bay. It is believed that the large net sediment flux out of South Bay in 2011 was associated with the relatively large amounts of rainfall and associated runoff into the South Bay that year.

During 2011, however, Dr. John Callaway of the University of San Francisco was conducting studies on sediment accumulation within Pond A6, which had been breached at the end of 2010. Dr. Callaway's results found very high sediment accumulation within Pond A6 during 2011, and the high sediment accumulation continued. Therefore, despite the overall export of sediment from the South Bay that year, on the local scale of pond restoration, there is still a lot of sediment available for accretion into a newly opened pond.

The SBSP Restoration Project has also been studying the impact pond restoration on mudflat habitat. Baseline conditions of the bathymetry of the mudflats, benthic invertebrate community populations, and bird use of the mudflat were collected prior to the enhanced connections of Pond SF2 to the South Bay in 2009 and prior to the breach of Pond A6 at the end of 2010. Funding limitations has constrained ongoing follow-up studies at these ponds. However, recent investigations by Foxgrover et al. in a poster presented at the 2015 Science Symposium[9] found that from 2010 to 2015, the nearby intertidal mudflats at Pond A6 have either maintained their elevation or even been slightly depositional. The SBSP Restoration Project

[9] http://www.southbayrestoration.org/science/2015symposium/posters/Foxgrover_Alviso%20bathy _symposium_2015.pdf

has been investigating cost-effective techniques to map baseline conditions of mudflat habitat and to track future changes in mudflat extent. Where appropriate and helpful, that information has been added to the Final EIS/R.

O-CCCR2-20

This comment asked about the effects on mudflats and fringing marshes from opening ponds to tidal flows can be monitored and measured. The Science Team and the applied studies direct significant effort and funding toward studying and monitoring tidal mudflats, stream and slough channels, and tidal marshes and the changes to them that come from natural processes, interannual variability, and actions like breaching adjacent levees. The results of these studies are shared at annual Stakeholder Forums, at biennial Science Symposiums, and internally at annual meetings between the principal investigators and the Project Management Team. Among the newer and more innovative tools for monitoring changes to mudflats and other subsurface conditions in shallow water is the use of the Coastal Blue Band data from WorldView 2/3. This information was presented at the 2015 Science Symposium.

O-CCCR2-21

This comment requests information about waterbird population and species diversity monitoring outside of the SBSP Restoration Project boundaries itself. The bulk of the monitoring done by the project's Science Team and/or that are funded by the Applied Studies/Science Program or that are done under the USFWS Refuge management budget or CDFW's Eden Landing Ecological Reserve (Reserve) budget do focus on areas within the project boundaries or within the Refuge or Reserve's purview. Waterbird monitoring also includes the ponds that are managed by Cargill at the Mowry, Coyote Hills, and Dumbarton Complexes However, some other studies and monitoring efforts conducted outside the project's control are included in the data used by Science Team and in the project's AMP.

The San Francisco Bay Bird Observatory (SFBBO) has conducted surveys of the Cargill ponds, including Coyote Hills, Dumbarton and Newark complexes since 2006. For the past few years, SFBBO has also been monitoring the SBSP Restoration Project's ponds that had been monitored by USGS since 2003.[10] During that time period, researchers observed 946,728 birds of 75 species. The Alviso complex had 365,276 sightings of 69 species, the highest species richness and total waterbird abundance out of all the complexes. Compared to other complexes, the Alviso ponds supported the highest proportion of dabblers (64%), divers (79%), gulls (55%) and terns (51%). Eden Landing abundance was close to that of Alviso with 363,938 sightings of 63 species. Compared to other complexes, the Eden Landing ponds supported the highest proportion of herons and egrets (34%), medium shorebirds (52%), phalaropes (80%) and small shorebirds (63%). The SFBBO also summarizes abundances for specific guilds and species by complex. In addition, he Mid-winter Waterfowl Survey conducted annually by the USFWS and partner agencies gives an index and overview of the habitat use and waterfowl species diversity across the Bay Area region, state, and Pacific flyway in its entirety. In addition, Point Blue and partners conduct an annual shorebird survey (with USFWS and others as partners) that also gives an index and overview of habitat use by shorebirds at a local and regional scale.

The U.S. Geological Survey has been analyzing the all of the bird survey data collected at both SBSP (since 2002) and Cargill ponds (since 2006) and looking specifically at whether bird abundances have changed after the initial restoration actions. Their preliminary findings are that after the phase where new

[10] The most recent report from SFBBO is available at: http://www.southbayrestoration.org/documents/technical/SFBBO%202014%20Pond%20Surveys%20Final%20Report_2015.pdf.

water control structures were being installed and bay water entered the pond for the first time in decades, there has been a steady increase in wintering bird abundances at SBSP ponds from about 2008 to 2013 (specifically during the Phase 1 restoration actions were occurring). Specific guilds of birds are generally showing either a steady or an increasing abundance of birds during the Phase 1 period. The USGS analysis is also looking at what pond habitat features best explain the abundance of different guilds and species, and managers will be using that knowledge to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds. Note, however, that these surveys did not include birds in habitats other than intact and breached ponds; therefore, comparisons between other habitat types were not informed by those surveys. Finally, as noted elsewhere, less than 15% of total pond area has been breached, so it is still a bit early to evaluate how breaching may influence overall abundances of each species and guild

It is the intent of the SBSP Restoration Project to continue incorporating the most recent and relevant scientific information on waterbird habitat use and population trends to best respond to the ecological needs of South Bay wildlife.

O-CCCR2-22

The comment correctly notes that Pond R3 will be enhanced for western snowy plover during Phase 2 activities and supports that intent. It then asks about how suitable that pond would be for that type of habitat under future sea-level rise conditions. In the long run, sea-level rise will need to be managed and adapted to throughout the bay. This may mean periodically raising outboard levees around ponds that are being retained as enhanced managed ponds for pond-dependent wildlife or levees that provide flood protection. Those kinds of maintenance would need to occur in a range of places regardless of the SBSP Restoration Project (See Master Comment Responses #2 and #10 for discussions on Refuge management activities and on sea-level rise impacts and planning, respectively.) Pond R3 contains very good substrate habitat for nesting western snowy plover. It is not unique among the project's ponds in providing that habitat, but it is one of the best locations for it in the west bay. Similar high-quality habitat areas have been, will be, and are being targeted for this species in the Eden Landing pond complex and the Alviso pond complex to provide geographical balance in the habitat for this species.

O-CCCR2-23

This comment is somewhat unclear in what information it is requesting regarding phalaropes and eared-grebes. These are species that use fairly deep ponds and not the seasonally wet salt panne that is Pond R3. As in the response to comment O-CCCR2-22, ponds that are going to be maintained or enhanced as managed ponds may need to occasionally have their levees raised or improved in the future to keep pace with sea-level rise (see also Master Comment Responses #2 and #10). Those actions are uncertain and are not part of Phase 2 actions, and therefore are not discussed here.

O-CCCR2-24

This comment requested information about studies of climate change disruption of waterbird arrival and departure dates and other aspects of local habitat use. Climate change is indeed capable of changing the arrival and departure of migratory waterbirds and the availability of food supply. The types of monitoring and tracking information described in this comment are correctly listed as examples of the types of data that all wildlife and natural resource managers need to consider in their long-term management and operations planning. The SBSP Restoration Project's PMT and Science Team do review and incorporate information from their own applied studies as well as those of other land and natural resource managers

and academic researchers into their own management and decision making processes. An upcoming report from the USGS provides current information on the abundance of different guilds and species within the ponds. This report provides information regarding population trends following Phase 1 implementation. This information on the effects of pond features on various guilds and species provides managers with appropriate information to optimize the number and diversity of bird species using the SBSP ponds. Findings from this USGS report and other current scientific study are presented in the Phase 2 EIS/R.

O-CCCR2-25

The ponds listed in this comment as possible candidate ponds for water level changes or other enhancements to be improved habitat for pond-dependent birds were examples but were not an exhaustive list. In addition to the ponds identified, there are several ponds in the northern half of the Eden Landing pond complex that were enhanced managed ponds in Phase 1; several ponds in southern Eden Landing may be left as managed ponds in Phase 2; Pond SF2 is a large managed pond that was enhanced in Phase 1; and Ponds R1 and R2 at the Ravenswood pond complex have not yet been restored to either end destination. The comment also presumes that the conversion of Ponds A9-A15 as part of the Shoreline Study or its mitigation is a certainty, which it may not be. Only Pond A12 is scheduled to be restored to tidal action in the first phase of the Shoreline Study. The remaining ponds will still be subject to the Adaptive Management Plan's ongoing consideration. Ponds A22 and A23 are still available to be retained as managed ponds. The A8 pond cluster includes the still muted tidal ponds A5, A7, A8, and A8S, some of which were shown as destined for tidal marsh restoration in the 50%-50% Programmatic Alternative B.

O-CCCR2-26

The habitat islands planned for Phase 2 implementation incorporate the recommendation from recent and ongoing applied studies to limit the number of islands to 3-5 per pond. In addition, many sections of breached levee will be left in place between the breaches and would thereby become island-like isolated areas suitable for roosting, nesting, and as a base for foraging. It is impossible to predict the exact response of the many different guilds and species of birds that use the many and varies habitats associated with former salt ponds. So the SBSP Restoration Project cannot say with certainty how much habitat will be 'sufficient' for all of these different types of birds. However, the project remains committed to tracking and monitoring the use and the habitat values of ponds in the SBSP Restoration Project's boundary as well as other Refuge lands and adjacent marshes, mudflats, streams, and sloughs. The project will continue to use this information in its own management actions and in planning future restoration efforts, and will share the information with other land and wildlife management agencies.

The U.S. Geological Survey has been studying island characteristics that are favored by breeding birds (Ackerman et al. 2014)and managers will be utilizing this information in future design and placement of islands to enhance nesting birds habitat. In addition to islands, USGS (De La Cruz et al., draft 2016) is analyzing various other habitat and landscape features that are associated with specific bird guild and species abundances, for both foraging and roosting birds. Managers will be using these studies, and any other available data, to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds. Findings from the USGS report and other current scientific study are be presented in the Phase 2 Final EIS/R.

O-CCCR2-27

The SBSP Restoration Project shares this concern and realizes that there are uncertainties in several key aspects of future environmental conditions. Sea-level rise and sediment availability are among those uncertainties. See Master Comment Response #10, which is about sea-level rise.

As a possible future contingency plan, the SBSP Restoration Project continues to work with the San Francisco Bay Long-Term Management Strategy (LTMS; a cooperative effort of the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the San Francisco Regional Water Quality Control Board, the San Francisco Bay Conservation and Development Commission, and stakeholders in the region to develop a new approach to dredging and dredged material disposal in the San Francisco Bay area), as well as dredgers and other stakeholders to develop regulatory, technical, and economic frameworks and mechanisms to make it easier and more efficient to deliver dredged material to the South Bay salt ponds where it can be beneficially reused in restoration projects. The SBSP Restoration Project is also in continual collaboration with dirt brokers, construction companies, developers, and local governments to develop sources and supply chains for the continued delivery of excavated dirt from upland excavation projects.

This comment also recommends avoiding heavy investment in infrastructure that cannot be abandoned or altered if future conditions require it. The SBSP Restoration Project shares this concern. That is why the Phase 2 alternatives analyzed in this EIS/R were designed to use as little infrastructure as possible to achieve the desired goals.

O-CCCR2-28

This comment is a concluding statement that summarizes most of the preceding individual comments in this letter. This response does not rehash the above responses but instead directs the reader to them. The SBSP Restoration Project appreciates the continued input and support of the Citizens Committee to Complete the Refuge (CCCR) and shares many of the same goals and concerns.

Note on Comments O-CCCR2-29 through O-CCCR2-39

The next eleven comments outline and describe the CCCR's preferences and recommendations for the alternatives at each of the four pond clusters being considered in the Phase 2 planning. Each of those preferences will be addressed in turn in the responses that follow.

O-CCCR2-29

This comment makes two recommendations for modifying the restoration alternatives that were developed for the Island Ponds. The first of these is to leave some portions of the existing levees along Ponds A19 and A20 untouched (i.e., not lowering or removing them throughout the entire lengths shown on the alternative maps, as was originally planned). This would provide additional high-tide refugia and roosting habitat. The SBSP Restoration Project agrees with this recommendation. The Final EIS/R includes a Preferred Alternative at the Island Ponds that has incorporated this idea into a modified version of Alternative Island B. As discussed in Master Comment Response #6, the Phase 2 Preferred Alternative at the pond clusters in the Final EIS/R are composed only of components that were analyzed and discussed in the Draft EIS/R. There are no impacts that were not presented in that document and the recombination of components either reduced or maintained the degree of adverse impact presented in the Draft EIS/R.

The second suggestion involves using dredged material to create islands within the ponds for roosting habitat or high-tide refugia. The use of dredged material at the Island Ponds was initially considered but was ultimately removed from Phase 2 planning. It is infeasible at this time to deliver dredged material – either in a slurry pipe or on a barge through a deep-water channel that would have to be dredged – that far into the South Bay. Building habitat islands out of slurried dredged material is technically very challenging and would require the construction of containment berms that would cause much disruption to the already established habitat at the Island Ponds. Further, it is impractical to deliver it there to build islands when there are other ponds closer to the sources where that material could be better used to raise pond bottom elevations of deeply subsided ponds and/or to counteract sea-level rise. The portions of remaining levees discussed in the preceding paragraph are expected to provide the same types of benefits with none of the costs, environmental impacts, or regulatory difficulties of delivering sediment to the far southeast portion of the bay. Finally, note that the material removed from the existing levees at the Island Ponds themselves will be sidecast into the borrow ditches to form ditch blocks and/or high spots in the restoring marsh. These would perform many of the same ecological functions as the islands suggested in this comment would.

O-CCCR2-30

There are already a number of residual levee sections along the interior of the A8 Ponds, including those left over from the previous breaching of the levees separating A5, A7, A8, and A8S from each other. While it would be possible to construct additional islands within this pond cluster (although quite challenging given the level of subsidence inside these ponds), as the comment suggests, the material to build such islands is more beneficially used elsewhere, including for the various habitat transition zones, habitat islands, and levee improvements included in Phase 2. Also, the uncertainties around the remaining mercury contamination in the A8 Ponds make bringing additional birds there unnecessarily risky. In other comments, the CCCR and its membership have properly noted the importance of wise use of limited public dollars in low-risk, high-benefit investments in habitat improvements and other infrastructure changes. Habitat islands in the A8 Ponds would not meet those criteria.

O-CCCR2-31

This comment lists the CCCR's preferences for a Preferred Alternative at the Ravenswood Ponds. Master Comment Response #6 summarizes the Preferred Alternative, and Chapter 6 of the Final EIS/R contains the full descriptions. The components included in the SBSP Restoration Project's Preferred Alternative are very similar to those in the CCCR's preferences.

The northwestern breach at Pond R4 was not included in the Preferred Alternative because flow through that breach and associated channel would increase the scour and reduce the high-tide refugia and habitat connectivity that would be created and improved by simply lowering the levee. In the lowered state, salt marsh harvest mice, clapper rail, and other species would be able to use the levee to migrate back and forth between Greco Island and the restored marsh in Pond R4, while not being subjected to the often very high velocities associated with levee breaches. Note that the Preferred Alternative does not include a levee-top or boardwalk trail in this area so as to reduce human impact on this use. It also includes the addition of a gate and fence to keep people and pets in Bedwell Bayfront Park out of this part of the Refuge.

Finally, as explained in Master Comment Response #4, the Bayfront Canal and Atherton Channel Project is no longer included in the Preferred Alternative for Phase 2 at the Ravenswood Ponds.

O-CCCR2-32

See response to comment O-CCCR2-31. The Preferred Alternative at Ravenswood includes lower the northwest levee of Pond R4 but not breaching it. The Preferred Alternative also removes the recreational trail or boardwalk options considered for this section of the pond cluster, as suggested in this comment.

O-CCCR2-33

The SBSP Restoration Project agrees with the statements made in this comment and has selected or omitted the same components as the CCCR recommends, and for similar reasons.

O-CCCR2-34

The SBSP Restoration Project shares the concern for small shorebirds and their needs for foraging and roosting habitat expressed in this comment and appreciates the research and references mentioned in it. Note first that the preferred foraging habitat of small shorebirds is intertidal mudflat, which is a dominant habitat type in the South Bay, regardless of the restoration of former salt-production ponds. Also, newly breached ponds provide a wealth of foraging habitat for shorebirds, whereas most ponds only provide for foraging along the outer edges where the water is most shallow. Text has been added to the Final EIS/R to elaborate on the seasonal management of water levels in Pond R3 to improve the value of that habitat for small shorebirds, as the comment recommends. It is important to note, however, that this is not "mitigation" for the loss of Pond R4 as a seasonally wet pond. That term has a specific regulatory meaning that is different from the habitat-improvement features being planned for Pond R3, which are part of the same restoration project.

Text has also been added to contain more detailed information on bird use of various ponds in the South Bay. For example, in 2013/2014, Pond R1 and Pond SF2 were the most used ponds in the Ravenswood complex with a total of 32 waterbird species and over 28,000 individuals across both ponds. During the same period, observers in Pond R4 documented 8 species totaling 184 individuals comprising less than 1 percent of the total for the Ravenswood complex. Further, a presentation given by USGS researcher Susan De La Cruz (and presented at the State of the Estuary Conference in fall of 2015) included the distribution of small shorebirds at ponds in the South Bay for several years dating back to 2002. While Ponds R1, R2, and SF2 generally have higher counts in some of those years of observation, Pond R3, R4, R5, and S5 were almost always in the lowest density category.

These discrepancies with Takekawa et al. (2006) indicates the fluid nature of water bird use in the South Bay and demonstrates the need for further studies such as those implemented by the Project and consistent with the implementation of the Adaptive Management Plan. It also demonstrates the importance of designing and managing ponds specific for waterbird use: pond SF2 has become one of the most-used shorebird ponds in the complex since the Phase 1 actions were implemented there. Although the acreage of managed ponds will be reduced, additional resources will be allocated to enhance the remaining managed ponds, including increased water management capability in R3. Additionally, the conversion of managed ponds and impacts from those conversions are incorporated into the Thresholds of Significance in Table 3.5-3.

O-CCCR2-35

The designs for Phase 2 of the SBSP Restoration Project include plans for low (approximately 2-4 feet high) post and cable fences along the border between Bedwell Bayfront Park and the Refuge lands. There

would also be additional signage and gates along the various trailheads and junctures to inform and remind visitors to stay on trails, to keep dogs on leashes, and to stay out of the restoring ponds. Together, these design features are expected to reduce impacts from human and pet use of adjacent parks. Feral cats and other nuisance species may need separate control measures that would be part of ongoing Refuge and city park management and not an impact on the environment from the Restoration Project itself. The latter of these is what is an EIS/R is required to analyze and disclose. See also Master Comment Response #2, which is about the difference between ongoing Refuge management practices and impacts associated with Phase 2 of the SBSP Restoration Project.

It should be noted that the same problem of nuisance species management would exist whether or not a habitat transition zone were built. Pond R4 is already habitat for Endangered Species Act-listed species like the western snowy plover and is accessible to predators and nuisance species. Any restored marsh or other habitat in Pond R4 or elsewhere that would be accessible by wildlife (nuisance or not) where a transition zone was built would provide very similar access to that wildlife without the transition zones. The existing elevation difference between the trail and the pond bottom is only a few feet, and the existing terrain is not particularly steep or difficult for feral cats or other predators to cross. The transition zones would not significantly increase the ease with which those species could enter the restored areas.

O-CCCR2-36

This comment identifies the CCCR's preferences for a Preferred Alternative at the Mountain View Ponds, with the exception of the potential inclusion of Charleston Slough, which is discussed separately in subsequent comments. The components included in the SBSP Restoration Project's Preferred Alternative at this pond cluster (see Master Comment Response #6) are very similar to those in the CCCR's preferences. There is only one major difference, as discussed below. There is agreement on the other components.

The Preferred Alternative at the Mountain View Ponds includes a recreational trail on the eastern levee of Pond A2W, similar to, but shorter than, the one shown in the maps for Alternative Mountain View C. This was not the preference of the CCCR, which expressed concern about the impacts on pond-dependent birds from human visitors to the Refuge who would use that trail. The SBSP Restoration Project shares this concern and made an adjustment to address it. The trail shown in the Draft EIS/R extended along the northern levee of Pond A2W, but in the adjusted map shown for the Preferred Alternative in the Final EIS/R, that trail now ends near the northeast corner of that pond's levee. This provides more room for islands to be placed along the interior of the pond's northern border that would be at a greater distance from the trail users. It also makes most of the northern levee itself suitable for roosting birds.

In addition, Section 3.5-18 of the Draft and Final EIS/R discusses the potential for wildlife disturbance from human use of recreational trails, including this trail as it was originally proposed. Several measures and options for evaluating and adapting to those possible impacts were developed and discussed in both the Draft EIS/R and the Final EIS/R. These measures and response options included 1) increased monitoring of human use and disturbance in this area, and 2) gates at each of the bridged breaches along this trail so that the trail could be easily closed to public use (either permanently or seasonally) if needed to increase the buffer distances and protection for these birds.

O-CCCR2-37

See response to comment O-CCCR2-36. The reduced trail length in the Preferred Alternative and the monitoring and response options described in the EIS/R and summarized above would be sufficient to prevent any significant disturbance to birds from human use of this recreational trail.

O-CCCR2-38

See response to comment O-CCCR2-35, which addresses the same concern at the Ravenswood Ponds that this comment expresses at Ponds A1 and A2W, adjacent to the City of Mountain View's Shoreline Park.

O-CCCR2-39

The CCCR correctly states that the City of Mountain View holds a mitigation requirement from BCDC to restore 53 acres of Charleston Slough (115 acres total) to tidal marsh. This is not a decision being made by the SBSP Restoration Project or the City of Mountain View. Rather, it is a legal requirement that both the Restoration Project and the city are attempting to satisfy. The habitat that currently exists in Charleston Slough does not meet the city's regulatory requirement. As this comment notes, the CCCR has been a supportive collaborator of efforts to satisfy this regulatory requirement. The comment also notes that several previous efforts to achieve the restoration requirement have not been successful.

The comment lists three items that the CCCR requests be included in the EIS/R and in the project designs. Those requests and suggestions are appreciated, but because the option to integration of Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds (see Master Response to Comment #1), a more detailed level of analysis and response are not necessary.

Finally, though Charleston Slough was not included as part the Preferred Alternative for Phase 2, nothing precludes consideration of a future connection between the slough and Pond A1, though additional environmental impact analysis and disclosures would be required.

Note on Comments O-CCCR2-40 through O-CCCR2-45

The next five comments were an attachment to the CCCR letter, but were not written by the CCCR itself. Rather, they were written by Matthew Leddy for the CCCR's use in preparing this comment letter.

O-CCCR2-40

This comment pertained to "High-tide roost availability and shorebird population size" and questioned the conclusion that changes to high-tide roosting habitat would be unlikely to limit populations. However, Ackerman et al. (2014) indicate the importance of high tide refugia for shorebirds and emphasized the efforts and intentions of the SBSP Restoration Project to continue providing these habitat resources. Phase 2 actions include several islands, and numerous retained levees that would continue to provide high-tide refugia for shorebirds. Also, Pond R1 currently provides a large amount of roosting sites along the internal levee separating it from Pond R2, as well as on some of the islands. This habitat is far more widely used by shorebirds than Ponds R3 or R4. In addition to using the most recent scientific information as it becomes available, the project will continue to include these improvements in future project phases in order to maintain current populations of waterbirds.

This comment also had a section on Ponds R3 and R4 and western snowy plovers that requested waiting for results from Applied Study 5 before modifying the ponds. The SBSP Restoration Project notes that the only modifications being made to Pond R3 to enhance it for western snowy plovers are the addition of water control structures to allow the active management of water levels and quality in the slough traces and borrow ditches in this pond. This added control should make Pond R3 more amenable to shorebird roosting and foraging habitat quality, especially during the winter and spring, when shorebirds are at their peak. The pond could then be actively drawn down to prepare it for western snowy plover nesting season.

These improvements are intended to balance the loss of Pond R4 as plover habitat as it is converted to tidal marsh. If, as the comment posits, the planned restoration uses of Pond R3 turns out to incompatible with their suitability for use by migratory shorebirds, the Refuge management could simply stop using those water control structures. In terms of potential impacts on shorebirds, this would be the same as the no action alternative. There is no need to wait or benefit in waiting for the completion of Applied Study Question 5 and its results.

O-CCCR2-41

This comment questions the Draft EIS/R's assertion that large numbers of shorebirds use levees for roosting and points to several papers that offer statistics indicating that shorebirds' use of levees are not preferred. The EIS/R does not assert that levees are preferred habitats, just that they are used by shorebirds and that they would continue to be used that way. Specifically, Ackerman et al. (2014) note that "in addition to ponds providing preferred foraging habitat, islands and levees are used extensively by roosting waterbirds" (Goals Project, 1999; Takekawa and others, 2000; Colwell and others, 2003; Conklin and others, 2007). That same paper provides additional information regarding in importance of levees to waterbirds concluding that "pond islands and levees are expected to continue to support high densities of roosting birds. As noted in the response to comment O-CCCR2-40, Phase 2 would add and improve many of these habitat features. An upcoming report from the USGS provides analysis regarding pond habitat features and their relationship to the abundance of different guilds and species. Managers will continue to use that knowledge to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds.

Preliminary analysis of the last several years of bird survey data by the U.S. Geological Survey indicates that roosting small and medium shorebirds favor ponds which are managed for shallow water, areas close to levees, varied topography in a pond, and the presence of islands in a pond. Roosting small shorebirds also respond positively to breached ponds (possibly because the ponds provide transitional mudflat habitat prior to marsh vegetation becoming established). Managers will be using these studies, and any other available data, to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds.

O-CCCR2-42

This comment suggests the separate treatment of nocturnal roosts and diurnal roosts for shorebirds and provides several references about the importance of nocturnal habitat. The SBSP Restoration Project shares this concern and acknowledges the importance of different habitat needs, spatial and temporal, for shorebirds and other types of wildlife at different life stages of each. However, the list of impacts developed for the 2007 EIS/R for shorebirds and other individual species or guilds was developed

with the thresholds of significance set at overall changes to the population level. These changes are evaluated holistically and not for every individual component of habitat or other aspects of influences on the population. As above, a very small percentage of the overall amount of available roosting habitat would be affected by Phase 2 activities, and these changes are not expected to produce a change in the overall population relative to the baseline threshold established for the 2007 EIS/R.

O-CCCR2-43

This comment calls for the EIS/R to include an explicit discussion of Phase 2 impacts on large shorebirds in addition to those discussed in Impact 3.5-1, which was specific to small shorebirds, and several other impacts in Section 3.5 that were specific to other guilds or types of birds (e.g., pond-associated waterbirds in Impact 3.5-5, diving ducks in Impact 3.5-6, ruddy ducks in Impact 3.5-7, and so on). The impacts considered in the Phase 2 EIS/R were generally those developed and thoroughly vetted for the 2007 EIS/R which was for the program-level as well as the individual project-level impacts. The SBSP Restoration Project did not conclude that a specific impact for large or medium shorebirds was necessary. Large shorebirds in particular were not determined to have as much potential to be negatively impacted by pond conversion as small shorebirds because they use a broader range of habitats. However, both the Refuge and the SBSP Restoration Project take them into account when planning for restoration and management actions. In particular, American avocet is a shorebird species that appears to prefer islands and pond habitats for foraging and nesting. This species is considered specifically in the Adaptive Management table.

Additionally, an upcoming report from the USGS provides updated information on the abundance of different guilds and species within the ponds, including information regarding population trends following Phase 1 implementation. Managers will use that knowledge to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds. Findings from this USGS report and other current scientific study are included in the Final Phase 2 EIS/R.

O-CCCR2-44

This is a subset of O-CCCR2-43 that is specific to marbled godwit, and the same response applies.

O-CCCR2-45

This is a subset of O-CCCR2-43 that is specific to long-billed curlew, and the same response applies.

Audubon California (O-AC)

Audubon CALIFORNIA

October 30, 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

Dear Ms. Buxton:

Please accept these comments from National Audubon Society on **Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report** for the South Bay Salt Pond Restoration Project.

O-AC-1

The authors are commended for a thorough document summarizing the efforts of the South Bay Salt Pond Restoration Project to date. That is helpful for setting the context of this phase of salt pond restoration in San Francisco Bay. Likewise, the authors do an informative job pointing out the unique and immense ecological importance of San Francisco Bay to a variety of birds, including shorebirds and waterfowl, and the complexity of maintaining these populations under different restoration scenarios.

The authors point out the importance of the 2007 Adaptive Management Plan (Vol. 2, Appendix C) crafted by the South Bay Salt Pond Restoration science team (since disbanded) to "...help to guide the planning and implementation of each Project phase." One of the key uncertainties identified by this team with regards to the restoration of salt ponds in SF Bay is "Can the existing number and diversity of migratory and breeding shorebirds and waterfowl be supported in a changing (reduced salt pond) habitat area?" (p. 13, Table 2).

Audubon is of the opinion that this is a critical uncertainty in evaluating restoration efforts. San Francisco Bay is a site of hemispheric Importance to certain shorebirds and waterfowl that currently rely on salt ponds in the Bay. The Bay is recognized as a Western Hemisphere Shorebird Reserve Network (WHSRN) Site of Hemispheric Importance for shorebirds – the highest possible ranking. "San Francisco Bay holds higher proportions of the total wintering and migrating shorebirds on the U.S. Pacific coast than any other wetland. For eleven species, the Bay holds over half of the individual shorebirds detected, during at least one season of the year. San Francisco Bay is also the northernmost regular breeding area of the American Avocet and Black-necked Stilt on the Pacific coast of North America. About 10% of the U.S. Pacific coast population of the Western Snowy Plover breeds in the salt ponds of the South Bay" (http://www.whsrn.org/site-profile/san-francisco-bay).

We have concerns that this EIR/S does not do an adequate job evaluating the uncertainly of cumulative impacts to shorebirds. To begin with, the selection of alternatives is biased toward selection of alternatives that favor extensive tidal marsh creation (Vol. 2, Appendix B, Alternatives Development, Screening, and Analysis). Audubon would like to see the inclusion of alternatives that are not primarily focused on tidal marsh restoration.

O-AC-2

Cumulative Analysis

1 Audubon South Bay Phase 2 Comments

O-AC-2 cont.

Likewise, we would like to see a better analysis of the cumulative impacts of this restoration project on San Francisco bird populations, especially with regards to the species most likely to be impacted. Audubon's concern is whether impacts to breeding and migratory shorebirds in the context of the importance of San Francisco Bay has been fully described and assessed. As mentioned in the report "...These mudflats are a key reason for the importance of the San Francisco Bay Area to west coast shorebird populations, with an average of 67 percent of all the shorebirds on the west coast of the United States using San Francisco Bay wetlands (Page et al. 1999)."

In the Cumulative Impact chapter (Vol. 1, Chapter 4, pages 4-30 to 4-32) of the draft EIR/S, the authors state "Thus, in almost all cases, the potential for cumulative adverse impacts on biological resources is minimal; most of the effects of the SBSP Restoration Project would be beneficial to at least some of these resources." but they go on to say "The exceptions to this general statement were found to be limited to those biological resources that utilize the existing former salt ponds and/or their surrounding levees in their current configuration. Some wildlife species or guilds—most notably, birds that use shallow or deep-water ponds, intertidal mudflats, or dry salt pannes and their surroundings for nesting, roosting, and/or foraging—would see an overall reduction in the quantities of those habitats." They then qualify this statement by saying that "However, with the exception of dry salt pannes, these habitat types are not in short supply in the South Bay." We do not think that an adequate analysis has been done to support this claim, since the draft EIR/S does not truly evaluate restoration impacts on San Francisco Bay-wide bird populations. We believe that for the South Bay restoration project to be ultimately successful, restoration projects like this one need to quantitatively be put into the scale of the whole bay, not just at the pond and project scale.

O-AC-3

Some of the affected shorebirds—including Western Sandpiper--have been identified by the USFWS as High Priority Shorebird Species/Populations in the US Shorebird Conservation Plan. See list below. This exemplifies the need to much more fully analyze the alternatives and their impacts and that the analysis should be at the level of the full San Francisco Bay, if not the Pacific Flyway.

List of High Priority Shorebird Species/Populations (that occur in San Francisco Bay)

Highly Imperiled
Global species:
Long-billed Curlew
North American populations:
Snowy Plover

High Concern
Global species:
Black Oystercatcher
Marbled Godwit
Black Turnstone
Surfbird
Western Sandpiper
Short-billed Dowitcher
North American populations:

O-AC-3 cont.

Whimbrel
Red Knot (populations other than Canadian Arctic-Atlantic Coast population)
Sanderling
Dunlin (Alaska-East Asian and Alaska-Pacific Coast populations)

O-AC-4

We also think that it is questionable to use the existing condition of the project area as baseline for determining the significance of potential impacts for this Draft EIS/R (Vol. 1, page 3.5-37). While we acknowledge there are challenges in setting baseline bird data, there are adequate data sets for doing so (e.g. Point Blue Conservation Science data) that would result in more realistic baselines than the current one being used. The Adaptive Management Plan, in the Programmatic EIR, would also benefit from checking progress against current bird data, such as the Pacific Flyway Shorebird Survey, conducted annually by Point Blue, to track annual changes in numbers and distribution of shorebirds using San Francisco Bay during winter months.

O-AC-5

Cumulative impacts have been determined based on other projects to be conducted in the region, but the analysis has been confined to projects in the South bay. The table provided provides analysis on a project by project basis but it is not cumulative. Cumulative impacts should include the overall impacts of restoration projects on tidal marsh and mudflat habitats throughout San Francisco, such as those currently underway in San Pablo Bay. This would help determine if the impact of decline in mudflats within this project is likely to impact or decrease availability of this habitat throughout the bay.

Preferred Alternatives

O-AC-6

We urge the USFWS to consider alternatives to the project that benefit shorebirds to the point of less than significant impact, considering substantial benefits will exist for tidal marsh dwelling species, for a balanced approach. For example, Mountain View B suggest some beneficial impact to foraging shorebirds in the intertidal zone. Ravenswood alternative C also suggests benefits to shorebirds in the transitional zones. We also suggest Ravenwood alternative C or D because of benefits to shorebirds, reduction of threats from people and dogs because of installation of a fence, and potential benefits to breeding-associated waterbirds.

O-AC-7

In the summary of impacts on the biological resources under different alternatives, we advocate for the alternatives to be evaluated at the South Bay level (or higher) instead of being evaluated at the pond scale level. In the current document, there is a lack of any determination of significant negative impacts by any restoration related activity on birds or other biological resources evaluated at the pond level, even though this document and many other sources have already shown that a number of negative impacts are to be expected, especially for "...Some wildlife species or guilds—most notably, birds that use shallow or deep-water ponds, intertidal mudflats, or dry salt pannes and their surroundings for nesting, roosting, and/or foraging." (Vol. 1, Chapter 4, pages 4-30 to 4-32). Part of the reason for the lack of any findings of significant impacts is that the draft document has set unreasonable criteria for determining significant impacts at the pond level. For instance, for small shorebirds, one would have to show activities in a particular pond (or small group of them) that result in "a decline of 10 to 20 percent in South Bay numbers or 5 to 10 percent in flyway-level numbers". This is then made doubly difficult because it is never explicitly stated what these numbers are. Audubon recommends that all of the

O-AC-7 cont. significance scores be revaluated using scale appropriate (at the level of the project and South Bay) and explicit criteria and that these results be evaluated in the context of the entire bay.

O-AC-8 Overall, Audubon is committed to improving conditions for tidal marsh dependent birds while at the same time not losing our open water and salt pond dependent species. We advocate that all large salt pond restoration projects in the Bay (like this one) begin by placing their restoration goals in the context of the goals for the overall Bay instead of making the assumption that other current locations and future restoration projects will accommodate species whose habitat gets converted.

Thank you again for this opportunity to comment.

Sincerely,

Andrea Jones
Director of Bird Conservation, Audubon California
ajones@audubon.org

and

Nils Warnock, PhD
Executive Director, Audubon Alaska
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Response to Audubon California (O-AC)

O-AC-1

This comment clearly identifies the sources of Audubon California's concerns regarding the SBSP Restoration Project as the cumulative impacts to shorebirds that may occur as a result of continued conversion of former salt production ponds to tidal marsh. It also provides helpful data on a number of bird populations and their use of San Francisco Bay. The project appreciates that information.

The comment also correctly notes that the Phase 2 alternatives at the Refuge were weighted toward tidal marsh restoration. The 2007 EIS/R presented the programmatic analysis of the long-term plans for the SBSP Restoration Project and developed two action alternatives for the project as a whole (i.e., the program). These two programmatic alternatives were Programmatic Alternative C (the 90%/10% or tidal marsh emphasis alternative) and Programmatic Alternative B, a 50%-50% ratio of restored tidal marsh and enhanced managed ponds. The decision was made at the time to select Programmatic Alternative C, but the 2007 EIS/R also introduced the concept of "bookends" of restoration between those two programmatic alternatives. It described a "restoration staircase" between these two extremes and noted that the decision of when to stop converting former ponds to tidal marsh would be made based on when significant impacts to pond-dependent species or other types of impacts would begin being realized.

It is important to note that the amount of tidal restoration to date is about 10% of the total project area and that even full implementation of the Phase 2 actions at the Refuge ponds (the Ravenswood and Alviso pond complexes) and the Eden Landing pond complex would not cross the 50% tidal marsh restoration threshold. Further, note that the recent report from the Baylands Ecosystem Habitat Goals Project recommends expediting tidal marsh habitat in the South Bay to get ahead and stay ahead of the expected sea-level rise. Therefore, the concerns stated in this comment and others in this letter, while certainly shared by the SBSP Restoration Project, are not yet cause for stopping the restoration of tidal marsh.

It should be noted that the SBSP Restoration Project plans to wait to plan Phase 3 actions until implementation of Phase 2 actions and other relevant projects are also completed. This would allow time for wildlife to more fully adjust and respond to changes in habitat, information to be collected, and help inform the decisions about what types of restoration treatments to include in future project phases.

O-AC-2

This comment notes the importance of intertidal mudflats as habitat for shorebirds in San Francisco Bay, as did the Draft EIS/R itself. The comment requests more detailed analysis to support the conclusion that the Phase 2 actions would not bring a significant impact on shorebirds because of that habitat loss. Intertidal mudflats are the dominant habitat of the South Bay. The entire area between the narrow deep water channel near the center of the bay and the shoreline itself (developed land, fringing marsh, or ponds), the habitat is mudflat. The only potentially converted mudflat in the Phase 2 actions would have been those in Charleston Slough (~115 acres). However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds, as discussed in Master Comment Response #1.

O-AC-3

This comment contains a list of "High Priority Shorebird Species/Populations" (as identified in the U.S. Shorebird Conservation Plan) and asks for more analysis to be done at the scale of the full San Francisco

Bay or the Pacific flyway as a whole. This degree (scope or scale) of analysis is beyond the capability of the SBSP Restoration Project to conduct and is not a requirement of NEPA and CEQA. However, the soon-to-be-released USGS report on bird use monitoring will inform the ongoing management of ponds within San Francisco Bay itself.

However, the SBSP Restoration Project shares this concern and did establish triggers (in the Adaptive Management Plan) and thresholds of significance (in the 2007 EIS/R for the programmatic portion of that NEPA/CEQA document) for flyway-level populations of some bird guilds and species and for baywide-level populations of other guilds and species, as appropriate to those taxa. Crossing those thresholds or triggers would activate changes in management of current Refuge ponds both within the SBSP Restoration Project boundaries and, to the extent feasible, in other portions of the Refuge. Crossing those thresholds would also affect the choices of which ponds to include in future project phases and what types of restoration treatments are appropriate there. See also Master Comment Response #7, which provides a general explanation of the impacts, thresholds of significance, and management triggers used in the 2007 program-level EIS/R and the way in which they were used in the Phase 2 EIS/R.

O-AC-4

For most aspects of the analysis in the Draft EIS/R, the "existing condition" for Phase 2 NEPA and CEQA analysis includes the conditions in November 2013, which was the time when work on that document began. It does not continue to use the 2007 baselines except in consideration of crossing a threshold of significance. Those thresholds were established in recognition of the fact that some changes to the pre-project conditions (e.g., flyway-level populations of some birds) would be inevitable but that they would not necessarily be significant changes, and they may not be realized in a short time frame; the "signal" of trends in actual population changes are hard to differentiate from the "noise" of interannual variability and natural oscillations. Thus, for a multi-decadal project such as this one, it is appropriate to retain the initial baseline and established changes to it as the thresholds of significance.

This comment and others suggest that the Adaptive Management Plan (AMP) be updated to reflect ongoing changes in a number of environmental conditions, including the populations of some bird species. See Master Comment Response #5 for a discussion about updates to the AMP and suggestions to update it.

O-AC-5

This comment suggests that the geographic boundaries of the cumulative impact analysis included only projects in the South Bay and did not include restoration projects in the San Pablo Bay or other areas that may have cumulative impacts on South Bay habitats, specifically mudflats habitats.

Note first that the ongoing monitoring of mudflats around Pond A6 has shown very little loss of mudflats following breaching and other restoration actions from previous project phases. Data from Foxgrover et al. indicates the mudflat off that pond has remained the same since the breach, and may be slightly depositional. However, there is seasonal/annual variability in mudflat extent and it is not known fully what is within "natural" variability.

More generally, the USWFS' NEPA for National Wildlife Refuges – A Handbook says that the "geographic scope of cumulative effects may extend beyond the scope of the direct effects, but not beyond the scope of the indirect effects of the proposed action and alternatives." The temporally variable and spatially dispersed interactive effects postulated in this comment are indirect effects of the project (as

described in the Handbook's text above) and are beyond the appropriate geographic scope of a project in the South Bay.

O-AC-6

See Master Comment Response #6 for a summary for the Preferred Alternatives for Phase 2; see Chapter 6 of the Final EIS/R for full descriptions of the Phase 2 Preferred Alternative. The Preferred Alternative at the Ravenswood pond cluster included in Phase 2 is similar to those expressed as preferences in this comment. The Preferred Alternative at the Mountain View Ponds does not include Charleston Slough, which is part of Audubon California's preference for the Mountain View Ponds. In addition, there are a number of other habitat improvements that should benefit shorebirds and other species as well.

O-AC-7

The SBSP Restoration Project disagrees with the premise of this comment, which asserts that the Phase 2 EIS/R evaluates alternatives at the pond scale instead of at larger scales that are more relevant to various species or guilds. The impacts of the alternatives are not evaluated at the scale of the ponds themselves. Rather, the impacts analyzed and described in the EIS/R are those of a change made at the pond scale on the overall habitat or population or component of the environment appropriate to each of the listed impacts. As discussed in the response to comment O-AC-3, the thresholds of significance were established during the process of writing the 2007 EIS/R and setting out long-term programmatic goals and a making plan for balancing the changes in habitats and species (along with public access and recreation, flood control, and other drivers and constraints in the project). Many of those thresholds of significance were set in that process at larger spatial scales (e.g., flyway-level, bay wide, South Bay only, etc.). The Phase 2 project-level EIS/R then projects and assesses the expected outcomes of changes made to those ponds at those spatial scales.

O-AC-8

As above, the SBSP Restoration Project shares this concern about considering the broad scope of pond restoration projects in San Francisco Bay and including completed, current, likely projects into the decision-making processes about what types of restoration to do where.

Santa Clara Valley Audubon Society (O-SCVAS)

October 30, 2015 *via email*

Brenda Buxton, Project Manager
State Coastal Conservancy
phase2comments@southbayrestoration.org

Dear Ms. Buxton,

Santa Clara Valley Audubon Society (SCVAS) is pleased to provide comments on the draft environmental analysis document for Phase 2 alternative plans at the Alviso and Ravenswood ponds (Environmental Impact Statement/Report, EIS/R).

O-SCVAS-1 SCVAS's mission is to preserve, to enjoy, to restore and to foster public awareness of native birds and their ecosystems, mainly in Santa Clara County. To accomplish this mission we

- Promote scientifically sound conservation strategies for the protection of native ecosystems and demonstrate the value of conservation to the community.
- Educate our diverse community about the benefits of preserving and enjoying nature, focusing on youth education programs, public outreach, and field trips.
- Support research into maintaining, restoring and understanding native ecosystems, particularly those of birds.
- Collaborate with Audubon-California, the National Audubon Society, Audubon Chapters, and other organizations to accomplish our common goals.

Naturally, the Salt Pond restoration Project is important to our members in Santa Clara Valley. We takes pride in being a stakeholder since the start of planning the Salt Pond Restoration Project; we are supportive of the effort and celebrate the success of Phase I. However, we are concerned with potentially adverse impacts to recreation, education and enjoyment of nature if the Alternative Mountain View C is selected for the Mountain View Pond Cluster. In addition, we believe that mitigation for potential impacts to burrowing owls in Mountain View requires additional analysis and mitigation.

O-SCVAS-2 <u>Birding at Charleston Slough: impacts to recreation and education</u>
Charleston Slough provides substantial intertidal mudflats around a flow channel. As stated in the EIR/S, the mudflats draw large numbers of foraging shorebirds, ducks, and other species, particularly at low tide. Breaching the levee and restoring a tidal marsh in the entire 115-acres of sloughs can be expected over time to create a vegetated landscape, with less habitat for mudflat associated species, and fewer opportunities for bird-related recreational and educational activities.

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O-SCVAS-2 cont.

SCVAS's flagship program – the Wetlands Discovery Program - brings almost 2000 fourth- and fifth-grade students from schools throughout Santa Clara County to Charleston Slough every year since 1985 (please see attached SCVAS's educational materials). We also provide youth and adult education programs (Girl Scout and Boy Scout troops from throughout the Bay Area; college students; adult schools and retiree groups), recreational birding programs for the community and special activities for youth and for adults. Altogether, SCVAS brings about 3000 people each year to this site to learn and enjoy the San Francisco Bay and its associated habitats and birds. There is no similar site in Santa Clara County where a mosaic of diverse habitats and recreational and educational opportunities combine with ready access and safety for young and old.

- 3rd-6th grade students from schools throughout Santa Clara County - about 2000 participants a year as part of our Wetlands Discovery Program
- Girl scout and Boy Scout troops from throughout the Bay Area - about 300 participants a year
- College students (mostly De Anza and occasionally Foothill) - 50-60 participants a year
- Summer camp participants (from throughout the Bay Area) - about 30 participants a year
- Adult Education Programs (Sunnyvale, Palo Alto, Cupertino, etc.) - about 50-60 participants a year
- Retiree groups - about 60-70 participants a year
- Team building activities from local businesses - 30-50 participants a year
- Regular SCVAS-led field trips for adults - about 200 participants a year

Birding is an important sport in the US and in our region and it has significant economic and recreational value (see U.S. FWS Birding in the United States: A Demographic and Economic Analysis, 2011; attached). Impacts of the proposed project on one of the most important birding sites in the south bay should be considered a significant, unavoidable impact.

O-SCVAS-3

Burrowing Owls in Mountain View

Impact and mitigation measure 3.5-25 cover potential construction-related loss of, or disturbance to, nesting burrowing owls and other raptors. We believe that best available science for Santa Clara County, Shoreline Park and Moffett field should be used as the basis for the analysis and for mitigation.

Burrowing owls in Santa Clara Valley are at risk of extirpation. In 2015, the number of nesting pairs fell to unprecedented 23 (Mountain View 1, Moffett Field 3, San Jose 19). The best science for burrowing owls in Santa Clara Valley is provided in the Valley Habitat Plan (Appendixes M,N) and following Habitat Agency reports. The Best Available Science for the City of Mountain View is available in internal City reports. The Best Available Science for Moffett field is found in yearly monitoring reports. Therefore, for Santa Clara County, please use local data, surveys and mitigation measures instead of relying on CDFW protocol as provided in Staff Report on Burrowing Owl Mitigation (CDFG 2012).

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O-SCVAS-3 cont.

Both Moffett Field and Shoreline Park biologist now recommend no disturbance to wintering or nesting owls all year long (1) NASA Ames Research Center BURROWING OWL ECOLOGY STUDY Moffett Field Breeding Season Summary Report 2015 prepared by Debra Chromczak,Burrowing Owl Researcher & Consultant; (2) Philip Higgins, Mountain View biologist, personal communication). This means that disturbance or harm to ANY individual burrowing owl at any time of the year should be considered a significant impact.

Burrowing owls – wintering and nesting – have been recorded at Shoreline Parks North East Meadowlands. The EIR/S recommends a truck route along the North East Meadowlands. Several studies show that burrowing owls are very susceptible to collisions with vehicles (see 1) Haug, E.A., B.A. Millsap and M.S. Martell. 1993; 2) Burrowing Owl (*Speotyto cunicularia*). The Birds of North America, No. 61 The American Ornithologists' Union Washington, D.C., USA, and the Academy of Natural Sciences, Philadelphia, Pennsylvania, USA). In 2015, a car injured a burrowing owl and another died apparently as a result of collision with a vehicle (Ashley Kenny, Wildlife Care of Silicon Valley, Personal communication).

Because owls forage in the evening, night and early morning, and because they fly low to the ground, we ask that the EIR/S analyze risk of collision, and recommend that if burrowing owls are found within 500 feet of a truck route, traffic should be limited to daytime only, at the hours that the owls are not actively foraging. Coordination with the City of Mountain View Shoreline Park biologist is also needed.

We thank you for your attention, please contact us if you have questions,

Respectfully,

Shani Kleinhaus, Ph.D.
Environmental Advocate

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Response to Santa Clara Valley Audubon Society (O-SCVAS)

O-SCVAS-1

This is an introductory comment that previews the points made in the rest of the comment letter. See the responses to the subsequent comments.

O-SCVAS-2

This comment and several others expressed similar concerns about Charleston Slough and the reduction in easily available areas for viewing of intertidal mudflats and the species that use them. The SBSP Restoration Project shares this concern. However, the option to integrate tidal marsh restoration in Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds. Master Comment Response #1 is about this removal, and Master Comment Response #6 summarizes the Preferred Alternative, and Chapter 6 of the Final EIS/R contains the full descriptions.

SCVAS-3

Text has been added to Section 3.5-25 of the Final EIS/R to incorporate more information from the City of Mountain View's internal monitoring reports on burrowing owls and from the Santa Clara Valley Habitat Plan, as suggested by this comment. Also, the SBSP Restoration Project is collaborating with the City of Mountain View to reconsider the routes for delivery of material to the project sites within Shoreline Park. Routes would be selected in part to avoid sensitive areas for burrowing owl nests. The construction schedule includes plans to avoid importing material into Shoreline Park through burrowing owl nesting areas during the owl's nesting season to the maximum extent feasible. The project is also committed to implementing other avoidance and minimization measures, including those described in this comment letter, to the maximum extent feasible. The project will continue to collaborate with the Shoreline Park biologist and other park staff and will also comply with all permit conditions that may arise out of the regulatory processes with the various agencies that manage the protection of biological resources such as burrowing owls.

Cargill (B-C)

Cargill

October 30, 2015

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

Subject: Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report – Comments
Cargill file: 3000.006:14C, 312.010:4, 341.002:21

Dear Ms. Buxton:

B-C-1 Thank you for the opportunity to comment on this EIS/EIR. As you know, Cargill conveyed 16,500 acres of its property to the state and federal government in 2003, which has essentially created the South Bay Salt Pond Restoration Project (SBSPRP). In fact, Cargill has conveyed over 40,000 acres of its lands since 1978 for public resource uses. As a stakeholder in the SBSPRP, I am excited to see the project move forward and I am pleased to provide my comments.

The focus of my comments is within two project areas – they are:

1. The Alviso Island Pond Cluster
2. The Ravenswood Pond Cluster

Before I provide specific comments on the two project areas mentioned above, I would like to provide some clarifying comments on the Introduction portion of the document.

First I would like to say thank you on behalf of Cargill for acknowledging Cargill's significant donation component as part of the 2003 acquisition. We truly appreciate the acknowledgment stated in the draft document. Only a privately held company like Cargill is able to make such a signification donation.

B-C-2 Under Section 1.5.2 Salt Pond Operations, the document references that by 1959, Leslie Salt Company was operating on 26,000 acres of salt ponds. Actually, at this point in time, Leslie was operating on 44,000+/- acres – most of which is now currently owned by the public.

B-C-3
- Under this same section, crystallizers are incorrectly referred to as ponds – they are in fact engineered beds that have been filled, rolled, graded, sloped and compacted for

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B-C-3 cont.

the purpose of running heavy equipment on them for salt harvesting. The proper reference is crystallizer beds.

B-C-4

- In that same paragraph, the description of the "remaining solution" is inaccurate. Bittern is not a by-product, but rather a product. It is commercially sold as a dust palliative and as a de-icing product.

B-C-5

- Bittern is not pumped into ponds for long-term storage, but rather it is pumped into ponds for further concentrating, processing and then shipping.

B-C-6

- Lastly, under this section, the statement that bittern cannot be discharged to the Bay is unnecessary and irrelevant. No brines, regardless of their concentration, can be discharged to the Bay without a permit. Please remove this sentence as it has no bearing on the document or its intent.

The Alviso Island Pond Cluster

B-C-7

Cargill continues to operate the evaporator ponds just to the west of the turn-style railroad bridge over Mud Slough. The marsh that abuts our outboard levee along Concentrator 4 (referred to as M4 by the Refuge) buffers our levee from needing additional armoring – i.e.: rip rap. Breaches and levee lowering of the island ponds along Mud Slough could create additional scour and marsh erosion. The marsh along this section of Mud Slough should be measured and tracked for possible erosion. Should the marsh erode back to the levee along Concentrator 4, the SBSPRP or the Refuge should be responsible for the ongoing maintenance of this levee.

The Ravenswood Pond Cluster

B-C-8

- Alternatives B, C and D all reference a structure to be installed between Pond S5 and Flood Slough. Please note that Cargill owns fee title to Flood Slough and any such project would have to be in cooperation with Cargill.

B-C-9

- Fence the southern border of Ponds R3 and S5 – Please note that the document incorrectly references Cargill's drainage ditch. Cargill does not own a ditch in this area. Instead, the document should reference Cargill's pipeline strip property. Cargill owns fee title to a 10 foot wide strip of land along the S5 donut, Pond S5 and Pond R3. Any fence or work of any kind in these ponds should not prohibit Cargill's ability to access its property. This work should be in coordination with Cargill.

B-C-10

- Complete Ponds R5 and S5 loop trail – As a board member of the Bay Trail, Cargill is supportive of public access, except across its fee owned land. This proposed loop trail would require the crossing of Cargill's property. Any proposed crossing would have to be done in cooperation with Cargill.

B-C-11

- Convert Ponds R5 and S5 to enhanced managed ponds – It should be noted that including the flows from the Bayfront Canal into Pond S5 would have to be done in

B-C-11 cont.

cooperation with Cargill as Cargill owns fee title to the lands between the Bayfront Canal and Pond S5. Please note this within the document.

B-C-12

- Figure 2-18. Bayfront Canal and Atherton Channel Project – Although this graphic depicts the Caltrans Stormwater Pipes, it fails to depict all of the other utilities that run underground in this area, including Cargill's pipelines. The figure should at least note that other underground utilities will need to be identified and verified.

B-C-13

- Operations and Maintenance: All Action Alternatives – This section references that ongoing levee maintenance would continue under the 1995 USACE Permit #19009S98. This is Cargill's old O&M permit that was partially (by geography) transferred to the state and federal government in 2003. This permit expired in 2008 and the state and federal governments were issued a new permit in early 2009 – Permit # 2008-00103S.

B-C-14

- 3.7 Cultural Resources – Ravenswood – There is a reference that the Ravenswood pond cluster was created as a salt pond system during the 1910's by the Leslie Salt Company. These ponds were created by Leslie Salt Company in the 1940's. Please note the correct decade.

B-C-15

- 3.8 Land Use and Planning – Ravenswood Ponds – Under existing land uses within the vicinity, the document refers to "industrial salt evaporation ponds". The correct reference should be "Cargill's industrial saltworks". Please correct this nomenclature.

I would again like to thank you for the opportunity to comment on this EIS/EIR and I look forward to seeing the project move forward. Should you have any questions, please feel free to give me a call at (510) 790-8610 or alternatively you can email me at pat_mapelli@cargill.com.

Sincerely,

Pat Mapelli
Manager, Real Property
Cargill Salt
7220 Central Avenue
Newark, CA 94560

Response to Cargill (B-C)

B-C-1

The SBSP Restoration Project appreciates Cargill's introductory comments.

B-C-2

The Final EIS/R modifies this text in Section 1.5.2 to be consistent with the information in this comment.

B-C-3

The text in Section 1.5.2 has been changed to include the clarifications presented in the text.

B-C-4

The text in Section 1.5.2 has been changed to include the clarifications presented in the text.

B-C-5

The text in Section 1.5.2 has been changed to include the clarifications presented in the text.

B-C-6

The text in Section 1.5.2 has been changed to include the clarifications presented in the text.

B-C-7

The SBSP Restoration Project does not anticipate scour of the existing marsh along the north side of Mud Slough as a result of modifying any of the levees along the Island Ponds. There may be some change in the hydrology of the Mud Slough channel itself, and those changes will be monitored and tracked and the results shared with Cargill. Note, however, that breaches on the south side of the Island Ponds have not yet caused substantial scour on either side of Coyote Creek. It is possible that Mud Slough may react differently to changes in the tidal flux, and if that occurs, the project would develop and implement corrective actions in coordination with Cargill and with approval of appropriate regulatory agencies.

B-C-8

Text and a new figure have been added to the introductory portion of Section 2.2.5 in the Final EIS/R to explain and illustrate the complex ownership of land and easements in this portion of the Ravenswood Ponds. These additions are intended to address the requested clarifications made in this comment and in several others that follow it. The added text clearly states that Cargill's coordination and approval for portions of certain components at the Ravenswood Ponds will be necessary.

B-C-9

The Final EIS/R includes modified text in this section and others to describe Cargill's pipeline strip property instead of a drainage ditch. See also response to comment B-C-8.

B-C-10

See response to comment B-C-8.

B-C-11

See response to comment B-C-8.

B-C-12

Rather than modifying this figure, an additional figure and associated text have been added to Section 2.2.5 in the Final EIS/R (as described in the response to comment B-C-8) to reflect all of the land ownership, easements, and underground utilities that are present in this portion of the Ravenswood Ponds. Note too that the Bayfront Canal and Atherton Channel Project is not included in the Preferred Alternative for Phase 2.

B-C-13

The text of Section 2.2 has been changed in the Final EIS/R to include the clarification of nomenclature noted in this comment.

B-C-14

The text of Section 3.7 Cultural Resources has been changed in the Final EIS/R to include the clarification of nomenclature noted in this comment. This comment requested changing the date of creation of the Ravenswood salt ponds by Leslie Salt from the 1910's to the 1940's. However, the 1910's date is based on the SBSP Project historic landscape evaluation prepared by the U.S. Fish and Wildlife Service (Speulda-Drews and Valentine 2009, page 38). Other construction and modification took place in the 1940's as the text in the EIS/R notes (see, for example, Photo 2 on page 3.7-15 of the Draft EIS/R), but the 1910's date does not appear to be an error. Neither date would change the outcome of the cultural resources impact assessment, but the text has been rephrased.

B-C-15

The text of Section 3.8 Land Use and Planning has been changed in the Final EIS/R to include the clarification of nomenclature noted in this comment.

Pacific Gas & Electric Company (B-PGE)

Pacific Gas and Electric Company

Diane Ross-Leech
Director
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September 22, 2015

VIA ELECTRONIC SUBMISSION

Brenda Buxton, Project Manager
State Coastal Conservancy
1330 Broadway, 13th Floor
Oakland, CA, 94612

RE: Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report

B-PGE-1 Pacific Gas and Electric Company (PG&E) is pleased to submit comments on the State Coastal Conservancy and the U.S Fish and Wildlife Service (USFWS)'s Phase 2 Alviso/Ravenswood Draft Environmental Impact Statement/Report (DEIS/R), which evaluates potential environmental impacts of activities in the USFWS-managed Don Edwards San Francisco Bay National Wildlife Refuge and includes ponds both in the Ravenswood pond complex and the Alviso pond complex. PG&E is an active stakeholder in this process and supports the efforts to enhance and restore tidal marshes in the Bay Area. PG&E has several infrastructure facilities in the program area, and we appreciate this opportunity to work collaboratively on these efforts as conflicts with our electric and gas facilities are important to both our company and the ratepayers that we serve.

B-PGE-2 In regards to the Phase 2 Alviso/Ravenswood DEIS/R, PG&E facilities are located in the project area near the Alviso pond complex (the area identified as the Ravenswood pond complex does not contain any PG&E facilities); therefore, our comments specifically address actions in this area. As stated in the DEIS/R, within the Alviso pond complex, there are PG&E facilities located either within or proximate to Pond A2W and Pond A1:

- Pond A2W: Two PG&E overhead power transmission lines and a total of 16 transmission towers are within Pond A2W, with access provided via boardwalk from both the shore of the City of Mountain View and the northwest corner of the pond's outboard levee. Another two towers are on the northwesterly portion of the outboard levee. In order to complete the activities as proposed in the DEIS/R, the project will involve raising the concrete foundations of PG&E towers and raising and improving the maintenance boardwalks. In addition, the two eastern breaches of Pond A2W will be armored, and railcar bridges will be added
- Pond A1. Pond A1 does not contain any transmission towers within the boundary of the pond. However, there are six towers just north of Pond A1's outboard levee. This levee currently provides a connection via boardwalk to 12 more towers on a transmission line that extends northwestward into open Bay waters. As part of the Phase 2 design, PG&E would construct new sections of boardwalk across Mountain View Slough to connect the boardwalk that ends just to the northwest of Pond A1's levees with the existing boardwalk within Pond A2W.

B-PGE-3 PG&E appreciates the efforts and consideration taken by these proposed actions to avoid or minimize impacts to PG&E facilities and access to those facilities for maintenance and repair.

Page 1 of 6

Our comments on the analysis and proposed action are included as follows:

(1) Comments Regarding Federal and State Permitting for Sensitive Species and Habitats and Waters of the U.S.

It appears that the DEIS/R has done a thorough analysis of the actions that PG&E will need to perform to facilitate the proposed tidal marsh restoration in the Alviso area while ensuring that our service to our customers remains our highest priority and that access to our facilities remains uncompromised. Therefore, upon finalization of this document, the actions required of PG&E will have been analyzed under the requirements of CEQA and NEPA.

B-PGE-4

We are concerned, however, that these actions have not been included in the overall permitting efforts for Phase 2, including listed species consultation and filling of waters of the U.S. Section 3.5 Biological Resources specifically states "the new section of boardwalk and the improvements to existing boardwalk will necessitate additional PG&E Section 7 consultation under the federal Endangered Species Act." PG&E is currently working with the USFWS on PG&E's Bay Area Operations and Maintenance Habitat Conservation Plan (HCP), which, once finalized, would likely provide federal incidental take coverage for potential impacts associated with the proposed PG&E activities. However, there is a chance that this HCP will not be in place prior to the beginning of construction activities for Phase 2 work. Likewise, PG&E does not have permits from the U.S. Army Corps of Engineers or other state water resource agencies for fill in waters of the U.S. PG&E requests that these specific activities are incorporated in all applicable resource permits that are currently being pursued for the Phase 2 activities.

(2) Comments Regarding Section 3.5 Biological Resources

PG&E recommends that the italicized text as noted below be added to the following sections to ensure that the analysis includes all of the actions required of PG&E to facilitate these tidal marsh restoration efforts.

B-PGE-5

- **Under Phase 2 Impact 3.5-4:** Alternative Mountain View B. Under Alternative Mountain View B, Ponds A1 and A2W would be breached to support the development of tidal marshes. PG&E infrastructure improvements would add a new section of boardwalk in an existing marsh just north of Pond A1's bayside levee, raise and improve the existing boardwalk within Pond A2W, and add more concrete to expand the footings around the bases of transmission towers. Habitat transition zones and nesting islands would also be constructed.

  The reconstruction of the PG&E boardwalk through Pond A2W would have limited impacts because there is an existing boardwalk in this area. *A short section of new section of boardwalk will be constructed but due to its small area will not have a significant impact.* Nesting and roosting habitat for pond-associated waterbirds would be increased through the construction of islands and habitat transition zones.
- **Under Phase 2 Impact 3.5-17:** Alternative Mountain View B would breach Ponds A1 and A2W, which are currently several feet deep, and convert them to tidal marsh and habitat transition zones. Islands for nesting birds would also be constructed. PG&E infrastructure improvements would add a new section of boardwalk in an existing marsh just north of Pond A1's bayside levee, raise and improve the existing boardwalk within Pond A2W, and add concrete to expand the footings around the bases of the transmission towers.

  The breaching of the levees, *construction of boardwalks,* and the creation of habitat transition zones would require construction activities.

Page 2 of 6

(3) Comments Regarding Appendix D: PG&E Tower Replacement, Repair, and Maintenance

PG&E appreciates the efforts that were made to carefully describe the construction methodology that will be used to support the tidal marsh restoration and to disclose the operations and maintenance activities that currently occur and will continue to take place in the project's vicinity. We wanted to provide a few more clarifications regarding our work as described in this appendix, as shown by additional language in italicized text and removed text in strikethrough.

A) Additional text regarding raising towers:

B-PGE-6

- ***Raising Towers:*** ~~Two~~ *Three* methods are used to raise towers:
  - Adding vertical leg extensions to the base of the tower on existing footings or foundations called vertical leg extensions.
  - Adding extensions just below the tower cross arms at the "cage" of the tower called waist cage extensions.
  - *Adding extensions just above the tower cross arms of the tower called cage top extensions*

The first method requires lifting the tower. A tower lifter is driven beneath the tower, and its four arms are clamped to the tower legs. The legs are unbolted from the tower base, the tower is lifted, and leg extensions are installed. However, a tower lifter can be used only on level ground. Where a tower lifter cannot be used, a crane is used to hoist the tower. A level area of approximately 25 feet by 40 feet is graded immediately adjacent to the tower to serve as a crane pad. Temporary wood pole supports (shoo- flies) are constructed adjacent to the tower to support the conductors while the crane lifts the tower. The tower extension is installed, the conductors replaced, and the shoo-flies removed.

The second method entails installing the extension at the tower cage using a crane to hoist the tower. The tower cage is near the top of the tower just below the cross arms. A level area of about 25 by 40 feet is graded immediately adjacent to the tower to serve as a crane pad. Shoo-flies are constructed adjacent to the tower to support the conductors while the crane lifts the tower. The tower extension is installed, the conductors replaced, and the shoo-flies removed.

The third method entails installing the extension at the top of the tower using a crane or helicopter to place the extension. The tower cage contains one set of cross arms and is installed above the existing cross arms. Once installed the existing wires are relocated to the next higher cross arm and the lowest cross arms are removed. A level area of about 25 by 40 feet is graded immediately adjacent to the tower to serve as a crane pad.

B) Clarifications regarding electric line reconductoring activities:

Electric Line Reconductoring: New conductors are installed by temporarily splicing them to the ends of the existing conductors and pulling them through travelers (pulleys) attached to the arms of the towers or pole cross arms. *New insulators with travelers are installed at each structure and the old and new insulators are installed and removed with boom trucks and hauled away in a container or dump trucks.* ~~Travelers are installed at each tower or pole using a boom truck.~~ Where a

Page 3 of 6

B-PGE-6 cont.

boom truck cannot be used, a winch is used to install the *new insulators with* travelers *and removal of old insulators*. In some cases, the *insulators,* travelers and conductors are installed by helicopter.

Reconductoring typically is conducted in *4* ~~2~~-mile sections, with a tension site and a pull site (a total maximum width of 50 feet by *200* ~~150~~ feet in length) for approximately one-third of the sites. The remaining reconductoring work requires installation and removal of *insulators and* travelers on a two-circuit line. At the pull sites, a truck- or trailer-mounted bull-wheel puller, a small truck- or trailer-mounted crane, and rewinders with collapsible reels are used to pull the conductors through the travelers. Truck-mounted tensioners, small cranes, conductor reel trailers, and conductor reels are used to tension the conductors. Previously established pull and tension sites are used where possible.

Before the conductor is pulled, clearance structures are installed at road crossings and other locations (where necessary) to prevent conductors from contacting existing electric or communication facilities or passing vehicles. These temporary structures consist of wood poles and, occasionally, a support net stretched beneath the conductors.

After the conductors are pulled into place, they are tensioned by pulling them to a predetermined sag and tension. The conductors then are permanently attached to the insulators.~~and existing conductors.~~

~~Electric line reconductoring takes place approximately 570 times per year.~~ *An electric transmission line is typically reconductored every 30 years*. Permanent effects are from a 10-foot-by-10 foot work area that could result in vegetation type conversion. One-third of the reconductoring work requires a tension and pull site, and the remaining reconductoring work requires installation and removal of *insulators and* travelers on a two-circuit line. Both approaches require a 50-foot-by-*200*-~~150~~ foot work site.

C) Clarifications Regarding Pole Clearing—Distribution and Transmission

PG&E performs pole clearing around subject poles and towers on its overhead distribution and transmission facilities to maintain compliance with Public Resource Code Section 4292. Section 4292 requires that poles in an SRA with nonexempt equipment (e.g., switches, lightning arrestors) be maintained clear of 1) any vegetation that would propagate a fire for a radial distance of 10 feet from the pole/tower at ground level, 2) all brush, limbs, and foliage of living trees at 0-8 feet, and 3) dead limbs and foliage around the pole to the height of the conductor.

Pole clearing can be divided into two subcategories: maintenance of previously cleared poles and maintenance of poles that have never been cleared of vegetation. Both subcategories occur annually. Vegetation clearing for existing poles applies to vegetation that has grown over the course of the year (i.e., grasses, forbs, saplings, and branches). Vegetation clearing for new poles requires the removal of all vegetation within 10 feet of a pole that could propagate a fire. Vegetation management includes annual patrol of overhead facilities, removal of material capable of propagating a fire, and-with property owner consent-chemical treatment with herbicides to prevent regrowth. In some cases, because of vegetation regrowth, it is necessary to clear a pole more than once during a given season.

B-PGE-6 cont.

~~Approximately 108 poles are cleared for the first time annually requiring a 10-foot radius around the pole.~~

D) Clarifications regarding Maintenance and Repair

Aerial Patrol: PG&E conducts aerial patrols of electric transmission lines, distribution lines, and associated facilities annually using helicopters.
Ground Patrol: If electric transmission lines and associated facilities are located in no-fly zones, PG&E personnel conduct ground patrols on foot or with *off-road utility vehicles (OUVs)* ~~ATVs~~, or by using rubber-tired vehicles on existing access and pipeline patrol roads. These patrols occur on a *1*~~2~~- to -5 year cycle depending on whether the facility is wood or steel. Vegetation management personnel conduct annual ground patrols of transmission and distribution lines by vehicle and by foot. Electric meters are read during routine ground patrols. It is estimated that 33.3% (7,664 miles) of the electric distribution system and 87.5% (3,876 miles) of the transmission system is patrolled each year. Approximately 95% of the patrolled system length is accessible by existing roads or is patrolled on foot or by helicopter.

Inspections

These inspections are conducted using off-road travel by light trucks, *OUVs* ~~ATVs~~, or on foot.

Tower, Pole, and Equipment Inspection: Tower footings and poles routinely are inspected to verify stability, structural integrity, and equipment condition (e.g., fuses, breakers, relays, cutouts, switches, transformers, paint). Footings and poles are accessed by existing roads or off-road in vehicles or on foot.

Outage Inspection: When outages and CPUC Reportable Incidents occur because of weather, accidents, equipment failure, or other reasons, PG&E inspects lines to determine the location and probable cause of the outage. Lines *may be inspected by helicopter*, ~~are~~ accessed by existing roads, ~~or~~ off-road in vehicles or on foot.

Electric Insulator Washing or Replacement: Insulators are washed periodically to prevent faults. Faults result from the accumulation of conductive debris such as airborne particles or bird droppings on ceramic *or polymer type* insulators. Insulators are washed using a truck- or trailer-mounted spray system or by helicopter. Washing typically is carried out during energized conditions (i.e., while the power lines are operating). Distilled water is used to wash the insulators; dry washing using ground corn hulls also is used. Insulators are replaced when they have been damaged by gunshot, lightning, or heavy corrosion, or when they no longer can be washed. They can be replaced while energized or de-energized depending on access, loading, and safety. Replacement typically takes a four- to six-person crew with a small truck for hauling crew members, tools, and materials. If access is limited, a helicopter may be used to land crew members and tools on a tower. Insulators are washed or replaced approximately once annually.

Electric System Outage Repair: Outage repair are necessary to maintain public safety as required by the CPUC. Outages typically are caused by weather, equipment failure, accidents, fire, or bird electrocution. When an outage is reported, the line is patrolled until the cause of the outage is determined. Access is primarily on existing roads, although some overland access with rubber-tired vehicles is expected. Depending on the cause of the outage, repair may entail anything from

B-PGE-6 cont.

reclosing a switch to replacing a transformer or pole. The circuit is repaired and restored as quickly as possible. An approximate 22-foot- by-22-foot work area may be needed for soil excavation, soil stockpiling, and the use of construction equipment during each repair.

Again, thank you for allowing PG&E to comment on the proposed actions associated with Phase 2 Alviso/Ravenswood DEIS/R. We look forward to continuing to work cooperatively on this important tidal marsh restoration project.

Sincerely,

Diane Ross-Leech
Director, Environmental Policy
Pacific Gas and Electric

Page 6 of 6

Response to Pacific Gas & Electric Company (B-PGE)

B-PGE-1

Thank you for this comment and for PG&E's ongoing collaboration with the SBSP Restoration Project.

B-PGE-2

This comment summarizes PG&E's existing infrastructure in the area of the Mountain View Ponds and limits the remaining comments to that pond cluster.

B-PGE-3

The SBSP Restoration Project notes PG&E's appreciation for efforts to avoid or minimize impacts to PG&E facilities as part of the Project.

B-PGE-4

This comment correctly notes that the efforts described in the Draft EIS/R to improve or modify PG&E infrastructure in the Mountain View Ponds would provide environmental clearance under NEPA and CEQA only. The current NEPA and CEQA processes would not provide permitting or other regulatory approval processes required under other legislation such as the Clean Water Act or the Endangered Species Act. Separate permitting processes will eventually be needed.

B-PGE-5

This comment provides a list of suggested text changes to the portions of Section 3.5 on Biological Resources that pertain to PG&E infrastructure. The Final EIS/R includes revisions to that section that incorporate those suggestions.

B-PGE-6

This comment provides a list of suggested text changes to Appendix D, which is about the repair, replacement, and maintenance of PG&E towers. Appendix D to the Final EIS/R contains all of the suggested changes.

San Francisco Bay Bird Observatory (O-SFBBO2)

From: David Thomson
To: phase2comments@southbayrestoration.org
Subject: [phase2comments] limited review: some Pond A8 sections
Date: Tuesday, October 20, 2015 6:10:14 AM

SBSP,

O-SFBBO2-1 I was looking for Phase II actions regarding Pond A8S and came across some things that may or may not be of use to you.

1. I was expecting to see something about an alternative to attach San Tomas Aquino and Calabazas Creeks to A8S but didn't find it in my brief scan.

O-SFBBO2-2 2. On p2-40 it states "... There are currently no recreation or public access features at these ponds. ..." But I thought A8 is part of the DE SFB NWR Hunting program. There is a duck hunter check-in station at the SW corner, with a place to launch boats into the pond.

Hope that helps,
David

David Thomson
senior ecologist - Habitats Program
San Francisco Bay Bird Observatory
524 Valley Way, Milpitas, CA 95035
408-623-1605 cell

Response to San Francisco Bay Bird Observatory (O-SFBBO2)

O-SFBBO2-1

A possible connection of the southern margin of the A8 Ponds to the outflowing San Tomas Aquino Creek and Calabazas Creek is not part of Phase 2. However, the placement of the two habitat transition zones in the southwestern and southeastern corners of the A8 Ponds was selected so as not to preclude the option of a possible connection in the future, if conditions warrant it.

O-SFBBO2-2

The portion of the text identified in the comment has been corrected in the Final EIS/R.

San Francisco Bay Bird Observatory (O-SFBBO)

SAN FRANCISCO BAY
BIRD OBSERVATORY

October 30, 2015

John Bourgeois, Executive Project Manager
Amy Hutzel, Program Manager
Brenda Buxton, Project Manager

Re: South Bay Salt Pond Restoration Project, Draft Environmental Impact Statement/Report (EIR/S)

O-SFBBO-1

The San Francisco Bay Bird Observatory (SFBBO) has reviewed the Draft Environmental Impact Statement/Report (EIS/R) for Phase 2 alternative plans at the South Bay Salt Pond Restoration Project (Project) Alviso and Ravenswood ponds. Though restoration efforts will provide valuable ecological and structural functions throughout the South San Francisco Bay, certain aspects of the proposed project will alter habitat that is currently used by breeding shorebirds. These actions may impact the successful population recovery of the federally threatened Western snowy plover (*Charadrius nivosus nivosus,* Section 3.5.3). The Pacific coast population of the Western snowy plover (plover) was listed as threatened in 1993 due to habitat loss, manipulation, and increasing predation pressures throughout its range.

The Ravenswood complex has been historically used by breeding plovers (Section 3.5-16). Though plovers are one of the few species that utilize the bare salt panne in the R3 and R4 ponds, the Ravenswood complex is the second most important area for breeding plovers in the south bay, hosting an average of 22% of the total number of nests documented in the South San Francisco Bay per year (Section 3.5.1-10). Plover use of this area is largely dependent on variations in available habitat. The success of breeding plovers is dependent on available habitat, appropriate water levels, healthy salinity levels and water circulation, and construction activity related to restoration. Historically, plover nest success has been positive in the Ravenswood complex. Hatch rates are consistently higher than depredation rates, with few exceptions. Breeding California gulls attempting to establish nests have been documented on Ravenswood pond RSF2 islands and require hazing.

Our comments apply specifically to the Ravenswood pond cluster (Section 2.2.5) Alternatives, as other pond clusters in this proposal are unlikely to significantly impact breeding plovers. After careful consideration, SFBBO considers *Alternative Ravenswood C* to be the most favorable option. We feel that this alternative will provide foraging habitat for plovers and other small shorebirds if pond R4 is restored to tidal action and is no longer suitable nesting habitat for plovers.

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SAN FRANCISCO BAY
BIRD OBSERVATORY

Please accept the following comments:

O-SFBBO-2

Section 3.5.3 – All American Canal Levee Improvement

Plovers and predatory species have shown an attraction to new materials (gravel, dredge material, disturbed surfaces) for nesting, roosting, and foraging. This Canal Improvement activity could potentially attract nesting plovers as well as hunting and breeding predators. These potential outcomes could significantly impact plover breeding success and survival as plovers may become more concentrated in remaining pond R3. Higher concentrations of nesting birds increase predation risks of nests, chicks and adults. We recommend treating the All American Canal Levee with a deterrent material or method to prevent roosting by predators. We recommend conducting gull monitoring and hazing activities during the breeding season to deter the establishment of a breeding California gull colony. We recommend that the All-American Canal Levee be clearly marked with signs and be fenced off to the public to prevent disturbance and public trespass onto the sensitive pond bottom.

O-SFBBO-3

Section 3.5.3 Phase 2 Public Trail Around R5 and R5S

In this Alternative, a section of the proposed Phase 2 Public Trail will border the western corners of pond R3. Plover adults that nested on pond bottoms will commonly cross channels with hatched chicks and forage along levees. Plover adults and chicks will become stressed, and adults will leave chicks unattended when human presence is detected as far as 200 meters. To minimize this potential stress and disturbance at the Phase 2 Public Trail site we recommend restricting public access to this trail during the plover breeding season (March 1- Aug 31). We recommend the implementation of **pedestrian** fencing and signage to discourage trespass, and to separate the public from the western portion of pond R3. We also recommend the implementation of **chick** fencing (2' height, smaller diameter mesh) at the base of pedestrian fencing and along the R3 levee near pedestrian areas. This will create a physical barrier which prevents chick movement onto pedestrian areas of the levee.

O-SFBBO-4

Potential Overall Increase in Predators and Habitat Enhancement

In the event that pond R4 is restored to tidal action and ponds R5 and R5s are converted to tidal mudflat, an influx of predator species will likely occur at these Ravenswood ponds adjacent to the remaining plover nesting habitat in pond R3. Previous SFBBO survey data shows this occurrence after habitat transitions associated with Project actions in ponds E12/E13, A16 and surrounding ponds, and RSF2 (see Annual SFBBO Plover Reports). Increased predator presence could significantly impact nesting plovers in pond R3. We recommend pond R3 to be treated with a material that offers camouflage for roosting and breeding plovers. Materials should be light in color and contrast with the natural red color of the R3 pond bottom. Some potential materials may include gravel, stone or sand, and oyster shell. Oyster shell has been studied and used in plover breeding areas. If an alternative material will be used, we recommend that a pilot study be performed before distributing on a large scale. Appropriate test plot areas on pond R3 might be the northeast corner, southeast corner, and the northern portion of the pond

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SAN FRANCISCO BAY
BIRD OBSERVATORY

O-SFBBO-4 cont'd near R4 levee connection. We also recommend the implementation of active predator monitoring and hazing at pond R3. We recommend the removal of any existing perches on and around pond R3.

O-SFBBO-5 Section 2.2.5 Alternative Ravenswood D – Bayfront Canal Project
SFBBO is concerned about potential pollution impacts to the surrounding habitat from urban water runoff. For biological efficiency, we also recommend that ponds R5 and R5S be managed as deep water habitat to support waterfowl during the winter season, and as shallow mudflat habitat during the spring and summer seasons to support other species when waterfowl numbers are significantly lower.

O-SFBBO-6 Regardless of which Ravenswood Alternative is chosen, SFBBO recommends continuing consistent predator control and gull hazing activities throughout the Ravenswood complex. We recommend the removal of all potential perches and structures in Ravenswood ponds. We recommend coordinating with the Facebook campus to better secure trash, and prevent gulls and corvids from frequenting the site. We also recommend installing appropriate fencing and signage along the levee between ponds R5 and R3 to prevent disturbance and human trespass on the ponds.

Thank you for the opportunity to comment on the proposed Phase of the South Bay Salt Pond Restoration Project.

Sincerely,
Karine Tokatlian, Plover Program Director
Benjamin Pearl, Plover Biologist
Emily Moffitt, Plover Biologist

San Francisco Bay Bird Observatory
ktokatlian@sfbbo.org

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Response to San Francisco Bay Bird Observatory (O-SFBBO)

O-SFBBO-1

This comment describes SFBBO's concern about the SBSP Restoration Project's proposed Phase 2 actions on the western snowy plover, particularly at the Ravenswood pond cluster. It also limits the rest of the comments in the comment letter to the Ravenswood Ponds and expresses support for Alternative Ravenswood C as the most favorable for this species.

O-SFBBO-2

The suggestion measures for making the top of the improved All-American Canal levees less attractive to predator species, while providing for snowy plover habitat in R3 are in line with the sorts of management actions and finer design elements that the SBSP Restoration Project intends to implement to the extent feasible. While no commitment to the specific measures suggested can be made, they are similar to those being considered and developed for implementation. The suggestion for fencing and signage is discussed in the response to the next comment.

O-SFBBO-3

Master Comment Response #9 provides general background on the topic of public access-related impacts on wildlife. More specifically, the public access trail and an associated viewing platform around Ponds R5 and S5 discussed in the Draft EIS/R are included in the Preferred Alternative at the Ravenswood Ponds. However, additional extensive fencing and signage are included in the modified Project Description included in the Final EIS/R. The recommended chick fencing planned for the southern border of the Ravenswood ponds will also be considered along the proposed new trail.

The current plan would not prevent seasonal closure of the R5/S5 loop trail if the ongoing monitoring shows that to be necessary. However, the trail is intended to remain open year-round and would be operated as such unless and until adverse impacts on wildlife are identified, which is unlikely.

O-SFBBO-4

The conversion of ponds R5 and S5 to intertidal mudflat, as described in Alternative Ravenswood C in the Draft EIS/R was not selected for inclusion in the Preferred Alternative. However, increased predation on nesting snowy plover is a concern, as the comment notes. The suggested addition of surface treatments in Pond R3 to improve the camouflage and cover available for nesting snowy plovers is not included in Phase 2 planning. However, adding such treatments is within the scope of the Refuge as part of its ongoing management actions and it is being considered at this time. The NEPA/CEQA requirements do not prevent such wildlife habitat management actions. Predator management, including the removal of perches is an ongoing management process for the Refuge as well and is expected to continue.

O-SFBBO-5

In the Phase 2 Preferred Alternative at the Ravenswood Ponds described in the Final EIS/R, Ponds S5 and R5 at Ravenswood would be managed ponds modified and enhanced for dabbling ducks and small shorebirds. The option to occasionally divert stormwater input from the Bayfront Canal and Atherton Channel Project has been removed from the Preferred Alternative at Ravenswood, as discussed in Master Comment Response #4.

O-SFBBO-6

Predator control and gull hazing activities, as described in this comment, are more of an ongoing aspect of Refuge management than they are of any particular aspect of Phase 2 of the SBSP Restoration Project. See Master Comment Response #2, which is about the distinction between Refuge management activities and project impacts. Fencing and signage are included in the Final EIS/R's description of the Preferred Alternative, described in Chapter 6.

Menlo-Atherton Storage and Tyson Kennels (B-MAS)

From: MAS Office
To: phase2comments@southbayrestoration.org
Subject: [phase2comments] Phase 2 EIR/S Comments
Date: Thursday, October 29, 2015 3:44:42 PM

B-MAS-1

I am an owner of Menlo-Atherton Storage and Tyson Kennels located on Haven Avenue in Menlo Park. I am writing in **strong support** of **Alternative Ravenswood D** of the Phase 2 Alviso/Ravenswood Draft EIR/S.

The length of our 4.5 acre property abuts the Bayfront Canal. We are located to the Southwest of Bedwell Bayfront Park. Although we have not experienced a flood during the 30+ years we have operated our businesses, we *strongly support Alternative Ravenswood D* because:

1) Other adjacent properties on Haven Avenue, and Haven Avenue itself, are low lying and *have* flooded during strong storms at high tide;
2) It is a proactive approach to storm water and flood management given rising sea levels, the extensive residential and commercial development on Haven Avenue, and the current Haven Avenue traffic congestion;
3) The Salt Ponds provide a rare opportunity to accomplish many objectives simultaneously including flood water control, restoration of the habitat of the salt ponds, and reduction of contamination from urban runoff to the bay.

Adoption of **Alternative Ravenswood D** of the Phase 2 Alviso/Ravenswood Draft EIR/S is essential to the residents and businesses on Haven Avenue so we may continue to thrive and develop in the future without the threat of devastating floods and property damage. Thank you for consideration of my opinion.

Sincerely,

Paul Tyson, Partner

Menlo-Atherton Storage

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Menlo Park, CA 94025
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To unsubscribe from this group and stop receiving emails from it, send an email to phase2comments+unsubscribe@southbayrestoration.org.

Response to Menlo-Atherton Storage and Tyson Kennels (B-MAS)

B-MAS-1

This comment expressed support for Alternative Ravenswood D because of the inclusion of the Bayfront Canal and Atherton Channel Project. That project has been removed from the Preferred Alternative at Ravenswood, as discussed in Master Comment Response #4.

2.3.4 Individuals

Comments from individuals and the responses to those comments are presented in this section.

Baye, Peter (I-PB)

Peter R. Baye, Ph.D.
Coastal Ecologist, Botanist
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Annapolis, California 95412

(415) 310-5109

baye@earthlink.net

Anne Morkill, Project Leader
Don Edwards San Francisco Bay National Wildlife Refuge,
1 Marshlands Road, Fremont, CA 94555

October 30, 2015

Brenda Buxton, Project Manager,
California State Coastal Conservancy,
1330 Broadway, 13th Floor, Oakland, CA 94612
phase2comments@southbayrestoration.org

SUBJECT: Comments on South Bay Salt Pond Restoration Project Phase 2 Draft Environmental Impact Statement/Report (DEIR/S)

Dear Ms. Morkill and Ms. Buxton:

I-PB-1

Please consider the following comments on the draft Environmental Impact Statement/Report (DEIS/R) for Phase 2 of the South Bay Salt Pond Restoration Project (SBSPRP). My comments are tiered, like the DEIS/R itself, from my previous comments on the Programmatic/Phase 1 EIS/R. These comments are submitted on behalf of the Citizen's Committee to Complete the Refuge, Palo Alto, and with the Citizen's Committee's approval, but they are based entirely on my independent professional judgment and expertise. I am responsible for any misunderstandings or inaccuracies in these comments. My qualifications to comment are cited as an attachment (Attachment A). My comments on Phase 1 of the SBSPRP are incorporated by reference and attached (Attachment B), with selected relevant portions highlighted for emphasis.

My comments provide critical review of alternatives, impacts, and mitigation, with sincere and full support for the SBSPRP goals, objectives, and its timely feasible implementation. My comments are intended to identify alternatives that may strengthen the design of the proposed project, and point to important alternatives, analyzes, or mitigation measures that may either be incorporated in part to the modified final proposed project, or catalyze development of Phase 3 alternatives. Most of my comments are intended to highlight important opportunities to best achieve project objectives, or avoid what I think may be detrimental or unstable, unsustainable project outcomes and conflicts among resources and land uses (adverse impacts).

I-PB-2

As a preamble to my technical comments, I would like to present an overall perspective about the "big picture" issues that guide priorities for their selection and substance, especially alternatives. One of the main challenges for the SBSPRP that remain through all its phases originates from the need to implement both tidal marsh and managed salt pond restoration in a way that reconciles the following geographic and ecological drivers:

I-PB-2 cont.

(a) significant acceleration sea level rise,

(b) significant permanent long-term declines in South Bay estuarine sediment supply,

(c) variable degrees of subsidence among salt pond clusters;

(d) variable distribution of existing salt marsh habitats and endangered species populations, and variable distribution of geomorphically resilient tidal marsh locations in the estuary;

(e) increasing long-term maintenance and repair costs of levees, and decreasing long-term feasibility of managed pond operation, as internal borrow ditches become progressively depleted, bay tidal marshes and mudflats erode, and bay wave energy increases along with sea level rise (i.e., infrastructure sustainability, cost, and stability issues)

The SBSPRP as a whole remains burdened with the most subsided salt ponds (Santa Clara Valley subsidence zone of Alviso salt ponds) with some of the greatest feasibility burdens for tidal restoration during accelerated sea level rise and bay-wide sediment deficits. This is because large areas of Refuge-owned salt ponds with relatively little or no significant subsidence, but proximity to large (but declining) sediment-rich shoals and mudflat ("reservoirs" of mobile fine sediment to supply tidal marsh restoration) remain unavailable for immediate incorporation into Phase 2. The Newark Plant 1 and 2 Refuge-owned salt ponds that are temporarily unavailable for SBSBRP tidal restoration at some of the most ecologically advantageous regional locations for tidal marsh restoration (contacts with Coyote Hills and Refuge uplands, adjacent and contiguous with to the largest tracts of mature salt marsh and endangered species populations, extensive high-intertidal elevation flats or pond beds with nearly intact prehistoric tidal creek patterning and topography) because they were not included in the transfer/sale of mineral and industrial use rights. The EIS/R should not adopt arbitrary blinders to these salient environmental baseline facts and contexts for alternatives. The purpose and need for analyzing reasonable NEPA alternatives that are not immediately within a lead agency's jurisdiction is clear and explicit:

> "Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. *Section 1500.1(a).*
>
> Council On Environmental Quality (CEQ), Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations 46 Fed. Reg. 18026 (March 23, 1981) as amended (Question 2b)

The Citizen's Committee to Complete the Refuge, I believe, is well-justified scientifically and in terms of NEPA policy (as well as Endangered Species Act, Clean Water Act, and even Refuge policies) to persist in its insistence that the remaining salt ponds outside the SBSPRP (including bittern storage ponds, crystallizers, wash ponds, pickle ponds, levees, sediment fans or fills) be included in the "big picture" scope of alternatives analysis, regardless of their current availability for near-term implementation --- for exactly the reasons anticipated by the CEQ in 1981. Many of the SBSPRP's long-term environmental constraints on restoration feasibility, sustainable habitat distribution, mitigation burdens, and conflicts among competing resources, would be significantly reduced by incorporating the salt ponds with highest restoration feasibility and opportunity that were unfortunately not included in the federal transfer of mineral/industrial rights. To quote the CEQ Memorandum again, "Inclusion of such an analysis in the EIS

is necessary to inform the Congress, the public, and the President as intended by NEPA. *Section 1500.1(a).*"

I-PB-2 cont.

Even though it is likely that low salt marsh (cordgrass) tidal elevations would be reached over substantial areas of sediment deposited in subsided tidally restored ponds, it is uncertain whether these could ever reach or stabilize at upper intertidal marsh elevations essential to recover of endangered wildlife, at least over significant areas. Saving the best salt pond restoration opportunities for last (or for too late), and allocating the lion's share of limited available estuarine sediment to the most deeply subsided but immediately available salt ponds in the interim, is not an environmentally preferable regional tidal marsh restoration strategy. This is even truer now than during Phase 1 and the Interim Stewardship Progam, given advances invasive Spartina control and bittern disposal, and increasingly risk-laden estimates of sea level rise rates.

It is no threat to the timely authorization and implementation of Phase 2 SBSPRP to address this issue properly in the alternatives analysis. Indeed, I am confident that it is a NEPA obligation to do so, and in the long-term interest of the SBSPRP's sustainability and feasibility, which may depend on its expansion to include a higher proportion of topographically, geomorphically, and ecologically advantageous salt ponds for ecological restoration and sound management. Optimized, flexible allocation of limited resources for estuarine restoration across the South Bay landscape's finite physical and biological geographic opportunities is essential for long-term success of the SBSPRP. This is the relevant context for my comments on NEPA alternatives analysis.

1. General comments

1.1. NEPA Environmental Consequences, thresholds of significance and environmental baseline

I-PB-3

The EIS/R overall treats impact analysis of the 50+ year salt pond restoration alternatives according to CEQA conventions for single-event construction projects with adverse impacts to the environment. In CEQA, the normal baseline (reference condition for impacts) is the static "existing conditions" at the time of the Notice of Preparation of the CEQA document. This baseline may be appropriate normally for single-event constructed projects (like developments) and impacts with long and short-term consequences in relatively stable environmental settings. But for a long-term restoration project in a highly dynamic setting, implemented over decades and coming to fruition (both ecological benefits and impacts) very gradually over multiple decades, the static pre-project baseline is not defensible, and in fact was not justified in the DEIS/R. In NEPA, the "no action" alternative, projected into the long-term future, is not only allowed as an environmental baseline (CEQ Memorandum: 40 Q&A #3), but it is the only scientifically meaningful baseline for a multi-decade ecological restoration project in a rapidly changing environment, where the "baseline" is a dynamic trajectory (estuarine ecosystem trends driven by rapid SLR, storms, and sediment budget changes) rather than a stable condition. Under NEPA, the no-action alternative baseline for environmental consequences includes foreseeable actions taken by agents other than the lead NEPA agency under the "no action" alternative, rather than an academic or speculative "no project" scenario. CEQA Guidelines do not conflict with reasoned deviation from the normal (default) CEQA static environmental baseline.

The "no action" alternative baseline would prevent the environmental consequences of the project from being analyzed only as short-term direct adverse impacts of project construction, which is misleading and inadequate under both NEPA and CEQA. Staged impact analysis needed is needed, using at least a

I-PB-3 cont.

conceptual model of expected project evolution (like geomorphic evolution of restored marsh, tidal mudflats, shoreline or levee retreat, from current sea level, through circa 2030, and circa 2050 and beyond, representing a reasonable range of sea level rise rates. This was done for aspects of Phase 1 and South Bay Shoreline Study salt pond restorations, but not Phase 2. Actual geomorphic modeling (Programmatic/Phase 1) may or may not be necessary to provide robust analysis of impacts of Phase 2 (project-level) if reasonable qualitative scenarios are applied, integrating multiple primary drivers of physical and biological changes in the project area and its setting. The most appropriate and relevant metric for comparing alternatives is not raw acreage of generalized tidal marsh, but the extent of marsh within a few cm of Mean Higher High Water (MHHW) elevation, and the linear extent of MHHW banks along tidal marsh creeks (habitats limiting to endangered wildlife, and most vulnerable to destabilization during accelerated SLR).

I-PB-4

1.2. Shifting baselines and interactions with Phase 2: Invasive species impacts. Despite good intentions, restoration projects can and do act as vectors for spread of invasive non-native species at magnitudes and rates that are not mitigated by the "best management practices" proposed in Phase 1/Programmatic SBSPRP or the current Phase 2. Disturbed substrate (release from competition, pioneer seedbed conditions), equipment operation during grading, and inadvertent planting or sowing of invasive non-native species (contaminants or misidentification of stock populations) are foreseeable mechanisms of restoration-facilitated or restoration-caused invasive species spread. The DEIS/R failed to disclose or assess the Phase 1 introduction of *Limonium ramosissimum* (Algerian sea-lavender) to previously unoccupied South Bay levees and salt marshes, or analyze how the failure of BMPs occurred to prevent it or a similar event from happening in Phase 2. Amplification of small pre-existing invasive species populations to large populations, or even colonization by new small founder populations, can cause significant and potentially irreversible biological impacts. This is not a mere housekeeping measure for programmatic mitigation language in the EIS/R, but a need for rigorous applied ecological expertise and robust, practical mitigation measures for each species and pond cluster. Mitigation measures based solely on removal of invasive species, without regard to overall vegetation management (especially management of competition from dominant native vegetation), is inadequate and does not reflect the best available applied ecological science. The EIS/R needs to address ecologically sound, scale-appropriate, cost-effective alternatives for active vegetation management on new transition zone slopes and levees to inhibit spread of non-native species. Hydroseeding perennial species with low recruitment rates and low competitive ability against numerically superior invasive non-native seed banks should not be presumed to be an effective mitigation measure to manage species invasions. Native temporary cover crops of competitive native pioneer annual species (summer-flowering Asteraceae annuals in particular), and dormant vegetative propagule dispersal of native dominant perennial clonal forbs and graminoids in transition zones, should be essential to either proposed construction and design, or mitigation. Nonnative invasive priority list for the Phase 2 pond clusters should include: *Lepidium latifolium, Limonium ramosissimum, Puccinellia maritima, Symphyotrichum subulatum squamatum, Piptatherum miliaceum, Dittrichia graveolens, Bassia, Conium,* mustards (*Brassica, Raphanus*), and *Foeniculum. Phragmites australis* (non-native reed haplotypes) may be considered if brackish marsh (integration of wastewater discharges) is included in the project.

I-PB-5

1.3. Salt pond management impacts in long-term. The DEIS/R appears to assess only short-term or near-term impacts of continued salt pond maintenance and operation at or near current sea levels, climate conditions, and borrow ditch sediment supplies. It does not address significant long-term cumulative or indirect impacts from exhaustion of cost-effective borrow ditch supplies of mud for levee capping (costs

I-PB-5 cont.

of double-handling excavated mud beyond the reach of a single swing of the dredge boom; levee instability due to excessive excavation of borrow ditches), bay levee wave erosion and ongoing demand for armoring where fringing salt marshes (wave erosion buffers) are lost. The potential significant impacts of intensified reconstruction, repair and maintenance (beyond the levels proposed in the reauthorization of the salt pond levee operation permit) would be inevitably intensified by sea level rise acceleration during the project life, but they are not analyzed or mitigated in the DEIS/R, even though the scope of the DEIS/R is site-specific and project specific, in contrast with the programmatic EIS/R. Similarly, the DEIS/R does not assess impacts of salt pond management and wildlife management (including management failure risks) in future decades of significantly higher sea level (increased levee overtopping, reduced time available for gravity drainage of pond water levels at low tide), with only management and construction design for existing 2015 conditions. This cannot be deferred to future adaptive management without substantive, specific, feasible mitigation measures that are adequate for the full, foreseeable life of the project.

I-PB-6

1.4. Tidal marsh restoration site-specific impacts in long-term. Tidal marsh habitat objectives tacitly assume accretion to mature marsh plain with borders of high marsh, suitable for colonization by sustainable populations of endangered marsh wildlife. But this tacit assumption is not supported by analysis, and the DEIS/R generally lacks rigorous critical analysis of potential environmental consequences of tidal marsh restoration that stabilizes unsteadily at successional stages of cordgrass-pickleweed marsh ecotones (low-middle marsh transition) due to accelerated sea level rise, and competition among subsided pond clusters for finite suspended fine sediment supplies. The DEIS/R must assess risks and consequences of SLR-forced marsh succession stabilizing at low or low-middle salt marsh transition, never forming mature marsh plains (MHHW) required for sustainable SMHM or CCR sustained populations in mid-21st century. This is an essential part of the larger-scale analysis of program-wide alternative pond clusters, and environmental consequences of restoration: which pond restoration designs have better long-term environmental consequences give locations of subsided pond elevation ranges and sediment supply – geographically variable among pond clusters? The DEIS/R must address this question among and within pond clusters.

2. Alternatives analysis (including Appendix B)

I-PB-7

The 2007 Programmatic EIS/R covered only broad alternatives varying the regional ratio of tidal/nontidal habitat restoration. It therefore falls to the project-level Phase 2 DEIS/R to rigorously analyze alternatives within this broad "alternative" of habitat type ratios, addressing alternative combinations of design features, spatial configurations, pond cluster locations, design, distribution of habitats among or within pond clusters, and sequencing of restoration actions. Instead, the Phase 2 alternatives simply proceed to arbitrary design of one "full" restoration design (with minimal broad components: primarily levee and transition zone location/alignment, breach locations and sizes, boardwalks and viewing platforms, levee lowering segments, and sundry minor infrastructure (legends of pond cluster figures). The determination of proposed pond cluster boundaries is not explained or justified scientifically, except in terms of planning chronology (arbitrary institutional project formulation origins), and they are the same for all alternatives. The project scope is therefore arbitrary and circular, drawing on itself for design premises by re-stating its project design as objectives, instead of explaining and justifying distinguishable alternatives. This problem has not been rectified since the 2007 Programmatic/Phase 1 DEIS/R. No alternative configurations or off-site alternatives (within or beyond the SBSPRP, and within SSFB Shoreline Study

I-PB-7 cont.

boundaries) were screened or assessed, even though potentially higher feasibility salt pond restoration opportunities (physical and biological opportunities) exist outside the proposed pond clusters of Phase 2.

I-PB-8

Charleston Slough is an example of the arbitrary scope of proposed pond cluster definition. The area is acknowledge in the DEIS/R to be outside the project area, so even if it is withdrawn, its inclusion in the draft demonstrates that the SBSPRP can and does expand its project area to include potentially justifiable and feasible restoration opportunities. But it fails to apply the same criteria by which Charleston Slough was included to the rest of the South Bay salt ponds, including those in public ownership, without prejudice to immediate availability. Please refer to the relevant portion of my 2007 DEIS/R comments (Attachment B), incorporated by reference.

I-PB-9

The DEIS/R alleges the "independence" of pond clusters (p. 2-2), but this "independence" is true only in sense of construction and operation and maintenance, not ecologically. The regional distribution of habitats, estuarine ecological functions, and restoration actions is certainly not independent among pond clusters: they depend restoration feasibility related to site-specific location, setting and subregional geographic variations in ecosystem processes like sediment source-sink dynamics, sediment supply, wildlife movements, habitat distributions, wave exposure. This is clearly reflected in the current BEHGU (Goals Project Update, 2015) assessments and recommendations. Ponds compete for finite sediment supplies, and have potential sediment/tidal marsh restoration habitat "efficiencies" (unit area of mature, high marsh habitat/time/unit volume of mobile sediment). These are not assessed in terms of alternative pond cluster configurations at a whole-project, regional level.

I-PB-10

The exclusion of Eden Landing (CDFW) from the scope of alternatives and regional allocation of restored habitat types among pond cluster restoration alternatives is similarly arbitrary: the DEIS/R merely asserted the project was "separate" and "thus not included". But in light of Charleston Slough's inclusion in the project, and the need to regionally balance restored habitat distributions to minimize impacts to specific wildlife guilds, this exclusion is unacceptable for NEPA screening of alternatives if the alternative is otherwise "reasonable" otherwise. This is important because of the constraints and potential environmental conflicts of establishing western snowy plover habitat regional (bay-wide) distributions (seasonally drained salt pond flats or sand spits and beaches) restoration in relatively subsided versus less subsided ponds, which is a reasonable criterion for evaluating a range of alternatives: which pond restoration designs have better long-term environmental consequences for western snowy plover habitat management, given locations of subsided pond elevation ranges that are variable among pond clusters.

I-PB-11

In the 2007 DEIS/R:, the Refuge-owned ponds in the (erroneously titled) "Alameda County Cargill Ponds", like Eden Landing ponds in the phase 2 DEIS/R, were entirely omitted from 2007 programmatic alternatives analysis, and remain out of scope in phase 2, without explanation the current DEIS/R. Because the project period has a long 50-year planning horizon, the potential inclusion of both Alameda Cargill-managed ponds and Eden Landing ponds in alternatives may be "foreseeable" and is within scope under NEPA. Newark –Mowry salt ponds are significantly less subsided (closer in elevation relative to the intertidal marsh zone) than the deeply subsided Alviso ponds (see 2007 comments, Attachment B). Their exclusion from a reasonable range of alternatives, without objective explanation in a screening process, is arbitrary or prejudicial, and it may cause significant conflicts among competing resources, or significant adverse environmental consequences. The mere fact that the Newark (Mowry-Dumbarton and Coyote Hills vicinity) salt ponds are currently unavailable is no NEPA barrier to rigorous analysis of

I-PB-11 cont.

alternatives if they are otherwise reasonable alternatives, let alone environmentally preferable or superior on their own ecological merits.

2.1 "Reasonable range" of NEPA alternatives and screening

The Federal Register Notice of Availability for the DEIS, and the DEIS, explain the range of alternatives as a series of reductions of restoration design components, along a spectrum from one full) restoration design for each pond cluster (the most complete), to the No Action alternative:

I-PB-12

> We consider a range of alternatives and their impacts in the DEIS/EIR, including No Action Alternatives for each group of ponds. The range of alternatives include varying approaches to restoring tidal marshes (including number and location of breaches 7 and other levee modifications), habitat enhancements (islands, transition zones, and channels), modifications to existing levees and berms to maintain or improve flood protection, and recreation and public access components (including trails, boardwalks, and viewing platforms) which correspond to the project objectives. The alternatives for each group of ponds ("pond cluster") are described below. The No Action Alternatives are described together, followed by the Action Alternatives that are under consideration for each pond cluster. In each group of ponds, each subsequently lettered alternative usually has successively more components and greater amounts of construction. Thus, at a given pond cluster, Alternative C would involve more components that Alternative B, which has more than Alternative A (No Action). One exception to this arrangement is at Ravenswood, where there are three Action Alternatives and where the defining feature of each alternative is not "more components versus fewer components" but rather a different restoration goal for some of the small ponds there.
>
> "…In each group of ponds, Alternative A is the No Action Alternative, and *each subsequently lettered alternative generally has successively more components and greater amounts of construction*. Thus, at a given pond cluster, Alternative C would involve more components that Alternative B, which has more than Alternative A (No Action)." (EIS p. 2-7)

A progressive sequence of reduced project alternatives might be a "reasonable range" for a development or public works construction project with significant long-term net adverse impacts to the environment, since reduction of project elements or sizes would result in reduced impacts, consistent with NEPA and CEQA statutory purposes. But an environmental restoration project *primarily* designed to achieve foreseeable significant net environmental benefits as its core purpose, even if it causes some significant adverse impacts, is not a reasonable target for reduced project alternatives to meet NEPA and CEQA goals. Since NEPA expressly seeks to maximize environmental benefits as well as minimize or avoid impacts, it is not reasonable to set up only reduced project alternatives *for environmental restoration* (benefit) projects as a "reasonable range" of NEPA alternatives. Reduced restoration alternatives reduce environmental benefits; so unless the net benefit were equal or greater with a reduced restoration project alternative, it would not be a "reasonable" one. The EIS/R has not made any substantial argument that reduced project alternatives would achieve equal or greater net benefits to the environment. The reduced ecological restoration project alternatives do not serve the basic purposes of NEPA, and are essentially straw-man (nominal, sacrificial) alternatives.

Because wetland restoration success requires integration of different ecosystem components functioning together, deliberately incomplete reduced "alternatives" designed with inherent functional deficiencies

I-PB-12 cont.

relative to the full project, in effect are straw man alternatives set up to fall short of objectives and pale in comparison with the proposed alternative. Reasonable alternative designs must strive to meet, not fall short of, project restoration objectives and achieve long-term environmental benefits.

The range of alternatives based on elimination of a series of wetland ecosystem restoration design components is basically different from the paradigmatic example of "reasonable range" of alternatives (Council on Environmental Quality 40 Questions and Answers, 46 Federal Register, March 23, 1981) representing points across a spectrum of continuous variables like percentage or configurations of land conserved as wilderness. Different types wetland restoration design components, and different configurations of wetland restoration designs in different local environmental settings (pond clusters and subregions of San Francisco Bay) would very likely result in significantly different predictable environmental consequences, and contrast significantly in feasibility of achieving project objectives.

I-PB-13

But the Phase 2 alternatives do not evaluate substantially different wetland restoration design approaches, methods, internal layouts or configurations of ecosystem components, materials, or biological modifications. In fact, the Phase 2 alternatives do not even include the same range of restoration designs that were described in the 2007 Programmatic/Phase 1 SBSPRP EIS/R, without explanation of the difference. For example the 2007 Programmatic/Phase 1 EIS evaluated internal wave-break berms and borrow ditch blocks, tidal wetland restoration design features that influence internal wind-wave energy dissipation and tidal current patterns in tidally restored diked baylands like salt ponds. Ditch blocks are mentioned on one page of in the Phase 2 alternatives (p. 2-50) but do not appear in design alternatives, without explanation. Similarly, construction of internal upper intertidal berms (high marsh habitat) is omitted in all alternatives of Phase 2 (See Attachment B below).

I-PB-14

Meaningful alternative wetland restoration designs must be aimed at different but comparably feasible (configurations, methods, locations) with at least potentially equal or greater significant environmental benefits. It is not reasonable to deliberately design NEPA alternatives with less *net* environmental benefit that the proposed (complete) project. The project objectives are diverse, and include design features that vary in the degree to which they support or conflict with one another (e.g., flood control, public access/recreation, tidal marsh ecosystem recovery benefitting endangered species, managed salt pond habitat functions for dabbling, diving or wading shallow water waterbirds, shorebird habitats, adaptation to sea level rise and climate change), or vary in impacts to other resources or objectives. Thus, a reasonable range of alternatives for the salt pond restoration project should be composed of alternatives with substantially different design features, configurations, locations, habitat sizes, and methods that vary in the degree to which they support multiple project objectives, while striving to maximize environmental benefits and minimize impacts. The range of alternatives should at least encompass the range of restoration design features covered in the Phase 1/Programmatic EIS/R unless they are shown to be inapplicable to Phase 2.

I-PB-15

Examples of a reasonable range of alternatives, with all objectives intact, and consistent with public comments and the Programmatic EIR/S for Phase 1 of the SBSPRP, may include the following versions of the same basic project below (bullets). These represent substantial design differences among discrete alternatives with degrees of emphasis on contrasting project objectives, with variable methods and approaches to achieve all objectives. The use of such alternatives, in addition to NEPA compliance, would be to contrast and compare relative benefits, impacts, and costs of discrete, distinguishable alternatives, and to facilitate generation of both design features and mitigation measures for an integrated

final proposed project. Note that these are examples for a reasonable range of alternatives consistent with the EIS/R project purpose and objectives, and are not specific endorsements or recommendations for alternatives.

I-PB-15 cont.

- "*Tidal marsh recovery plan habitat emphasis*": alternative designed to maximize long-term recovery of endangered species dependent on high salt marsh features: allocation of project construction resources and funding towards additional restoration features that enhance well-distributed high tide refuge habitat or breeding habitat for endangered species throughout the restored tidal marsh areas (e.g. high marsh mounds like those constructed for Invasive Spartina Project mitigation, or Sears Point, Bahia tidal marsh restoration in North Bay, while providing conservation for other resources at least equal to the proposed alternative. Maintenance of critical high marsh habitat by sediment nourishment during accelerated sea level rise, rather than passive tidal sedimentation to low or middle marsh elevations only, may be a distinguishing feature of this alternative.

- "*Sea level rise and climate change resilience emphasis* (BEHGU Baylands Ecosystem Habitat Goals Update theme)": alternative designed to maximize long-term resilience of the tidal marsh and managed pond ecosystem challenged by accelerated sea level rise and climate change. Components: managed retreat of unstable shoreline levee positions, soft-engineering alternatives to levee armoring or "hold the line/defend in place" maintenance, realignment of flood control to landward edges, beneficial re-use of sediment for mudflat nourishment, tidal creek mouth sediment nourishment, high marsh (splay) nourishment, integration of freshwater (wastewater) discharges for beneficial wetland functions, prioritization of geomorphically defensible marsh configurations.

- "*Intensive Marsh and Pond Management emphasis*": alternative with higher allocation of resources to artificial habitat structures and management to achieve selected wildlife objectives, relative to reliance on natural ecosystem and geomorphic processes (e.g., artificial substrate or structures, aggressive vegetation management, armoring, water control structures, direct habitat modification). This alternative may be difficult to demonstrate comparable feasibility or levels of mitigation, but it should at least be examined through alternatives screening so it can be compared on merits.

- "*Flood control and public access infrastructure emphasis*" alternative designed to maximize long-term flood control and public access maintenance compatible with project goals and objectives for tidal marsh and managed pond restoration. This alternative may be difficult to demonstrate comparable feasibility or levels of mitigation, but it should at least be examined through alternatives screening so it can be compared on merits.

2.2. Alternatives screening (elimination of alternatives from detailed analysis)

I-PB-16

An important and consequential related problem in the EIS/R alternatives analysis is the screening of alternatives (elimination of alternatives from detailed review). The reasoning for this process is not actually provided in the body of the EIS, either in full or summary form, in plain language that explains to the public and lawmakers why potentially reasonable alternatives were

I-PB-16 cont.

not examined in detail. This explanation is required by NEPA in the body of the EIS. It is not sufficient to reduce the screening of alternatives to a technical appendix (Appendix B).

Appendix B fails to provide the screening of alternatives required by NEPA. Appendix B "screening" process is circular re-statement of specific objectives for the proposed pond clusters. Appendix B does not evaluate reasonable range of alternatives: it is simply a circular restatement of project and alternatives descriptions and goals covering the "full" proposed restoration and various stages of reduction to no project. The range of alternatives screened in the exercises was a spectrum of variations of reduced versions of the precursors of the proposed project, rather than substantive variations. Stakeholder, working group, or public meetings are not in themselves a substitute for demonstrating in the EIS/R why an alternative is not "reasonable" or feasible. Arbitrary acceptability or preference of alternatives by working groups, charrettes, etc. is not a NEPA standard of "reasonableness". Such meetings may inform the development of alternatives, but they are not sufficient to act as surrogates for the NEPA process of alternatives screening.

2.3. Specific project-level alternatives components

I-PB-17

The Phase 2 DEIS/R included little variation and little detail on substantial tidal marsh or salt pond restoration design differences among alternatives that may have significantly different environmental consequences. Features such as borrow ditch blocks, which were justified and designed in the 2007 PDEIS/R, were scarcely mentioned and not represented in project-level (more detailed) Phase 2 pond cluster designs, without explanation. Tidal marsh restoration has generated ample applied science to support a wide range of design features that may have significant beneficial consequences for Phase 2 restoration projects, and which may serve as important feasible mitigation measures for restoration impacts of habitat conversion or disturbance. The following potentially feasible and applicable restoration features should be evaluated to promote project objectives and offset risks of either underperformance of key objectives (like resilient endangered species habitat), or risks of adverse impacts.

- **sediment slurry marsh nourishment** to maintain or expand areas of high salt marsh (MHHW to Mean Spring High Water) that could not accrete above MHHW by deposition of suspended tidal sediment during the project restoration time-frame (50 years) during a period of significantly accelerated sea level rise and sediment budget deficits;

I-PB-18

- **high salt marsh mounds** within restored tidal marsh to provide the limiting high tide refuge habitat. High salt marsh vegetation canopies were identified as the primary constraint for habitat quality and sustainability for SMHM and rails in the biological resources section of the DEIS/R, and in the USFWS recovery plan for tidal marsh ecosystems. Given the threat of marsh submergence and marsh zone "downshifting" due to accelerated sea level rise and sediment declines, this is among the most important alternative salt marsh fill designs: well-distributed high marsh within the marsh plain channel network.

I-PB-19

- **coarse estuarine beaches** as alternative to rip-rap (attach memo to Bourgeois re: spontaneous gravel beach formation along eroded Coyote Hills fringing salt marsh, outboard of salt ponds; see cite 2007 comments, attachment B);

I-PB-20
- **interior salt ponds within salt marsh matrix** (not managed with water control structures; flooded on spring tides, like derelict salt ponds); interior fringing salt marsh (reduce maintenance, added habitat), interior emergent marsh (roost; mix with unvegetated)

I-PB-21
- **elongate back-marsh ponds** (*Ruppia*, SAV habitat) as waterfowl and fish habitats in themselves and dispersal barriers to marsh for terrestrial predators;

I-PB-22
- **coarse woody debris placement** (e.g. Sears Pt); both salt marsh restoration and pond restoration (log/driftwood, various sizes, elevations above pond or marsh level; arbor support for scandent pickleweed, low-cost high tide refuge)

I-PB-23
- **brackish marsh gradients internal to restored tidal salt marsh ecotones**, incorporating treated wastewater otherwise discharged to channels or bay;

I-PB-24
- **brackish or freshwater peripheral wetlands incorporating treated wastewater** otherwise discharged to channels or bay;

In addition, to mitigate impacts of habitat conversions amid increasing uncertainty about SLR and instability of restored tidal marsh and managed pond ecosystem structure or functions, the following additional features should be considered either as mitigation measures, or components of design alternatives:

I-PB-25
- **Floating elongate wood platforms or log rafts** (similar to boat docks) placed in either managed ponds, restored tidal marshes, or both, to function as **resilient high tide roosts for shorebirds**. Floating wood platforms intended to function primarily as shorebird high tide roosts would be analogous with California Ridgeway rail artificial nesting platforms, but anchored or tethered in elongated chains within managed ponds or interior tidal marsh ponds. The Phase 2 EIS considers platforms only for viewing by visitors (recreational rather than wildlife features). As experimental features, floating shorebird roost platforms may provide additional insurance that suitably water-isolated high tide roost habitat would be available to short-legged shorebirds in case accelerated sea level rise or storm impacts make management of shallow ponds infeasible in the long-term or short-term (e.g., unplanned levee breaches, increased levee overtopping, or other water management failure). Their mobility may enable increased management flexibility within pond complexes in response to changing predator, competitor (gull) and shorebird foraging habitat distributions in the South Bay. The alternative design premise is based on observation of high tide shorebird roosts on derelict floating boat docks in parts of marinas that are not in use, or storm-wrack boat dock fragments beached in salt marshes. Modification of elongate, linear spit-like floating wood platform surfaces treated with high-albedo substrate veneers (shell hash, crushed gypsum) may be tested for potential nesting habitat (western snowy plover).

I-PB-26
- active management of *Ruppia maritima* (SAV, native seagrass: submersed wigeongrass) in circulating (muted tidal) managed polyhaline-euhaline ponds to manage HAB risks and enhance waterbird foraging habitat

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I-PB-27

The DEIS/R's references to "**salmonid habitat improvements**" in alternatives appear not to have been physically described or even classified. What physical actions or structures are proposed as "improvements" for juvenile salmonids? Embedded channel bank LWD or small woody debris? Since this is not a programmatic DEIS, it must describe and analyze the salmonid habitat improvements substantially at project level.

I-PB-28

Levee breach and ditch block location alternatives locations in the DEIS/R were not explained except in reference to historical locations in long-obsolete pre-dike hydrological conditions. While reactivation of remnant tidal channel patterns is highly desirable, it is not the only consideration for adapting ancient tidal marsh drainage patterns to the modern setting of levees, prograded fringing salt marshes, and realigned tidal drainage patterns broken up by borrow ditches are often larger than the original tidal creeks. Tidal breach tidal flows are predominantly captured by the largest & most efficient channel connected to the breach. Thus, breach locations and ditch blocks need to be integrated in alternative designs, along with efficient tidal flows to major external tidal sloughs. The DEIS/R recommendation to place levee lowering fill to raise ditch beds without reference to ditch blocks to confine flows into relict tidal channels has potentially significant adverse impacts to the project outcomes (marsh habitat quality and function).

I-PB-29

Relate to Shoreline Study? The Phase 2 DEIS/R appears to provide little or no integration of the South Bay Shoreline Study alternatives or proposed project in the formulation of Phase 2 alterntives or their environmental consequences, particularly for the cumulative impact of simultaneous sediment competition among pond clusters. The DEIS/R must integrate and explain differences in scope of alternatives and designs between the mutually overlapping and influencing projects. Perimeter levee design and alignment alternatives are omitted in this EIS. All assume existing levee alignments. There is no alternative discussion of set-back levees (managed retreat; restoration of marsh behind perimeter levees allowed to erode rather than defend in 19th/early 20th century positions, with new flood control flood control levees at the landward edge of the pond system, next to protected infrastructure). The Phase 2 DEIS/r provides no substantial discussion of defensibility or feasibility of long-term maintenance of its levee alignments with accelerated SLR. This is also not covered in the 2007 programmatic EIS. This omission sets up a passive commitment of resources for an inefficient and potentially unsustainable or environmentally harmful need for extensive large-scale levee armoring and upgrade in place.

3.0 Pond cluster alternatives and impacts

I-PB-30

3.1 Ravenswood

Range of alternatives: single full alternative dressed down to no project, rather than multiple alternative designs; all alternatives share all basic features and configurations of levees, ditches, with minor modifications or omissions.

Alternatives and designs are not compared for outcome (structure & composition) or ecological functions at different successional stages at higher sea level: e.g., 5, 10, 20, 30, 50 yr.

I-PB-31

Breaches design alternatives: number, location and design of breaches fail to integrate:

I-PB-31 cont.
- Dominant role of borrow ditches as primary interior channels: capture of tidal flows (energy) and co-design of ditch blocks to confine flows to mouths of truncated tidal creeks in internal salt pond bed (relict tidal marsh drainage pattern) instead of semi-academic "historic sloughs" prior to borrow ditches and levees and infilling of undiked sloughs

I-PB-32
- Historic breach locations: not sufficient basis for breach location in modern conditions. consider fringing tidal marsh width, efficiency of flows to nearest channel or low (soft mud, low strength) intertidal flats; high resistance (shear strength) of fringing pickleweed marsh (about 10X strength of cordgrass marsh, and even more than mudflat sediments); cost; cut/fill; and interior borrow ditch capture of tidal flow

I-PB-33
- Significant progradation of fringing tidal marsh opposite diked ancient slough mouths or truncation points; resistance to tidal flows; alternatives should realign breaches to erosional perimeter levee bordering mudflat or tidal channel; re-purpose short segments of borrow ditch as tidal inlet channel; incorporate fringing marsh as marsh rather than excavate. Design of breach must minimize marsh impacts.

I-PB-34
- Designs should set marsh structure (habitat quality, hydrology) objective of *high tidal channel density* and size range; "pond filling" only objective (p. 13 App. O)

I-PB-35
- Design will be deficient in adaptation to sea level rise without internal marsh mounds (crests at mean higher spring high tide levels, not MHHW), flanking interior channel banks. High marsh habitat is limiting for SMHM and rails, and is not able to form with accelerated SLR even with maximum accretion rates. Should be essential design for SLR adaptation during construction (lags behind marsh plain).

I-PB-36
- No explanation in text for Cargill 10 ft ownership and pipeline" – why not relocate or acquire if obsolete (futile alignment) and not connected to extant or potential future concentration ponds? No explanation why flood control levee and t-zone are not at back of marsh to maximize marsh flood protection (wave attenuation) and access for maintenance. Why AAC levee alignment? Arbitrary legacy of salt pond system is not adequate design basis for tidal marsh. Explain cost of retention v. realignment.

I-PB-37
- On-site borrow of fill for t-zone caveat: sulfidic soils formed in diked salt marsh (salt ponds) may generate significant phytotoxic acid sulfate soil after oxidation. This applies also to other pond clusters.

I-PB-38
Managed ponds: R5 and S5 are not significantly different "alternatives" as managed pond or mudflats since both have same construction, just different operation and management,

I-PB-39
Managed ponds: 50% emergence time as vegetation threshold is not supported in relation to tidal range, salinity. Low salt marsh (cordgrass) does not establish significantly in tidal range of less than 20-30 cm, or in ponds with summer peak salinity > 40 ppt. Episodic summer submergence (managed) can control all vascular vegetation at seedling/juvenile stage.

I-PB-40
Habitat islands: suitable for pond only; not stated. No natural "islands" even with vegetation in interior sheltered tidal marsh; not sustainable in absence of wave energy open water. Weed mgmt. req. impermeable substrate (armor to restrict rooting; imbricate large shell or concrete with coarse gravel or shell veneer) Need design for configuration.

I-PB-41
Western Snowy Plover flats: Why at this pond cluster? Why this amount of area at this location rather than other pond clusters? No regional program-level explanation considering Eden

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I-PB-41 cont. Landing, A22-23, Mowry, Newark or lands approved for Refuge Expansion (relatively higher feasibility for WSP habitat management like RWC). Assess subsidence due to decomposition of OM; instability with SLR and subsidence, levee maintenance Cost of maintenance of perimeter levee v. landward realignment.

I-PB-42 **Stormwater detention**: At least 1 alternative or variant should evaluate routing stormwater through t-zone or stormwater treatment wetlands to reduce contaminant loads.

I-PB-43 **Stormwater and nutrient loading, Harmful algal blooms:** algal blooms are stimulated by low turbidity and high temp and nutrients (cumulative); assess stormwater loads N, P, and need for stormwater treatment (pre-treat) wetlands prior to pond detention.

I-PB-44 **Algal bloom management.-** alternatives to passive reliance on turbidity to limit; align pond configuration with dominant winds or discharge slurry of finest silt and clay? Turbidity management!

I-PB-45 **Levee lowering**: Why MHW rather than MHHW or > MHHW but below HTL (MSWL)? No benefit explained. Confusion: MHHW not same as MSHW (see spring tidal prism estimate p. 23)

I-PB-46 **Revegetation t-zone**: specify sod-forming (rhizomatous) per native vegetation for vegetative stabilization due to soil shear strength, resistance to shear stress. Vegetative propagules are needed. .

I-PB-47 **Pond bottom fill** (p. 26 App O): 0.5 ft net fill for pond would eliminate relict tidal creek patterns so essential to tidal marsh patterning. Irretrievable loss of restoration potential is not worth the benefits proposed. Unjustified sacrifice of creek network legacy; misapplication of "beneficial reuse" of dredged sed to fill in prehistoric tidal creeks and smooth pond beds.

I-PB-48 **Recreation trails** (App 0 p. 26): justify alternative alignments. Why default to existing levees, historical legacy rather than modern and future defensibility, management, modern impacts? Like FC, assess, Landward alternative – realign to landward edge, new public access, and abandon perimeter levee improvement and maintenance of access.

I-PB-49 View points and boardwalks: justification? Why boardwalk into tidal channels versus elevated hillslope view at Bayfront Park. Explain VIEWS - type, wildlife, weigh importance for public view. Compare alternatives

I-PB-50 Need to deal with *Spartina foliosa* reintroduction because restoration design relies on *Spartina* low marsh pioneer mudflat succession, but native populations at time of project inception are likely to be too low (post-ISP) to provide sufficient seed rain in Ravenswood vicinity, unlike Island Ponds.

3.2 Alviso Island Ponds

I-PB-51 Levee lowering target elevation of MHW is inconsistent with other pond cluster designs (MHHW) and lacks justification: target for lowering should be no lower than MHHW and mostly irregular topography near MHSWL. (mean of higher spring tides). High tide refuge habitat limits endangered species recovery, lags in natural evolution of tidal marsh geomorphology.

I-PB-52 **Should include internal marsh mounds (mhswl), flanking interior channel banks.** Cite BIO section: limiting habitat for SMHM and rail; not able to form with accelerated SLR even with max accretion. Should be essential design for SLR adaptation during construction and not later adaptive mgmt. given current SLR and sed supply assumptions, and geomorphic processes of channel levee formation (lags behind marsh plain).

I-PB-53 **Pilot channel construction**: Why ground-based equipment working on mats with imported gravel? Why not propose use of floating dredge or amphibious dredge? Why "alternatively"? Can't access with land-based equipment on island pond. Why use land-based equipment on pond bottom? Makes little sense; no explanation. At Alviso, portable barge proposed for island construction; same applicability here.

I-PB-54 **3.3 ALVISO-MOUNTAIN VIEW POND CLUSTER**

30:1 slope transition zone fill construction: at 30:1 slope, or anything flatter than 20:1, should consider HYDRAULIC SLURRY PLACEMENT (METHOD ALTERNATIVE).

I-PB-55 SEDIMENT SUITABILITY CRITERIA NEEDED for fill. Not all upland fill suitable for whole profile.

I-PB-56 "*Dredged material may also be placed in Ponds A1 and A2W to raise the bottom elevations and accelerate marsh formation at these ponds.*" Impact: loss of prehistoric tidal drainage pattern template, constraint for complexity of restored habitat. IMPERMISSIBLY DEFERRED IMPACT ASSESSMENT OF DREDGED MATERIAL PLACEMENT: PROJECT-LEVEL IMPACT CAN'T BE TIERED TO FUTURE PROJECT NEPA.. IF "may" BE PLACED, MUST ANALYZE AT SAME LEVEL AS THIS PROJECT. At least identify representative types of material sources; assess.

I-PB-57 "NO ACTION" ALT - time-baseline for "no action" fails NEPA in long-term: no analysis of existing conditions or no action projected in future with SLR, climate change, sed supply change. This is short-term only. (SYSTEMIC PROBLEM IN EIS IMPACT ANALYSIS)

I-PB-58 **Levee breach location alternatives:** breach tidal flows predominantly captured by LARGEST & most efficient channel: BORROW DITCH. Need to block MOUTH of ditch flanking breach to guide tidal flows into antecedent (ancient) tidal marsh channel network. EXPLAIN BREACH LOCATIONS beyond "historic" (largely obsolete in relation to modern shoreline and marsh progradation or erosion). "historical" insufficient planning basis for breach location; integrate historical tidal channel network to modern setting (bay tidal flats, fringing middle to high marsh, interior borrow ditches, wave energy)

I-PB-59 **Levee lowering:** Why MHHW here and MHW at Island Ponds? Both should be MHSWL (higher spring tide elev)

I-PB-60 **Levee t-zone**: why landward max position here (most defensible & sustainable; environmentally preferable) but mid-pond border (interior) at Ravenswood?

I-PB-61 **Levee 'improvements'** : Why no alternative bay levee configurations with set-back? Why retain early 20th century locations for erosional wave-exposed settings in 21st c. Makes no sense to

I-PB-61 cont. maintain inappropriate levee locations without analysis. Needs most rigorous analysis, and first step in alternatives!

I-PB-62 **Levee 5 yr maintenance:** Conventional Cargill levee permit, business as usual with no non-traditional levee alternatives! alternative levee designs for decreased maintenance disturbance and increased ecological function!! LONG TERM v short term cycle! External levee t-zone design or estuarine beach with LWD (groin) needed

I-PB-63 **Levee t-zone seepage control:** They SHOULD seep and be DESIGNED TO SEEP. Only the levee itself (compacted trapezoid)is impermeable; t-zone slope is not. Should be maintained by sediment slurry and trickle freshwater discharge.

I-PB-64 **Boardwalk construction:** detail all out of proportion with importance and impacts! Not commensurate with level of detail for important basics of restoration (primary project purpose)

I-PB-65 Why no INTERNAL high marsh (mounds) related to tidal channel creek network to provide high marsh and high tide refuge habitat that will not form itself (mature marsh feature lagging behind SLR)?

I-PB-66 **ALVISO –A8**

No action: NEPA requires analysis of foreseeable future conditions, not just snapshot of present; relate to SLR at least.

I-PB-67 **A8-B: t-zone for SMHM**: If this is to be muted tidal (choked tidal sediment flux) how will it mature to high salt marsh in foreseeable future without more fill than t-zone? where will SMHM come from? how will channels form? is bed soft enough to scour, or is it hardened from former crystallizer bed use? is t-zone justifiable here (cost, fill) rather than high marsh mounds (minimal fill) distributed around channel network?

Respectfully submitted,

Peter R. Baye, Ph.D.

ATTACHMENT A

STATEMENT OF QUALIFICATIONS – Peter R. Baye

Ph.D, Plant Sciences– University of Western Ontario, London, Canada, 1991.

Thomas J. Watson Fellow, Providence Rhode Island, 1981 – (transatlantic field studies of barrier beach, dune, and backbarrier tidal marshes)

B.A., Colby College, Waterville, Maine – distinction in majors of Biology, Philosophy

Expertise in botany, coastal ecology: I have been professionally or academically engaged in field studies and research, applied ecology and environmental management (restoration, management, regulation, litigation, planning) of coastal habitats since 1979, in New England, Canadian Maritime Provinces, Great Lakes, Britain, and California. This has been my principal professional career focus. My experience with California coastal wetlands and terrestrial habitats extends to 1984.

In San Francisco Bay, I worked for the U.S. Army Corps of Engineers, San Francisco District, Regulatory Branch, from 1991-1997, specializing in NEPA compliance (including EIS management), impact analysis, endangered species consultation, technical review of wetland mitigation plans and large-scale tidal wetland restoration projects, such as Montezuma Wetlands and Sonoma Baylands. I was the environmental analyst for the Leslie (Cargill) Salt permit applications in both the South Bay and Napa plants from 1991-1994. I have investigated nearly all salt pond, levee, and adjacent marsh environments of both salt pond systems, and developed detailed original analyses of levee operation impacts to wetlands.

I worked as a staff biologist for the U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Endangered Species Program (Mare Island sub-office) from 1991-2002. I completed a comprehensive administrative draft ecosystem recovery plan for endangered species of central and northern California tidal marshes, including detailed technical appendices and GIS-based maps for restoration of San Francisco Bay salt ponds and other diked baylands. Working with the Department of Water Resources, I developed original conceptual design specifications for modified managed estuarine ponds and associated "habitat levees" (a.k.a. "horizontal levees") to improve sustainability and habitat values, and reduce maintenance cost and impacts. I participated as a contributing author of the San Francisco Bay Area Wetlands Ecosystem Goals Project and its 2012-2015 climate change update (BEHGU). I also provided interagency technical support for estuarine wetland restoration and management planning for many projects regulated by or coordinated with the Service.

As an independent ecological and botanical consultant to public resource agencies and non-profit conservation organizations since 2002, I have contributed substantially to numerous tidal wetland habitat restoration projects (including adjacent terrestrial habitats) and rare species reintroduction planning and implementation (design, permitting, and on-site management) along the Petaluma River, San Pablo Bay, San Francisco Bay, and the western Delta. I was a regular participant of the Estuary Project's Design Review Group, providing peer-review services to wetland restoration project teams. I was one of the principal biological consultants for the Coastal Conservancy's regional Invasive Spartina Project (the first bay-wide control program for estuarine invasive exotic species) from 2002-2005, and

was a lead author it its joint EIS/R with the U.S. Fish and Wildlife Service. I also often provide *pro bono* services to many non-profit coastal or wetland conservation organizations in central and northern California, including field trips, lectures, biological conservation review and recommendations, and regulatory or legal technical support (CEQA/NEPA, ESA, CWA).

ATTACHMENT B

Baye (for CCCR) comments on 2007 South Bay Salt Pond Restoration Project

Programmatic and Phase 1/South San Francisco Bay Shoreline Study EIS/EIR

(text with highlighting added)

Yvonne LeTellier, U.S. Army Corps of Engineers May 3, 2007
1455 Market Street
San Francisco, CA 94103

Clyde Morris, U.S. Fish and Wildlife Service
Don Edwards San Francisco Bay National Wildlife Refuge
9500 Thornton Avenue
Newark, CA 94560

John Krause, California Department of Fish and Game
P.O. Box 47
Yountville, CA 94599

SUBJECT: South Bay Salt Pond Restoration Project DRAFT Environmental Impact Statement/Report - comments

Ms. LeTellier, Mr. Morris, Mr. Krause:

Please consider the following comments on the draft Environmental Impact Statement/Report (EIS/R) for the South Bay Salt Pond Restoration Project (SBSPRP), which you also propose to serve as the programmatic EIS/R for the South San Francisco Bay Shoreline Study. My qualifications to comment are cited as an attachment. These comments are submitted on behalf of the Citizen's Committee to

Complete the Refuge, Palo Alto, and with the Citizen's Committee's approval, but they are based entirely on my independent professional judgment and expertise. I am responsible for any misunderstanding or inaccuracy of these comments.

I wholeheartedly support the objectives of the SBSPRP, particularly its objectives for ecological restoration of the South Bay's estuarine wetlands and native species diversity. There is clearly overwhelming public interest in implementing these objectives. I recognize the challenges facing a project of this unprecedented scale, complexity, and cost, given many profound scientific uncertainties and sometimes conflicting public, private and scientific recommendations. I do provide many critical comments on the EIS/R's NEPA and CEQA compliance, and technical analysis of impacts, mitigation, and project design alternatives, but I do so with the goal of improving the long-term success and administration (40 C.F.R 1500.1(b))of the 50-plus year restoration program.

1. NEPA and CEQA Regulatory Issues

1.1 Tiering, range of alternatives, and geographic scope of analysis.

For purposes of NEPA, the comparison of alternatives is the heart of the EIS (40 C.F.R. 1502.14). For the alternatives analysis to be meaningful, its geographic scope must be commensurate with the scope of the project or program, and its purpose. The EIS/R states repeatedly that it is both a Programmatic EIS/R covering the 50 year long-range SBSPRP and South San Francisco Bay Shoreline Study (SSFBSS; same joint lead agencies), as well as a project-level EIS/R implementation of Phase 1 of the SBSPRP. See draft EIS cover sheet; pp., 1-1, 1-4, 2-3, 2-4, 3.1-6, ES-15. The project boundaries for the SBSPRP and SSFBSS are delineated in Figures ES-1 and 1-2. The SSFBSS boundary is plainly larger and includes all of the SBSPRP. A programmatic range of restoration/flood control alternatives for the SSFBSS pursuant to NEPA (CEQ 1981, Q&A 1-2; 40 C.F.R. 1502.14) must therefore consider all reasonable program-level configurations of restoration/flood control.

In contrast, the SBSPRP EIS/R constructs only project alternatives within the SBSPRP project boundary. It neither discusses, evaluates, nor provides rationale to eliminate from detailed analysis (40 C.F.R. 1502.14) programmatic restoration/flood control alternatives beyond the current project boundary, within at the geographic scope of the SSFBSS. Thus, despite claims to serve as a program-level NEPA document for the SSFBSS, this draft EIS's alternatives analysis in fact is at most merely a project-level EIS for the Eden Landing, Alviso, and Ravenswood salt pond clusters. The public participation of the elaborate SBSP Alternative Development Process (p. 2-6), which was apparently initiated before the decision to tier the SSFBSS from the current EIS (see Notices of Preparation for both projects), has no bearing on the proper NEPA scope of the range of alternatives demanded by the EIS tiering structure determined by lead federal agencies.

The failure to look at "off-site" alternatives for the SBSPRP within the scope of the SSFBSS is a serious flaw for several reasons. First, even apart from the tiering relationship with the SSFBSS, nearly all the salt ponds in the East Bay are now owned fee-title by either the State of California (Department of Fish and Game) or the U.S. Department of Interior (U.S. Fish and Wildlife Service), contrary to the misleading figures and text of p. 1-23 ("Alameda County-owned salt ponds that lie north of the Alviso Ponds...") and repeated graphically in Figure 1-5. Almost all of the salt ponds in the South Bay are in fact within the

jurisdiction of the lead NEPA/CEQA agencies. The Refuge-owned ponds in the (erroneously titled) "Alameda County Cargill Ponds" are entirely omitted from any programmatic alternatives analysis. These areas are actually "grayed out" in most of the EIS/R figures, making them irrelevant to impacts and alternatives evaluation. The true Refuge boundaries enclosing almost all the "grayed out" Newark and Mowry (N, M numbered ponds) are not shown in the EIS/R. The overall effect of these systematic omissions and errors is to arbitrarily confine the review of both programmatic 50-year and near-term project-level alternatives to the confines of the salt pond clusters made available by the 2002-3 transfer. The Newark and Mowry Refuge ponds are not currently within federal control, owing to retained mineral production rights of the local solar salt industry after the Refuge's fee-title acquisition of the ponds in 1979. This is not explained in Section 1.4.3., p. 1-12, which describes only the post-2000 public land acquisition and transfer of industrial salt production rights. These Refuge ponds may, however, become ripe for restoration planning within the long 50-year planning horizon, and so are "foreseeable" under NEPA.

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The inclusion of the Newark, Mowry ponds in a programmatic alternatives analysis is essential to a reasonable range of alternatives. These salt ponds are significantly less subsided (closer in elevation relative to the intertidal marsh zone) than the deeply subsided Alviso ponds. Therefore they have the inherent potential to develop tidal salt marsh habitat faster, and with less demand for limited sediment inputs (smaller sediment sink) per unit area, than the Alviso Ponds. They are also closer (contiguous with) the largest tracts of natural tidal marsh supporting endangered California clapper rails in the South Bay. They have a greater inherent feasibility to regenerate stable tidal marsh in the face of significant uncertainty over near-term and long-term accelerated rates of sea-level rise. They are also not significantly influenced by massive year-round urban wastewater discharges, as are most or many Alviso ponds.

The EIS/R should apply the restoration prioritization/sequencing principle of Phase 1 (p. 2-80: "...begin with areas that are most feasible and/or have the highest certainty of achieving the Project Objectives") at a programmatic level (less detail of project design) for all salt ponds within the SSFBSS boundary, and certainly all those within the Refuge. For project-level comparison of alternatives, ponds that are not currently available for restoration can be eliminated from detailed analysis. The lead NEPA agency's duty remains, however, to identify reasonable alternatives that may be circumstantially outside the capacity of the applicant or agency "because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)." (CEQ 1981, #2a-b).

Given the primary purposes of NEPA (40 C.F.R. 1500.1, 1500.2(b-e)[emphasis], 1501.1(a-d), 1502.1, it is plainly unreasonable, from a scientific or policy perspective, to omit or exclude Newark, Mowry, Redwood City salt ponds (including crystallizers) from discussion of alternatives in a programmatic EIS/R governing long-term wetland restoration and flood control planning. Because no reason was explicitly given in the EIS/R for their omission (particularly salt ponds that are already publicly owned, and by the lead NEPA/CEQA agencies themselves), this omission appears to be arbitrary or prejudicial (see 40 C.F.R 1506(c)(3)). Because the SBSP Alternatives Development Report (Philip Williams and Associates and

others 2004) also confined its evaluation to the proposed salt pond clusters, this technical support document does not remedy the omission. It does, however, provide much of the framework necessary for this task. For treatment of the disparities in available data on salt ponds within and outside the project area (potential imbalance of information available for comparison of alternatives), see 40 C.F.R. 1502.22 and CEQ 1981 #5b.

This is also an important substantive NEPA issue because many of the long-term project uncertainties that are addressed in the EIS/R(sometimes inadequately) by tenuous or vague mitigation measures, or adaptive management "actions", could potentially be better addressed by design alternatives that properly exploited the inherent physiographic and ecological potential of these omitted diked baylands.

I can find no support in the EIS/R for even its weak claim that "only limited programmatic coverage of the Shoreline Study is provided in this EIS/R" (p. 3.1-6). The checklist-based table 3.2-1 summarizes "potential actions" under the SSFBSS study and SBSPRP, and contains cross-referenced explanation of impacts, mitigation, or alternatives in the body of the EIS/R. The brief text from pp. 3.2-1 to 3.2-5 contains only a bullet-list of potential effects (no mitigation or alternatives discussion, the minimum required for even a rudimentary Environmental Assessment of a project with no significant impacts) would be inadequate for even a Categorical Exclusion. Review of the whole EIS/R brings no remedy for this deficiency.

The SSFBSS "early implementation" fund credit for "early construction of flood damage reduction elements that are part of an ultimately authorized project", but excluding funding for restoration (p. 2-154), should be carefully reviewed in the context of defective programmatic NEPA coverage in the EIS/R, prior to completion of NEPA procedures for the SSFBSS; see prohibitions of 40 C.F.R. 1506 (Limitations on actions during NEPA process) and 40 CFR 1502.2(f-g). Practically irreversible commitment of resources, such as construction of major federal flood control facilities and permanent trail or road facilities, should not precede rigorous, explicit comparison of alternative flood control/restoration design alternatives and geographic locations in an EIS/R. It is important to review at a broad, programmatic level all reasonable alternative configurations of integrated flood control and restoration projects, to minimize potential conflicts and maximize potential benefits (42 USC §4321, 4331). Suboptimal integration of flood control and restoration may result from premature focus on site-specific projects without adequate regional, interdisciplinary review of alternative sites.

In conclusion, the EIS/R does not in fact provide tiered programmatic NEPA coverage for the Shoreline Study. A reasonable range of (long-term, programmatic or project-level) alternatives must include "off-site" salt pond configurations that minimally include publicly owned salt ponds. The current circumstance that these areas are not available for immediate restoration is no barrier or disqualification for treatment in a NEPA alternatives analysis; see CEQ guidance (CEQ 1981, #2a-b). It would be reasonable to include other salt ponds and diked baylands in private ownership if these are "reasonable" in terms of long-term project objectives and in light of NEPA's goals (40 C.F.R 1501.2(c-d), 1502.1) regarding alternatives analyses. Point in fact, Congress (1990) recognized the value of most of these omitted lands for wildlife habitat and the recovery of listed species when it approved the Refuge expansion boundary.

The NEPA compliance problems identified above for the range of reasonable alternatives considered at programmatic and project levels may be rectified by recirculating the Draft EIS/R with both types of alternatives analyses. A final EIS/R alternatives analysis that remains confined to the boundaries of the of the proposed project would not serve as a program-level alternatives analysis for projects under the SSFBSS, and would remain arbitrarily narrow and inadequate even for the SBSPRP if it excluded other Refuge salt ponds with higher inherent restoration feasibility and only circumstantial unavailability.

1.2. Mitigation and Adaptive Management

The EIS/R frequently invokes "Adaptive Management" to argue that potentially significant impacts would be less than significant because adaptive management would generally solve otherwise burdensome impact problems with very high uncertainty (low predictability, limited understanding of impacts, ecological responses, independent uncontrolled factors, etc.). This argument formula in effect treats adaptive management as either a panacea or a supplemental source of efficacy for mitigation. The limitation of this type of argument in a NEPA/CEQA impact and mitigation context is that adaptive management is essentially a procedural and administrative "action", and must rely on a foundation of specific, substantive evidence for the feasibility of mitigation in the first place. Mitigation measures generally require some physical corrective or compensatory actions: mere study, monitoring, consultation, etc. alone cannot possibly address environmental impacts. Reliance on adaptive management to reduce impacts to less than significant levels thus demands at least some objective demonstration of the efficacy and enforceability of adaptive management as practiced by lead or responsible agencies, rather than reiteration of idealized principles of adaptive management. This requirement, however, is often not met in the EIR/S's mitigation and adaptive management measures.

Representative examples of the formulaic use of adaptive management in the EIS/R are found in Section 3.6, with similar applications (nearly identical text in conclusions) for western snowy plover, breeding and non-breeding pond-associated waterbirds, diving ducks, California least terns, and salt pond specialist waterbirds. All these biological sources are initially identified as "potentially significant" impacts without adaptive management, but are re-interpreted as "less than significant" impacts (for most alternatives) with adaptive management. The corresponding sections on resource-specific adaptive management, however, generally provide only short and general lists of potential substantive restoration actions, without discussion (or reference to studies) of site-specific constraints, feasibility, reliability of results from past or similar actions. The argument formula, which has the structure of a tautology (an argument which incorporates its conclusions in its premises; a circular argument) is as follows (abstracted from p. 3.6-79, 80, 86, 89, 96):

• If numbers of [birds] were to decline substantially as a result of [alternative action], and no adaptive management to reverse these declines were implemented, impacts to these species could be potentially significant.

• However, as described above, an Adaptive Management Plan would be used to monitor changes in abundance to determine actual responses of [birds] in San Francisco Bay to SBSP restoration Project activities with the *goal* of ensuring that declines do not exceed the thresholds of significance. [emphasis added]

• [therefore impacts are] Less than significant.

This is an unsound argument scientifically and logically for the following reasons:

• Most monitoring, whether in the context of "adaptive management" or not, cannot and does not "determine" causal relationships or conclusively test hypotheses (hypothesis testing is a foundation of adaptive management). Most monitoring may be analyzed to examine the strength of relationships among variables, but generally cannot determine causes (as in controlled experiments). This is indicated by the very sound discussions of indeterminacy about the multiple and interacting causes of bird population fluctuations within and beyond San Francisco Bay. The EIS/R in fact generally supports the contrary position, that determination of causes of bird declines in any given year (or 3 year period) are subject to high uncertainty. The criterion of determining "actual responses" (real causes), probably cannot be met by data collection alone. This requirement for "actual responses" as opposed to mere objective 3-year monitoring results exhibiting population declines, makes the threshold at least impractical, and at worst meaningless.

• The requirement that causes of declines be "determined" is unreasonable given the prevalence of scientific evidence cited in the EIS/R that causes of bird species populations and movements have not been well understood despite decades of research. The EIS/R on the contrary repeatedly states, "There is considerable uncertainty regarding the effects of the SBSP Restoration Project on [bird] numbers in the South Bay (p. 3.6-74, 84).

• The assumption that "adaptive management restoration" measures such as predator control, construction of habitat, modified pond management, etc. would be effective in reversing declines is not only unsupported in the EIS/R, it is often counter-indicated; for example, "given the steady decline in ...numbers over the past few decades, such levels of predator management may not be adequate to protect this species in the South Bay (p. 3.6-73). The EIS/R also asserts that bird numbers would respond to conditions outside the project area, conflating off-site with on-site influences (p. 3.6-74)

• "with the *goal* of ensuring that declines do not exceed the thresholds" (alternative: "...and to adapt ongoing management and future restoration accordingly...") invokes an intention or aspiration (goal) instead of an objective result (no population decline more than three consecutive years). Goals do not objectively affect results of corrective actions; if they did, it would indicate study bias.

The argument formula, and its premises, does not support the reversal of the preliminary conclusion that potential significant impacts may occur. This is no trivial or academic matter in a NEPA/CEQA context. In CEQA, enforceable permit-conditioned mitigation measures are required if an impact is "potentially significant", but not if it is "less than significant". Similarly, all appropriate mitigation measures are conditioned through the Record of Decision in NEPA. By treating impacts as less than significant (when the preponderance of evidence and argument indicates the converse) and treating discretionary adaptive management in the distant future as the functional (but not regulatory) equivalent of permit-conditioned mitigation, the EIS/R evades mitigation obligations that are warranted under both CEQA and NEPA.

Scrutiny of the adaptive management actions and procedures that refer to the specific (bird) biological resources confirms that the actual content is limited to monitoring, future planning or study, and optional actions that "may include" corrective (mitigation) actions that are merely listed, and not rigorously assessed for feasibility or efficacy. The Adaptive Management Summary Table (Table 2.3) confirms this conclusion: the majority of reiterated "actions" in the column, "potential management actions" are purely procedural or administrative, and are not explicitly linked (except in idealized general adaptive management flow charts) to substantive actions:

- Convene study sessions to review and interpret findings to assess...if changes are due to restoration actions ["...or system-wide changes..."]
- Study biological effects
- Study causes
- Study relationships
- Applied study/studies
- Analyze all available monitoring
- Evaluate changes in population or density
- Review all available data
- Review...
- Conduct bay-wide survey
- Reconsider movement up staircase [!]
- Hold charrette [!]

The most substantial "potential management actions" in table 2.3 are programmatic in the extreme – vague or even vacuous (they contain no actual substantive or specific action; noted by [!] below), weak, or general, with no reference to other portions of the document for discussion of design, constraints, cost, ecological or engineering feasibility, generality, sustainability/stability, efficacy/past applications or tests, supporting studies.

- Adjust phasing and design to increase...
- Adjust design [!]
- Implement management or adjust design [!]
- Reduce pond residence times/decrease pond residence times
- Active management such as...

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- Active revegetation
- Create seasonal closure
- Introduce artificial shading
- Alter pond configuration
- Increase level of vector control

Proposed adaptive management actions such as "adjust design", "introduce artificial shading" and especially "alter pond configuration" demand an explanation of whether they are feasible in terms of cost and commitment of resources. It seems doubtful, absent any explanation, that managed ponds could be treated with "artificial shading", and the prospect of altering pond configuration after initial construction seems at least impractical in terms of cost, impacts, and engineering. The paper exercise of adaptive management planning does not eliminate the risk of irretrievable or irreversible commitment of resources. Without explanation of feasibility the few substantive management actions identified appear to be either nominal or unreasonable.

The EIS/R does not address the time-sensitivity of biological resource management in relation to adaptive management. The EIS/R candidly states that "some of the applied studies may take decades to generate useful information" (p. 2-5). This fact demands an explanation of how adaptive management will work in real time if resources decline in a matter of a few years (such as the 3-year consecutive decline threshold for significance of special-status birds) when strong scientific inference lags behind (or fails to emerge altogether) real-time declines in habitat or populations.

Primary reliance on monitoring or study aspects of adaptive management can become an incentive for perpetual monitoring *in lieu* of management decision and action where uncertainty (or political risks) exists. Monitoring may become a substitute for management, or rationalization for indecision or procrastination when corrective measures are warranted. (This is not conjecture, as indicated by the nearly 20 year lag between identification of *Spartina alterniflora* as an invasive wetland weed threat, and agency action; nearly unchecked spread of *Lepidium latifolium* for over 30 years, deferral of corrective actions at Sonoma Baylands when data indicated that critical schedule/thresholds were not met; prolonged extreme acidification or desiccation of some Napa salt ponds after public acquisition.)

One of the few examples of prompt progress from study, to inference, to action, is the Refuge's initiation of red fox population control after clapper rail predation in the South Bay was confirmed in 1989. It is perhaps significant that even this admirable example of effective "adaptive management" (prior to the term) proceeded despite absolute conclusive "determination" of abrupt clapper rail population decline at the time, and the persistence of some scientific skepticism of the initial conclusions of red fox predation studies. There are few examples of this sort of agency track-record for prompt management intervention during ecological crises, and the EIS/R reviews none in the context of adaptive management.

The application of adaptive management in the EIS/R, unfortunately, is often as a programmatic panacea, inadequate and sometimes meaningless for the many "less than significant" determinations the EIS/R asserts it supports. It also appears to be indistinguishable from deferred mitigation (a normally impermissible treatment of unspecified or vaguely prescribed post-approval mitigation, sometimes with a specified performance standard). When the feasibility or efficacy of mitigation is uncertain, NEPA/CEQA lead agencies cannot reasonably determine that significant effects will not occur.

This defect is not inherent in adaptive management itself. The deficiency in the EIS/R's use of adaptive management in impact assessment (primarily significance threshold determinations and adequacy of mitigation) can and must be corrected by more rigorous, explicit evaluation (possibly in an appendix cited in the body of the EIS/R) of the feasibility and efficacy of management/mitigation measures, the range of their applicability (and constraints), time-sensitivity of biological resources for management, and the capacity and responsibility for implementing them (by lead agencies or their proxies).

NEPA regulations at 40 CFR 1502.22 specifically apply to the aspects of adaptive management in the EIS/R concerning uncertainty or unavailable information about "reasonably foreseeable" significant adverse impacts. It requires that the EIS state that relevant information essential to reasoned choice among alternatives, if available, shall be obtained and included in the EIS if the costs are "not exorbitant". If unavailable, the EIS must state so, state the relevance of the missing information (for alternatives comparison or impact assessment), and summarize existing credible scientific evidence – in short, best scientific and professional judgment, particularly for highly significant adverse or "catastrophic" impacts, such as population crashes or habitat collapse.

1.3. Mitigation – NEPA versus CEQA construction: The EIS/R improperly subordinates broader mitigation standards and thresholds for NEPA under the narrower standards and thresholds of CEQA. CEQA requires mitigation for all "significant" impacts (Public Resource Code 21081), but not for impacts deemed "less than significant". NEPA requires discussion of appropriate and feasible mitigation measures – even those outside the jurisdiction or ability of the lead federal agency -- for the full range of adverse impacts, even if they are not "significant" (40 C.F.R. 1502.14(f), 1502.16(h), 1508.14; CEQ 1981 #19). The EIS/R systematically omits appropriate mitigation under NEPA for all impacts determined to be "less than significant", even when the discussion of impacts indicates a high degree of uncertainty about intensity predicting significant impacts. This is unreasonable and inconsistent with NEPA. The EIS/R as a joint document should identify appropriate mitigation for all reasonably foreseeable adverse impacts. It may distinguish NEPA and CEQA requirements for mitigation if necessary, where distinctions may affect state permit conditions.

1.4. Environmental "baseline" in NEPA and CEQA: The EIS/R defers entirely to a fixed CEQA interpretation of environmental baseline for purposes of "significant" impact threshold determination, identical to "existing conditions" (for example, p. 3.6-61; no reference here to corresponding NEPA guidance). NEPA not only does not require that "existing conditions" be the baseline condition for "significance" determinations, it encourages a more dynamic or flexible baseline when it is reasonable to do so for purposes of comparing alternatives or assessing cumulative impacts (CEQ 1981 (#3) and especially CEQ 1997: "the affected environment for a cumulative effects analysis may require...a broader time frame..", including trends data or variation over time). The EIS/R notes many problems of a fixed

baseline date for biological (population) impact assessment, particularly for interpretation of impacts to bird populations using a fixed year (2006) as an arbitrary "snapshot". Where it is reasonable to apply the more flexible CEQ NEPA baseline options for impact assessment (including long-term variability or trends, "no action" alternative options), the EIR/S should do so for NEPA discussion, and offer a required CEQA conclusion distinct from that of NEPA when it is necessary. It would be reasonable to do this when technical experts preparing impact assessments conclude that artificial, arbitrary, or misleading conclusions would result from biological interpretations based on frozen 2006 conditions as a baseline.

The EIS/R already commits an arbitrary exception to the inflexible CEQA norm for fixed-year environmental baseline, in the case of invasive *Spartina alterniflora*. Here, the suspension of the fixed-year baseline is used to justify a speculative and assumption-laden conclusion that the distribution and population size of this widespread invasive non-native species will be reduced so much by 2008 (the expected date of initial tidal marsh restoration) that it will not be a threat (p. 3.6-133). This optimistic and artificial assumption is inconsistent with all other interpretations of baselines for impacts. It is also unreasonable in view of the rapid rise to dominance of invasive *Spartina* in the Eden Landing (Baumberg) CDFG salt ponds recently restored to tidal flows. A more reasonable, probabilistic, and realistic approach to impact assessment of invasive non-native *Spartina* would be to evaluate the effects of a *reasonable range* of expected population sizes and distributions during the course of initial tidal restoration. The "less than significant" impact conclusion here is also an artificial one: unlike other conclusions, this one is stated conditionally, so that the conditional assumption forces the conclusion (p. 3.6-135): "However, *if* invasive Spartina is controlled by the Invasive Spartina Project, *as the Project has assumed* [emphasis added] this impact should not be substantial...Level of Significance: Less than Significant" (and thus no mitigation, such as requiring breaching to be linked to a low threshold frequency of invasive Spartina seedlings in receptive habitats). The EIS/R impermissibly dismisses a potential significant impact on the consequences of restoration – uncoordinated or poorly timed salt pond restoration, out of synchrony with regional eradication, could cause an unmanageable population surge of this invasive plant. It also improperly dismisses mitigation. These defects must be corrected by revised analysis and conclusions.

2. Specific Physical and Biological Resource Issues - Impacts, Mitigation, and Alternatives

2.1. Restoration Design Alternatives

The EIS/R discusses tidal marsh restoration design alternatives primarily in terms of configuration and ratios of pond units programmed for either management as non-tidal salt ponds or fully tidal marsh. The Phase 1 Restoration Actions for Eden Landing, as a representative example, are limited to brief descriptions of standard "restoration actions" (p. 2-91) such as

"breaching and lowering the outboard and inboard levees; improving and extending the levee...[between ponds]...excavating pilot channels through the fringe marsh...constructing ditch blocks in the borrow ditches; maintaining existing and constructing new pond/panne habitats; and reconfiguring culvert connections". There is, in effect, only one tidal marsh restoration plan design, with few contingencies for site-specific alternatives or variations, such as gypsum-armored ponds (see below). No substantial variations in construction methods, modifications to fit distinctive landscape

positions, substrate types, or wave energy environments are considered as modal restoration alternatives. This standardization is not justified. Significant geographic variation in tidal marsh structure exists, and often corresponds with variation in biological diversity that relates to SBSPRP objectives. Many feasible and advantageous wetland features, and construction materials and methods, should be considered in alternatives for specific pond clusters. Examples are given below.

• Modification of "wave-break berm" distribution and pattern. Berms are proposed in the restoration design (p. 2-31) primarily to restrict wave energy, on the (still unproven) engineering assumption that wave energy is generally the principal limiting factor for marsh vegetation establishment on open mudflats within tidally restored diked baylands. The restoration design is not set to test this hypothesis by comparing it with the influences of other physical factors positively influencing seedling or vegetative fragment establishment on mudflats, such as surface roughness elements (seed trap and anchorage effects, microtopographic shelter, shrink-swell cracks, coarse woody debris, peat fragments lodged in mud, and other natural roughness factors) or variation in slope (wave energy dissipation) and substrate type (cohesive dense clay or peat, sand, shell, versus fluid bay mud). The cost of constructing berms, and the efficacy of using berms to indirectly affect marsh establishment, should be tested not by committing more resources to them in Phase 1, but by examining the effects of berms and other marsh-initiating factors in many existing tidal restoration sites at various stages of development.

If berms are constructed, they should be located in positions that conform to natural topographic high positions in relation to tidal marsh drainage patterns and wildlife movements. High tide cover (flood refuge) is widely recognized to be an important limiting factor for habitat suitability of salt marsh wildlife, including endangered California clapper rails and salt marsh harvest mice. Clapper rails generally establish territories centered on tidal channels, which are used as travel corridors and foraging habitat. Proximity of tidal channels to high marsh naturally occurs in mature tidal marshes, where local sedimentation gradients (overbank flows) cause minor natural levees to accrete over long periods of time. These creek levees are typically dominated by gumplant, a tall semi-evergreen subshrub that grows about 0.5 - 1.0 m tall, often in high density. Its vegetation provides important, localized, proximate nesting and flood refuge habitat along creeks/rail territories. Rather than locate berms at arbitrary positions, or positions expedient for construction, berms should be located along creek banks, and designed to emulate the structure and function of natural levees. This is important for realizing actual habitat benefits of restoration: immature, early-succession salt marshes may be deficient in critical sub-habitats, like flood refuge cover in high marsh, that enables successful occupation by clapper rails.

Other low-cost marsh-nucleating features may also be included in salt pond restoration where initiation of marsh on mudflat is determined to be lagging: placement of peat fragments, seasonal deposits of large woody debris, locally excavated and side-cast mud mounds can create microtopographic shelter facilitating marsh plant seedling establishment.

• Terrestrial-edge slopes. The high marsh and terrestrial ecotone (upland transition zone) usually supports the highest species diversity in tidal marshes. Gentle slopes (flatter than 7:1) broaden vegetation zones, and dissipate wave energy at the shoreline that may otherwise be erosive (on conventional steep levee slopes that reflect wave energy). Variation in slope and topography along the

upper shoreline of restored marshes would substantially contribute to the eventual habitat and species diversity, compared with uniform, rectilinear levees. Variation in substrate types used to cap the levee slope would be likely to further increase habitat and species diversity, compared with uniform composition of drained bay mud (an artificial soil). Sand, silt, gravel (preferably fluvial in origin), terrestrial soils, and shell hash are desirable capping materials for high marsh shorelines where they may be available and cost-effective. All are ecologically preferable to shoreline armor (riprap).

Alternative, cost-effective techniques for constructing gently sloping terrestrial ecotones should be evaluated as a means of adjusting backshore marsh profiles to rising sea level (estuarine transgression). The majority of the South Bay's historic tidal marsh shoreline was formed against alluvial fans and stream deltas of plains and valleys. Analogous structures may be generated by hydraulic placement of slurried, heterogeneous terrestrial or fluvial sediments, such as flood control channel debris (that would otherwise have been deposited in the bay's tidal marshes, but for diking). Hydraulic placement of slurried coarse sediment is in fact the principal technique for marsh construction by the Corps of Engineers in most of the United States. The stratified deposits of slurried, poorly-sorted fluvial sediments may provide ecologically important environmental heterogeneity in restored marshes. Dredge-deposited alluvial fans were inadvertently created at Sonoma Baylands, where they persist and formed exceptionally well-developed high marsh within just a matter of years.

Most clonal perennial native plants of the high marsh zone are moderately tolerant of burial by sediment during dormancy, so hydraulic placement of slurried sediment (up to about 15-20 cm per "lift") may be performed without sacrificing prior-established vegetation and habitat. Hydraulically sediment-nourished "habitat levees" may be segregated from flood control levees which require trapezoidal form and engineered cores: flood control levees may be optimally located along urban edges, while low, wide habitat levees could be located seaward of them. Segregating them by location and construction method would enable each to be upgraded as needed without sacrificing the integrity of the other's primary functions. Segregating them would also enable open water buffer areas (emulating natural "long pond" pans of historic tidal marshes) to be included between flood control/trail levees and habitat levees, improving wildlife protection while enhancing views.

• Estuarine beaches, marsh berms, and coarse sediment nourishment. Estuarine beaches (wave-constructed sand or fossil shell hash deposits) and related marsh berms (likely barriers forming historic salt ponds; Atwater et al. 1979; similar structures deposited above marsh scarps, stabilized by vegetation) are widespread and important marsh structures along bayshores that are not directly occupied by eroding dikes. Existing estuarine beaches shorelines (greatly reduced in extent compared with historic conditions), such as Roberts Landing, support large numbers of mudflat-foraging shorebirds at high tide. Endangered species such as California sea-blite are narrowly associated with estuarine beach/marsh ecotones. Estuarine beach restoration should be considered as an alternative or supplemental means of constructing persistent, low-maintenance, well-distributed high tide shorebird roosts to replace lost areas of shallow/emergent salt pond beds restored to tidal marsh. Beaches may also be constructed (by hydraulic placement of sand slurry) internal to salt ponds, at the downwind/downdrift (usually SE) corners where they sometimes spontaneously form.

The description of scarce shell hash deposits in the EIS/R (p. 3.6-22) is deficient. Shell beaches and berms are significant features of the Ravenswood shorelines (north to Foster City), and shell-sand beaches are widespread along the otherwise erosional Hayward-Eden Landing shoreline. The utility of estuarine beaches as buffers of wave erosion along exposed shorelines (such as bayfront dikes) should be evaluated, particularly as a "soft" engineering alternative to armoring (rip-rap) where managed salt ponds are retained. Beaches can be "constructed" by hydraulic placement (dredge discharge) of sand or shell slurry across intertidal profiles (beach profile nourishment), then allowing wave action to deposit them along the shoreline.

• Coarse woody debris – The EIS/R omits reference to the natural role of coarse woody debris (historically generated by fluvial flooding, transport of riparian woodland trees) in tidal marshes. Well-distributed coarse woody debris provides both anchored and floating high tide flood refuge for small mammals and resident tidal marsh birds.

• Salt Pond interior design: mixed marsh. Salt ponds that are not chronically hypersaline can be designed to include salt marsh vegetation along gently sloping shorelines, sinuous bands along the margins of remnant tidal creeks, or vegetated marsh islands. There is no reason to assume pond designs that exclude significant vegetation, even when barren nesting and roosting islands are desirable. Gently sloping vegetated shorelines and sand-buffered interior pond shorelines would likely minimize erosion and provide wind-sheltered microenvironments used by waterbirds during storms.

2.2 Vegetation

• Distribution of *Spartina foliosa* (p. 3.6-7). The distribution of remnant clonal stands of, uninvaded, native cordgrass in the south bay was omitted from the EIS/R. This species is the principal native pioneer plant species establishing new marsh on mudflats. As such, it will be a highly important resource, especially in the wake of regional eradication of its hybrids with *S. alterniflora*. Restoration of tidal marsh probably cannot proceed without ample seed source populations of this species, so its protection and augmentation (especially near breaches) after hybrid eradication is complete should be considered for restoration feasibility. There would otherwise be a long time lag between population recovery (post Spartina Control Project) and initiation of SBSPRP actions.

• Salt marsh description. The description of salt marsh (p. 3.6-8) omits reference to plant species diversity, both modern and historic, particularly in association with mature salt marshes (such as upper Newark Slough) and terrestrial ecotones. This is not an academic matter, because this should be an important restoration design consideration. Similarly, this account fails to describe high marsh pans (including wrack pans, widespread in the vicinity of Eden Landing ponds), which could potentially support rare plants such as northern salt marsh bird's-beak.

• Brackish marsh description (p. 3.6-10). This account disregards the important influence of groundwater emergence along the terrestrial edge of salt marshes, a natural condition that appears to be increasing in the vicinity of Newark and Coyote Hills, and possibly at other locations. Brackish marsh is segregated from salt marsh by dikes that isolate terrestrial groundwater influence, and confine brackish marsh to channelized freshwater discharge gradients. The so-called "upland" transition zone of salt marshes along alluvial fans and valleys is often brackish to freshwater marsh, as at China Camp,

some Petaluma Marsh sites, many Point Reyes tidal salt marshes, and many extirpated historic salt marshes of the south bay. This is significant because integration of salt marsh restoration with flood control does offer the possibility of re-integrating semi-permeable "habitat levees." Stratified coarse and fine sediment could be deposited by slurry with urban wastewater backshore ponds, so that permanent seep-influenced shorelines could regenerate salt-brackish marsh zonation and its rich diversity. Also, the rich potential native species diversity of brackish marshes is omitted (p. 3.6-10)

• Freshwater marsh account (p. 3.6-11). Again, the natural position of freshwater marshes and riparian woodland along "upland" salt marsh ecotone gradients driven by groundwater emergence or streams is omitted. This is significant because the federally threatened California red-legged frog, and western pond turtles, have potential habitat along this gradient. California red-legged frogs occur widely in backshore marsh ponds and small stream-mouth lagoons (fresh to brackish) in Tomales Bay and Drakes Bay, for example, and freshwater marsh has spontaneously regenerated around Coyote Hills lowlands (formerly seasonal wetland grassland).

• Submerged Aquatic Vegetation (SAV) beds. This important and widespread estuarine vegetation type is scarcely identified or evaluated in the context of restoration. *Ruppia maritima* is barely mentioned (3.6-19) despite importance for waterfowl (as a direct food source and nursery for invertebrate prey), and the extensive potential new habitat generated in low-turbidity, low-salinity salt ponds. Despite the EIS/R's concern for wind-wave effects on erosion, the frictional effect and potential use of SAV bends on wind-wave damping is entirely ignored. Ample technology exists for propagation and management of *Ruppia* (mostly from other regions). SAV has potential uses in pond management for nutrient sequestration, trapping fine sediment, and enhancing waterfowl foraging habitat.

• Upland vegetation account (3.6-12). This description omits natural terrestrial ecotones and uplands within the SSFBSS boundary, especially Newark Slough and Coyote Hills, and focuses almost exclusively on weedy diked bayland habitats with incoherent species assemblages. This impoverishes the EIS/R's focus on potential naturalistic terrestrial ecotone linkages to restored tidal marsh, and focuses almost exclusively on weeds and wildlife. The omission of the geographically rare opportunities to reunite true terrestrial soils and vegetation with restored tidal marsh is a significant bias for programmatic comparison of alterative salt pond restoration locations within the SSFBSP boundary. The discussion also disregards the potential importance of native clonal perennial species (such as *Leymus triticoides, Euthamia occidentalis, Carex praegracilis, Ambrosia psilostachya*) as effective competitors with invasive wetland weeds - a potential application for pre-emptive control of high marsh/terrestrial weeds like *Lepidium latifolium* that may be significant impacts for restoration.

2.3. Wetland weed invasions

The EIS/R fails to address realistic management methods (pre-construction and post-construction) for controlling wetland weed invasions, particularly invasive species of the high marsh ecotone that rapidly invade freshly graded or capped levees. All the color aerial photos of the Alviso ponds exhibit the typical light-colored outlines of *Lepidium latifolium* on all dredge locks and levees maintained in the last 20 years, as well as their adjacent marshes. Realistic control of this species on levees would require pre-construction suppression of seed sources, and rapid pre-emptive cover of levees by competitive (clonal

perennial) native species. This applies also to Mediterranean tarweed, *Dittrichia graveolens*, which is currently expanding rapidly throughout the South and North Bay. The conversion of formerly hypersaline managed ponds to saline ponds also opens up large areas of old internal berms and new (proposed) earth berms to weed invasions. This is a significant cumulative impact of past invasions and new construction and maintenance of levees. It requires substantial, specific, explicit weed management design (including timely revegetation designs emphasizing rapid establishment of clonal perennial cover), not vague adaptive management language as mitigation. The weed management should also target growing bay invasions of Russian wheatgrass (*Elytrigia pontica*, sometimes spread by "temporary mulches" or stabilization seed mixes), *Piptatherum mileaceum* (smilo grass, now invasive in Alviso and Hayward), and Australian bentgrass (*Agrostis avenacea*, rapidly spreading south in the North Bay; a foreseeable South Bay invader of levees)

Spartina alterniflora hybrid invasion. See comments at 1.4. The EIS/R should include a programmatic mitigation measure to ensure that the timing of tidal breaching does not precede the reduction of local hybrid *Spartina* seedling recruitment to insignificantly low frequencies. In other words, the timing of breaches must be contingent on effective eradication that actually prevents the primary marsh succession in restored salt ponds from being infested by hybrid cordgrass, and allows native cordgrass to dominate. This is not a vague or deferred adaptive management action for future study and re-assessment (table 2-3, p. 2-16: 'continue to re-evaluate what is meant by "control"'... is not a reasonable mitigation measure). It is an objective and meaningful, enforceable criterion.

2.4. Special-status plant species.

The EIS/R contains inaccurate information about special-status plant species that prejudices the range of reasonable alternatives to omit design features that could support their reintroduction to historic (extirpated) portions of their ranges within the project area. The EIS/R incorrectly states that suitable habitat does not occur in the SBSP restoration area for some special-status plant species that do in fact have highly suitable but unoccupied habitat present today. Other species are identified only from habitats other than tidal marshes and their margins, when historical populations are known and published in the scientific literature and accessible on-line floristic databases. These omissions and inaccuracies are particularly important for the purported programmatic EIS/R element. Historic collection localities of all these species are available online at the Calflora database and the U.C. Berkeley SMASCH database. All rare plant species of the South Bay and their historic and modern distributions were summarized in the Goals Project Species and Communities profiles (Baye and others 2000). These sources appear not to have been reviewed in preparation of the EIS/R. Inexplicably, the EIS/R (Table 3.63) instead compiled rare plant information for species that do not and have not been known to occur in the South Bay, and should not be expected to do so (*Lilaeopsis masonii, Astragalus pycnostachus, Lathyrus jepsonii*, etc.).

Examples of species that could be reintroduced to historic (extirpated) portions of their ranges within the project area include:

> **California sea-blite** (*Suaeda californica*). Federally listed as endangered. Falsely reported by the EIR/S as "no suitable habitat in SBSP Restoration Project Area" (p. 3.6-35). Oyster shell

hash/sand beaches do occur in the Eden Landing pond complex and Ravenswood pond complex. These could readily be enhanced by sand/shell sediment nourishment that would have joint restoration benefits for (a) buffering wave attack of levee scarps, slowing scarp retreat; (b) providing high tide roosts for shorebirds; (c) potential roost sites for post-fledge juvenile least terns, and (d) restoration of specific habitat for California sea-blite within its historic range.

Contra Costa goldfields (*Lasthenia conjugens*). Federally listed as endangered. Historically reported from edges of salt ponds at the Bay shore near Mt. Eden and Newark. Like *L. glabrata*, this species should be expected to occur and be suited for reintroduction in tidal salt marsh-grassland ecotones and high marsh pan-salt marsh edges.

Northern salt marsh bird's-beak (*Cordylanthus maritimus* var. *palustris*). This species was historically widespread in the South Bay as far south as Alviso. Falsely reported by the EIR/S as "no suitable habitat in SBSP Restoration Project Area" (p. 3.6-35). This subpecies should be expected to occur and be suited for reintroduction in high salt marsh with low or sparse cover, such as vegetation gaps high marsh pan-salt marsh edges.

Missing from the EIS/R treatment of rare plants from South Bay tidal marshes are:

Suisun aster (*Symphiotrichum lentum*, syn. *Aster lentus*). Nomenclature and synonyms with S. chilensis are often confused. Suitable habitat exists in most brackish or fresh-brackish high marsh edges; wastewater discharges near Alviso have expanded suitable (unoccupied) habitat of this robust clonal perennial species, which is likely dispersal-limited (seed, seedling stages).

Bolander's water-hemlock (*Cicuta maculata* var. *bolanderi*). Possibly extinct, but reported from Suisun Marsh; habitat is brackish high marsh. Reported by Thomas (1961) "to be expected locally" in salt marshes in the Flora of the Santa Cruz Mountains of California (including South Bay). Suitable habitat exists in most brackish or fresh-brackish high marsh edges; wastewater discharges near Alviso have expanded suitable (unoccupied) habitat of this exceedingly rare but robust subspecies.

Salt marsh owl's-clover (*Castilleja ambigua*, ssp. undetermined). The salt marsh ecotypes of this species within the San Francisco Estuary have been extirpated in the South Bay, and are known to occur only at Point Pinole and Southhamptom Marsh. It was widespread and abundant historically in South Bay salt and brackish tidal marshes as far south as Alviso. This ecotype should be expected to occur and be suited for reintroduction in tidal salt marsh-grassland ecotones and high marsh pan-salt marsh edges.

Other salt marsh plant species that have declined to regional rarity in the Estuary, and would significantly benefit from reintroduction to restored tidal marsh edge habitats, include marsh baccharis (*Baccharis douglasii*), western goldenrod (*Euthamia occidentalis*), western ragweed (*Ambrosia psilostachya*), sea-milkwort (*Glaux maritima*), spikeweed (*Centromadia pungens* var. *maritima*), meadow sedge (*Carex praegracilis*), and local populations of creeping wildrye (*Leymus triticoides*). The clonal perennial species native to high tidal marsh zones have important restoration uses for pre-emptive competitive exclusion of invasive species such as perennial pepperweed; they also have high

esthetic (ornamental flowering displays, heterogeneity, visual alternative to monotonous stands of levee weeds) and ecological value (stabilization of shorelines, maintenance of pollinator populations, high tide cover, nesting habitat, seed sources for foraging songbirds and small mammals, food base for insect prey items of many wildlife species). Spikeweed may be an important competitor useful for competing with invasive Mediterranean stinkwort (*Dittrichia graveolens*), a major and growing invasive threat to the South Bay levees and marsh edges; the two species are ecologically and morphologically similar. The EIS/R should rigorously consider not only the conservation benefits of reintroducing and managing these native species for their own benefit, but also in terms of their instrumental value for weed management, wildlife habitat, shoreline stabilization, esthetic/recreational value, and ecological benefits.

The EIS/R suggests planting Brewer's saltbush (*Atriplex lentiformis* var. *breweri*) on salt pond levees (p. 2-139). This species and its subspecies are not native to San Francisco Bay. They have been introduced as amenity for ornamental or wildlife habitat plantings because of their tolerance to saline soils. They are native to interior valleys, and occur naturally on saline coastal terrestrial soils only as far north as Watsonville, Monterey County. Native *Atriplex californica* has been extirpated from San Francisco Bay. It is inappropriate to introduce species native to other floristic regions of California to perform ecological functions that may be performed by species native to San Francisco Bay. Introduction or deliberate spread of non-native species to unoccupied restored tidal marsh and ecotonal vegetation would be a significant adverse impact.

2.5. Shorebirds and other waterbirds – See comments at 1.2, 1.4. The EIS/R should acknowledge more candidly the magnitude of uncertainty regarding long-term maintenance and sustainability of managed ponds in view of accelerated sea level rise, and borrow ditch depletion for dike maintenance. The EIS/R's optimistic reliance on the feasibility of proposed designs for artificial islands, levees, artificial structures, and their maintenance, is not justified and excessively speculative. The potential impacts to shorebirds and other pond-reliant waterbirds may be significant, and justifies robust, resilient, realistic mitigation. Feasible long-term compensatory mitigation for tidal conversion impacts may be found in portions of the South Bay salt pond system outside the SBSPRP boundary, particularly high-elevation crystallizer beds (continually re-surfaced by mud layer lifts during their history of use) and ponds along alluvial fans in the Newark and Mowry pond subsystems. Higher-elevation ponds are more amenable to modification for gravity drainage and water management of ponds and pans. Adjacency to uplands (natural positions for large pans) also increases feasibility for multiple sediment lifts by future hydraulic placement of sediment, to compensate for rising sea level. These practical compensatory mitigation measures for shorebird and waterbird impacts should be rigorously evaluated in a programmatic comparison of alternatives and mitigation options for long-term adaptive management.

2.6. Western snowy plover. Given the acknowledged uncertainty of impacts and mitigation for this important federally listed species (p. 3.6-74; see also baseline NEPA fallacy, p. 3.6-75, comment 1.4), and the unsound "less than significant" impact determination (comment 1.2), the EIS/R should modify its conclusions and acknowledge the potential for long-term significant impacts to this species due to project implementation, particularly due to cumulative impacts with sea level rise. Additional substantive (not procedural) mitigation is required. Mitigation alternatives should include (a) additional dedicated high-elevation (sustainable) replacement pan habitat in suitable, defensible landscape

positions, such as modified crystallizer beds; (b) nourishment of pocket beaches, spits, or fringing beaches (Pleistocene shell hash or fine sand, hydraulically placed from offshore dredge sources or port deepening projects; possibly also "screenings" of waste gravels from industrial bay sand processing sites) along suitably receptive shorelines (crenulate eroded marsh scarps, tidal re-entrants, minor headland-enclosed shorelines) as alternative habitat. Note that sand and shell beaches naturally re-construct themselves by waves and equilibrate with rising sea level as long as sediment supply is adequate (or nourished sufficiently).

2.7. Special-status invertebrates – The EIS/R omits reference to rare or endemic insect species identified as important target species in the Goals Project, including tiger beetle species (*Cicindelia* spp.), Western Tanarthrus beetle, and rare wasps (*Compsocryptus* sp.). These could be significantly impacted by restoration actions, or even extirpated. Mitigation should include surveys, restoration of alternative habitat/refuges, and active translocation experiments before habitats are significantly impacted.

2.**8. Trails, Public access design alternatives, and impacts**. The EIS/R should assess and guide (at least programmatically), not defer, the compatible use determination of the Refuge (p. 2-86) in relation to recreational uses that may be structurally embedded in proposed trail designs. The alternatives analysis should compare contrasting types of trail alignments in terms of potential wildlife disturbance impacts, assuming unequal and unknown future distribution and use of managed ponds and restored marsh/mudflats by waterbirds. The alternatives should consider trail designs that minimize loop trails that leave no levees within a pond free from human trail use (eliminating refuges from disturbance). Alternatives should include explicit designs for nesting and roosting islands away from principal trails. Alternatives should also examine designs for segregation of flood control/improved (road top) levees used as main trails, and distinct habitat levees that function as backshore marsh gradients, separated by open water areas.

The EIS/R's working assumptions about recreational impacts on shorebirds and waterfowl should be re-examined with external peer review, consulting with bird behavior experts on this subject from other coastal U.S. regions, as well as authors of bird disturbance studies from elsewhere in the San Francisco Estuary. I am concerned that public and political pressure for recreational use in levees may exert subtle bias both assessment and scientific review of this sensitive subject.

2.3. Physical factors affecting long-term tidal marsh restoration and salt pond management.

Sea level rise, sediment sinks, and sediment deficits. The EIS/R's treatment of sea-level rise is fundamental to all aspects of project feasibility, comparison of alternatives, and impact assessment based on long-term forecasts of habitat development and persistence. Unfortunately, the approach of the EIS is to establish a fixed assumption of obsolete estimated sea level rise rate, rather than a *reasonable range* (or the rate of rate of change – the acceleration curve) of equally likely sea level rise rates. Managing coastal habitats in general – not just tidal marsh restoration – demands a "bet-hedging" or risk assessment approach in the face of growing (not diminishing) uncertainty about the magnitude of sea level rise rates (Cowell *et al*. 2006). Note that the most important aspects of sea level rise for tidal marsh succession and persistence is the *rate* of rise in relation to sediment budgets and sediment sinks (French *et al*. 1993, 1994), not just the amount of sea level rise forecast within a given time interval.

A "bet-hedging" approach to highly uncertain sea-level change is most essential to the *design* of alternatives that may reasonably cope with an uncertain 50 year future of sea level rise rates, and not just predictive methodology for impact assessment. Restoration designs for *reasonable* alternatives cannot be based on arbitrary assumptions or hopes that a "golden mean" of moderate estimated sea level rise rates will occur. Note that even the recent (2007) revised IPPC sea level rise estimates have, as a matter of procedure, "simplified" its assumptions by artificially excluding the overwhelming (and unpredictable) influence of ice sheet collapse or mass wasting (Otto-Bleissner *et al.* 2006, Overpeck *et al.* 2006) from its estimates.

The EIS/R tidal restoration alternatives must identify engineering designs and methods that could *actually* be applied feasibly in adaptive management of tidal marsh restoration. Few compensatory coastal engineering tools are available for this: hydraulic discharge of sediment fans or mounds is among the only well-tested (national Corps program) techniques, but it is not addressed at all in the EIS/R. Designing "overfilled" (e.g., Pond 3 Alameda, 1975 Corps experimental dredge disposal/wetland creation project) sloping marshes/terrestrial ecotones, to construct transgressive estuarine platforms that anticipate a higher range of sea level rise rates (resulting in island-like marsh gradients) is another approach that needs consideration for a "bet-hedging" approach to restoration alternatives.

The EIS/R also must distinguish between mere marsh persistence at accelerated sea-level rise, and restoration or maintenance of specific marsh types and structures that are narrowly associated with plant or wildlife species guilds or vegetation zones. Atlantic tidal marshes, for example, are known to persist but degenerate at different rates of relative sea level rise, with profound long-term effects on wildlife species (Cahoon *et al.* 2006). All San Francisco Bay wildlife species dependent on critical distribution and amounts of high marsh for nesting or flood refuge are at risk of local extirpation in "restored" tidal marshes if they lack foundations for maintaining well-distributed high marsh during accelerated sea level rise. The comparison of alternatives must focus on the resilience of restoration designs (not just the map of ponds and idealized tidal marsh types) in response to a reasonable range of sea level rise rates, based on the best available (not the most authoritative "official" short-lived forecast) scientific evidence and expertise on coastal management. This requirement applies equally to the long-term maintenance of managed ponds with fixed bed elevations, low potential for sediment accretion, and reliance on steep-sided, unstable levees. This is significant because a large number of significant impacts are dismissed as "less than significant" based on the assumption that managed ponds will be manageable and function as intended with adaptive management. Sea level rise may make a mockery of this assumption if explicit and effective resilient restoration designs are not established in the project from its outset.

Of all the important coastal submergence variables that the EIS/R must assess, it should focus most on the variables that are governed by contrasting project or program alternatives. The project can be framed as a comparison of different choices about where to locate massive new sediment sinks, and what size sediment sinks to create as sea level rises. The goal of alternatives, at least in Alternative C (or equivalent) is to maximize the "rate of return on investment" for each unit volume of sediment available. This of course is a function of initial salt pond bed elevation (or subsidence), and proximity to pools of bay mud in tidal flats and shoals. The comparison of alternatives at a bay-wide scale (SSFBSS

boundary) should rigorously examine (and quantitatively model) all reasonable salt pond restoration configurations under low, intermediate, and high forecast rates of sea level rise to compare their efficiencies at generating tidal marsh. In particular, the choice between initiating Phase 1 tidal marsh restoration in deeply subsided Alviso ponds, and restoring equivalent pond areas in the Newark, Mowry, and Ravenswood pond areas (least subsided), should be rigorously examined at the programmatic level before irretrievable commitment of sediment resources is made. This would enable a reasoned comparison of the alternative cost/benefits of delaying some restoration until the most feasible ponds become available for tidal restoration. I am concerned that the premature tidal restoration of deeply subsided Alviso pond sediment sinks (some over 2 m below local MHHW) could significantly compete with and jeopardize sediment transport to more timely marsh restoration sites. The EIS/R fails to deal with this large-scale question in the alternatives analysis.

Note that the EIS/R must correct the cumulative impact assessment of sea level rise and sediment budget deficit exemplified on p. 3.6-71. This exclusively incremental, segregated approach to important interactions among physical variables and project alternatives flouts and inverts CEQ guidance on cumulative impact assessment (CEQ 1997).

Levees – The EIS/R is unclear on the important issue of long-term maintenance, stability, and sustainability of retained levees for managed salt ponds. Most salt ponds have exhausted, or will exhaust, borrow ditch sediment sources for levee capping. The costs of maintaining levees during accelerated sea level rise after borrow ditch exhaustion is a formidable feasibility issue that is not adequately addressed in "adaptive management" or alternatives comparisons that dwell only on pond configuration.

Instead, the EIS/R includes relatively minor issues such as "mulch or temporary plantings" (p. 3.4-5) to address localized erosion, and inappropriate veiled references to mitigation based on "additional erosion control measures" that may include shoreline armoring (rip-rap; significant potential adverse impact for habitat; p. 2-73). Note also that mulch and temporary plantings are likely vectors for invasive weed species, a potential significant impact of this 'mitigation'. The EIS/R needs to rigorously re-assess alternative compatible levee design and maintenance in a 50 year horizon for managed salt ponds and flood control. This is particularly important for the EIS/R's claim to serve as a program-level EIS/R for the SSFBSS.

Nesting and roosting islands in managed ponds. The description of nesting island construction "expected to be used by snowy plovers, Forster's terns, American avocets, and black-necked stilts" omits vegetation control. These species are unlikely to use islands that are subject to progressive increases in vegetation cover over years. In the absence of phytotoxic levels of

hypersalinity to control vegetation, any earthen (bay mud) islands that are usually emergent would very likely become vegetated by halophytes, and thus unsuitable nesting habitat for shorebirds and terns. Guano deposition on nesting islands also facilitates colonization by halophytes that are also usually nitrophilic (Chenopodiaceae species).

Vegetation control on hundreds of nesting islands (54 per pond) is simply infeasible, particularly since nesting season overlaps almost completely with growing season. The EIS/R does not assess the

feasibility of its proposed vegetation control methods, which are not described in sufficient detail for meaningful comment. The nesting island designs must factor in substrate-based controls of plant growth to be effective and feasible. Placement of impermeable substrates, such as gypsum fragment caps, or shallow-buried concrete layers capped by shallow layers of coarse sand, oyster shell, oyster shell hash, or gravel. Impermeable substrates shed guano deposits during rainfall events, and prevent soil enrichment by ammonium, urea, or nitrate. Impermeable substrates also restrict root penetration to permanently moist soil and expose seedlings to lethal desiccation. Active artificial vegetation management of nesting islands by herbicide application is likely to conflict with nesting, because nesting season overlaps with seedling growth and establishment in spring; active vegetation control is therefore infeasible for long-term maintenance.

Gypsum and marsh restoration (Description of Alternatives). The EIR very broadly describes a very significant potential constraint of tidal marsh restoration due to relict precipitated gypsum mineral deposits that armor the salt pond surface (such as pond E8A at relatively high intertidal elevations, close to the expected final elevations of mature restored tidal marsh. "The hard layer of gypsum...may delay or impair marsh plant community development...." (p. 2-97). It is not clear whether this conclusion (which I believe is correct, and understated) is based on best professional judgment or technical documentary evidence; none is cited.

Corrective actions for impediments to salt marsh restoration caused by gypsum crusts of salt pond beds (mineral armoring of the salt pond surface) are described only in very general terms ("pre-treatment would disturb or fracture the gypsum layer in select locations, while the layer would be left intact in other locations" (pp. 2-97; equally general and superficial discussion on p. 2-31, 2-95).

The EIS/R fails to disclose the acreage or percent area of ponds that are armored by gypsum deposits. The reader must hunt and peck through the text to assess the geographic magnitude of gypsum armoring. The EIS fails to disclose the fact that gypsum deposits occur on approximately one quarter of the South Bay salt pond system (Siegel and Bachand 2001, citing Wildlands 1999), a very significant proportion of the system. The proportion of gypsum armored salt ponds currently programmed for restoration as potential marsh is not disclosed. The EIS/R's assessment of the magnitude and intensity of the gypsum problem for salt marsh restoration, and efficacy of corrective measures, is insufficient for meaningful assessment of site-specific constraints on marsh restoration potential. It is also insufficient for meaningful assessment of the feasibility of corrective actions.

The EIS/R does not identify the site-specific elevation range of gypsum armor in relation to either MHW or MHHW in any of the programmed salt pond restoration clusters. This is significant because even with the nominal and localized "treatment" proposed to mitigate gypsum impediments to restored salt marsh root zones ("construction equipment or other techniques (*sic*)

would be used to disturb the gypsum layer...only in certain locations and not other to test the effectiveness..." p. 2-95), gypsum would restrict marsh plant root penetration to narrow cracks. The higher the elevation of the gypsum armor in relation to MHHW, the more restricted salt marsh plant root zone development would be.

Gypsum may also adversely affect marsh plant colonization of accreted mudflats above mineral-armored salt pond beds. If the root zone restriction of seedlings caused by gypsum significantly impairs anchorage of seedlings in semi-fluid bay mud deposits above them, seedlings would be more vulnerable to dislodging by wind-shear currents or wind-waves acting on the mobile upper layers of mud supporting emerging seedlings. Marsh plant colonization of bay mud above gypsum layers may thus be significantly impaired (limited to localized patches or stunted vegetation development) or prevented over large areas.

Restriction of marsh plant rooting zone depth by gypsum is also likely to proportionally reduce above-surface height of vegetation, analogous with a hardpan soil horizon or bedrock outcrops in grassland or vernal pool vegetation. Marsh vegetation structure (height and density), especially in relation to flooding during high tides, has important consequences for wildlife habitat functions (such as cover from predators, flood refuge, nesting habitat) and ecological function (such as sediment trapping potential). Salt marsh vegetation cover stunted by gypsum "hardpan" should not be expected to function as salt marsh formed on continuous bay mud soil profiles. It is unreasonable to expect untreated gypsum-bedded salt ponds to develop suitable (i.e., consistent with project objectives) salt marsh if the gypsum armor occurs between MSL and MHW.

An impermeable subsurface layer of gypsum is also likely to affect subsurface drainage of marsh adjacent to scarps and creek banks, where groundwater surface elevations are typically depressed at a local scale. Localized impediment of marsh drainage along creek banks is likely to suppress or eliminate development of distinctly taller, denser vegetation at these topographic locations, where it supplies essential nesting, flood refuge, and predator escape habitat for resident marsh wildlife species (including endangered California clapper rails and salt marsh harvest mice) depend on. The EIR/S fails to consider this significant environmental consequence as a specific design factor or a priority mitigation issue.

The EIS/R refers to "delay [of] habitat development *until* the gypsum layer dissolves and degrades over time" (p. 2-95; emphasis not in original), but provides no scientific basis for its vague reference to the rate of solubility of solid thick gypsum crusts in a saline environment, especially when buried by mud. The known chemical weathering properties of gypsum can and should be investigated from the existing scientific literature (summarized by Siegel and Bachand 2001, p. 48; no salt pond technical appendix documents are cited in the EIS/R itself for gypsum issues), as a matter of due diligence. There is no need to defer this investigation to future "adaptive management" because this important information is available. The calibrated local rate of solution of gypsum in south bay tidal water (direct exposure, no mud cover; maximum potential solution rate) could have been readily determined through short-term experiments during the long (2004-2007) pre-EIS/R period of salt pond restoration planning when insoluble gypsum was *already known* to be a significant potential constraint on marsh restoration (Siegel and Bachand 2000, p. 47; C. Wilcox, pers. comm.).

There is no empirical evidence to support the assumption that thick gypsum crusts would in fact *ever* dissolve below estuarine muds on an accreting marsh plain, which is the landform over

which the vast majority of gypsum crusts will occur in tidally restored salt ponds. Gypsum forms geologic mineral beds. Salt pond gypsum is highly persistent and resistant to weathering even in subaerial environments exposed to slightly acidic high rainfall. Clearly, the persistence of gypsum fragments for decades on levees above high tide line, deposited by clamshell dredge during levee capping, provides strong incidental data on the rate of weathering.

The EIR/S fails to cite any technical appendix documents that substantively assess the nature of the gypsum problem for tidal marsh restoration, and restoration approaches in terms of restoration feasibility. There is no information presented on the amount (acreage or intensity) of gypsum fracturing that would be effective in enabling tidal marsh vegetation to develop on armored, high salt pond beds. There is no basis for predicting even whether merely fracturing gypsum and leaving it in place would even have any appreciable benefits for marsh establishment at all. Invoking the phrase "adaptive management", and refer to deferred future study of gypsum treatment and marsh vegetation response, does not make an unreasonable assumption like this reasonable, especially in the context of NEPA/CEQA.

The EIS/R fails to objectively evaluate necessary restoration options (mitigation measures or modal alternatives) that include partial removal of gypsum from armored salt pond surfaces to enable tidal marsh to develop acceptably (consistent with basic marsh restoration objectives). Instead, the EIS/R refers only to monitoring without regard to efficacy or feasibility of post-tidal corrective measures. Monitoring or study *per se* does not substantively mitigate gypsum constraints and impacts on tidal marsh restoration; monitoring or study procedures *per se* are merely guiding antecedents of potential actions.

The EIS/R must rigorously evaluate the extent and intensity of gypsum constraints on tidal marsh restoration. It is meaningless to propose to "test the effectiveness of restoration techniques...for gypsum pre-treatment" (p. 2-96) if the EIS/R provides no basis for the design or fails to assess its feasibility. This is essentially blind, deferred mitigation of unknown efficacy. The purpose of the EIS/R is to compare alternatives and evaluate substantial mitigation measures to avoid or lessen impacts and maximize environmental benefits. Failure to mitigate cumulative gypsum impacts may result in failure of the salt marsh restoration components of the project to adequately mitigate for significant restoration-related impacts of the project.

Some gypsum constraints on salt marsh restoration could be substantially avoided or minimized by landscape-level restoration design configurations that allocate gypsum ponds to tidal salt marsh/pan complexes. Between the extremes of fully tidal, fully vegetated tidal salt marsh, and wholly unvegetated managed salt pond, are alternative models of salt marshes with significant proportions of pans. The hardpan conditions provided by gypsum, especially gypsum armor at elevations above MHW, are likely to *facilitate* pan development. This could contribute towards resolving the EIS/R's concern that "These features (pans) have rarely formed naturally in restored marshes, and constructed marsh ponds have been difficult to maintain due to vegetation colonization ..." (p. 2-96). The EIS/R does not connect these related topics of gypsum armoring and pan formation. Gypsum-armored ponds may be programmed for restoration as intermediate persistent marsh/pan (shallow emergent pond) with emphasis on shorebird habitat within a pond complex. This allocation of different salt ponds for different salt marsh/pan

habitat mixes would justify commensurate emphasis on well-drained salt marsh restoration with high channel density and robust vegetation, in other portions of the salt pond complex unconstrained by gypsum. This should be evaluated at the level of modal (restoration method) and geographic (pond complex design) alternatives.

Similarly, the EIS/R fails to identify potential "co-generated" benefits of salvaged and recycled gypsum removed from salt pond beds restored to tidal marsh. The same vegetation-restricting properties of gypsum slabs may be used to mitigate one of the most intractable wildlife management problems in low-salinity salt ponds: overgrowth of weedy vegetation on managed pond islands used as roosting or nesting sites by shorebirds, terns, and waterfowl (see p. 2-96, p. 2-100 [nesting islands]). Gypsum is an extremely harsh substrate for plant growth, even when weathered into soil; gypsum soils frequently contain barrens (Kruckeberg 2002). Stacked layers of gypsum fragments may be used to cap and loosely armor bay mud islands in low-salinity to slightly hypersaline managed salt ponds, and thereby inhibit significant vegetation growth. Gypsum may substitute for the effects of lethal hypersalinity on plant growth, maintaining islands and roost sites in suitably barren condition for shorebird and tern use.

Finally, the EIS/R fails to assess the indirect and cumulative impacts of its managed pond/tidal restoration alternatives in terms of gypsum production on the remaining industrial salt ponds in active production. This includes all the East Bay salt ponds (other than bittern waste storage ponds) owned by the Refuge that are not currently in industrial production. The ISP EIS/R (2003) stated that brines from salt evaporation ponds phased out of production would be moved to active industrial salt ponds remaining in production. This would be expected to result in a net increase the proportion of Refuge ponds supporting brines with sufficient concentration to precipitate gypsum at accelerated rates (brine and lime ponds; Ver Planck 1958). The failure to evaluate this indirect impact was also a defect of the 2003 ISP EIS/R, which appears to have largely deferred the issue, by default, to the current EIS/R (see cursory discussion on p. 5-16, 5-16 of draft ISP EIS/R; perhaps foreshadowing perpetually deferred study and lack of meaningful mitigation of this issue). The cumulative impact of interim pond management and tidal restoration on the industrial ponds may be a significant long-term increase in the extent of salt ponds producing brines over 150 ppt (gypsum precipitation threshold) and rate of gypsum armoring of Refuge-owned salt pond beds. This would cause a significant adverse cumulative and indirect effect on the restoration feasibility of the Refuge-owned ponds that are not currently part of the restoration project. Note that the ISP EIR/S considered this impact of "long term pond drying" (or elevated brine concentration) forming gypsum to be "potentially significant and unavoidable". This significant cumulative impact must be addressed at either a project-specific or a programmatic level in the SBSPRP EIR/S. Thus, the EIS/R fails to address the significant cumulative impact of redistributed and concentrated gypsum precipitation in the South Bay salt pond system as a consequence of both interim management and restoration.

Creation of Marsh Pond/Pan Habitat (Description of Alternatives; Restoration Techniques). The evaluation of pan construction unfortunately addresses only two explicit physical variables, elevation range and salinity, in relation to depressional topography. Primary marsh plain pans (unvegetated poorly drained mudflats or shallow ponds enclosed by vegetated marsh) have in fact regenerated extensively within passively restored salt ponds like pond 2A Napa, which retained much of its original tidal marsh

topography and relative tidal elevation. The feasibility of restoring pans is therefore not conjectural. This CDFG pond should be studied to guide activities that are likely to facilitate their regeneration (such as exaggerating microtopographic barriers to drainage, vegetative stabilization of pan edges to resist connection to emerging drainage patterns). This would be more instructive and effective than merely conducting surveys of "vegetation cover, soil salinities, bird use, and erosion along the margins of the graded ponds" without prior empirical guidance for design (p. 2-96)

Depressional marsh plain pans discussed in the EIS/R are only one type of pan. The natural analog of playa-like pan habitats within dry concentrator salt ponds are playa-like barrens, or high marsh pans, that occur at upper intertidal elevations of natural salt marshes in Central California. These are infrequently submerged, and are typically irregularly and shallowly ponded when they are. Natural examples in the San Francisco Bay are rare: they typically occur along the margins of alluvial fans with fine sand or stratified alkali clays and sand (e.g. Hill Slough, Suisun Marsh; Whittell Marsh, Point Pinole). Large high marsh pans are also associated with intermittently active stream deltas, splay deposits, and alluvial fans (e.g., upper Schooner Bay, Point Reyes; Los Osos Creek, Morro Bay). Because the depositional processes that form some high marsh pans are partially emulated by dredge discharge pipes with heterogeneous sediment classes, the construction of successional playa-like high marsh pans on alluvial fans with interbedded clay, silt, and fine sandy sediments should be rigorously evaluated as a modal restoration alternative. High marsh pans of sufficient size have the potential to integrate into salt marsh restoration designs many of the habitat features associated with dry concentrator salt pond beds. This is important to the restoration of the South Bay salt ponds because this habitat type may suffer long-term losses and reduction in sustainability as sea level rises.

Conclusions

The draft EIS/R should be recirculated with revisions to correct fundamental defects in the range of alternatives caused by the inverted NEPA/CEQA tiering relationship of the SBSPRP and SSFBSS and their geographic scope of analysis. The alternatives analyses (programmatic and project) should be revised substantially to address comments above. It is essential that the entire South Bay salt pond system be considered in the NEPA alternatives analysis, not just the ponds within the proposed project boundary. Impact assessment and mitigation methods should be corrected to comply with CEQA and NEPA regulations and guidance, and where conflicts between CEQA and NEPA treatment exists, separate conclusions or findings should be distinguished. A fundamental framework of realistic, scientifically sound working assumptions, or scenarios, of sea-level rise rates and sediment budgets should be applied to all impact assessments and restoration designs.

Respectfully submitted,

[SIGNED] Peter R. Baye, Ph.D.

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Response Baye, Peter (I-PB)

I-PB-1

This comment is an introduction to the subsequent comments. Comment noted and appreciated.

I-PB-2

The central premise of this comment is that "external" ponds should have been considered for inclusion as part of the Phase 2 implementation. "External ponds" is here used as a shorthand term for ponds that are currently not within the SBSP Restoration Project's footprint, not within the Refuge, or that are within the Refuge boundaries but on which Cargill holds salt-production rights in perpetuity. The comment lists a variety of reasons why those external ponds should have been included in Phase 2. Some of those reasons are ecological, others are physical (e.g., some are less subsided than some Phase 2 ponds), and others are regulatory. The latter of these is based on Question 2b from the Council on Environmental Quality (CEQ) Memorandum to Agencies: Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations (Forty Questions): "Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)."

CEQ's Forty Questions provides guidance on developing a range of alternatives for analysis in a NEPA document. The range of alternatives (Question 1a) for a NEPA document includes all "reasonable alternatives". What is considered a "reasonable alternative" is broadly defined in Question 2a. Question 2a states that "Reasonable alternatives include those that are practical or reasonable from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."

The project proponents (the SBSP Restoration Project), including the USFWS, the California State Coastal Conservancy, the California Department of Fish and Wildlife, and the other participating agencies, do not agree that restoration planning for ponds or adjacent lands owned by external parties constitutes a reasonable alternative. Cargill has given no indication that it has any plans – either now or in the future – to sell or transfer ponds or mineral rights on ponds it currently owns or on ponds that are USFWS-owned but on which the company holds mineral rights. Because the SBSP Restoration Project is a phased project, those ponds can be included in a future phase if they are ever acquired by the USFWS, CDFW, or another agency and then made available to the SBSP Restoration Project.

Implementation of the SBSP Restoration Project, including Phase 2, is funded through grants with specific schedule requirements. Common sense would dictate that each phase should focus on restoration planning for available ponds. However, consideration of external ponds is not precluded in future phases of the restoration project.

Further, see also Master Comment Response #10 and the comment and response to comment O-CCCR2-10, which addressed the question of why Phase 2 includes some moderately subsided ponds while not including others that are already at or near marsh plain elevation. If sea-level rise is to occur in the coming years, as all signs indicate it will, then it is important to begin restoring ponds that are somewhat subsided and would need time to accrete sediment and reach marsh plain elevation. If those ponds are to keep pace with sea-level rise, their restoration should begin now. There will still be time to begin tidal marsh restoration of the less subsided pond in the future, particularly if the ongoing development of

regulatory agreements and physical infrastructure to deliver dredged material to the South Bay for beneficial reuse continues to progress. Finally, note that this statement addresses moderately subsided ponds and not the most subsided ones, which may already be too deep to form marsh without future augmentation of material from external sources.

I-PB-3

This comment correctly notes that the Phase 2 EIS/R uses the existing conditions as a primary baseline for comparison of potential impacts. This is, as the comment notes, the convention under CEQA. NEPA allows but does not require the use of a projected "future no-action condition" as the basis for comparison. The following text from the USFWS's document *NEPA for National Wildlife Refuges – A Handbook* is relevant to this point (emphasis added): "The *'no action' alternative is the existing condition*; it is a summary of the present condition *or* current course of action if we don't implement a project. The analysis *may include* a brief summary of what will happen in the foreseeable future without the project."

The EIS/R for Phase 2 contains in each impact section a detailed analysis and explanation of what the long-term outcome of the no-action alternative at each pond cluster. In this way, the future no-action alternatives are being included and disclosed in the EIS/R process, though not being explicitly used as the basis for comparison of significance. This approach of using CEQA as the primary basis of comparison for significance determinations (which is also an acceptable basis under NEPA) and including extensive analysis and discussion of the long-term no action outcomes under NEPA was the way the SBSP Restoration Project integrated and satisfied the requirements of both of those two pieces of legislation in an efficient manner. This was also the approach used in the 2007 EIS/R, which laid out and analyzed the programmatic aspects of the project and did a similar analysis under the Phase impacts analysis contained in that document.

Importantly, Section 3.5.3 on Biological Resources explicitly acknowledges that, while the existing condition is generally used as the baseline for comparison in this EIS/R, there are cases – particularly for certain wildlife species – where longer-term averages are used to modify that basis of comparison and make it more sensitive to trends and deviations.

The detailed modeling described in this comment was conducted for the programmatic portion of the SBSP Restoration Project and its long-term planning, not for the Phase 1 alternatives selection and analyses, as the comment suggests. More importantly, where necessary, such modeling was done in support of particular questions or uncertainties for the Phase 2 alternatives. These efforts were reported on in the Preliminary Design Memoranda for each pond cluster. For example, recent observations of sediment accretion in breached ponds were used to assess whether the Mountain View Ponds would accrete sediment quickly enough to reach marsh plain elevation against various projections of sea-level rise. Assessments of whether sediment import was necessary at the Ravenswood Ponds were included. A modeling approach was used to evaluate whether the ongoing restoration of the Island Ponds would be hastened by the addition of more breaches or whether the benefits of doing so would be more from the increased habitat connectivity and complexity.

I-PB-4

This comment largely concerns the risks that restoration projects have in allowing and/or facilitating the spread of invasive non-native species. Specifically, the comment states, "The EIS/R needs to address ecologically sound, scale-appropriate, cost-effective alternatives for active vegetation management on

new transition zone slopes and levees to inhibit spread of non-native species." The SBSP Restoration Project shares this concern and will continue to support and participate in the multi-agency efforts to control and eradicate invasive non-native species. The Refuge will also continue to actively allocate its own staff and financial resources to the ongoing control of invasive plant species. The comment provided a list of species to target as priorities for control, for which the SBSP Restoration Project and the Refuge managers are grateful.

The comment asserts that implementation of the Phase 1 projects introduced Algerian sea-lavender (*Limonium ramosissimum*) to portions of the project area where that species had not previously been noted. That inadvertent introduction was part of a seed mix used at approximately half a dozen sites, including an entry road into Eden Landing. Algerian sea-lavender was already present in the South Bay, but it was introduced to new locations, where it has become established but is not widespread. The Refuge, Save the Bay, and CDFW are working to eradicate it.

The kinds of detailed planting plans and other revegetation efforts suggested by this comment are typically developed at a later project phase.

I-PB-5

This comment concerns pond management impacts in the long-term and asserts that the Phase 2 EIS/R needs to consider and disclose the long-term impacts of maintaining levees and other features, particularly in the face of sea-level rise and associated risks of failure.

It is important to realize that the risks of levee failure and the various management and levee maintenance actions are things that the Refuge management needs to consider and perform whether or not a Phase 2 action is implemented at a given pond. This is true for levees that protect developed areas from flooding associated with high tides, storm runoff or sea-level rise, and it is equally true for those ponds that were or are retained as managed ponds in Phase 1 or Phase 2 or that have not yet been included in a restoration phase of the larger project. Some of these risks and potential impacts are actually somewhat greater in the no action alternative than in many of the tidal restoration alternatives because the latter generally allow or even encourage some or all of the levees to degrade over time.

Further, though, in many of the individual impact sections in the Draft EIS/R (and now in the Final EIS/R), the no-action alternative discussion for each pond cluster does include consideration of the relative amounts of disturbances to wildlife from levee maintenance, the relative risks of flooding or changes in water quality from levee failure, and other aspects of the kinds of impacts or failure that the comment includes.

Master Comment Response #2 includes a lengthier discussion about the interactions between Refuge management practices and impacts of the SBSP Restoration Project. Master Comment Response #10 also provides a discussion of sea-level rise and its impacts and influences on habitat restoration planning and implementation.

I-PB-6

This comment asserts that the Draft EIS/R assumes that sediment would accrete at sufficient rates to achieve marsh plain elevation in the Phase 2 ponds that would be breached as part of a restoration to tidal marsh. This is an incorrect assertion. Of the four pond clusters included in this EIS/R, one of them (the Island Ponds) is already open to tides and is accreting sediment, and the project included analysis to

evaluate whether accretion rates were satisfactory. These results were included in Appendix L. A second pond cluster, the A8 Ponds, would not be opened to the tides in Phase 2, which included only construction of habitat transition zones, and so such an analysis was not necessary. The Ravenswood Ponds are very close to marsh plain elevation already, a conclusion that did not require modeling or extensive analysis to reach (Appendix O). Finally, Appendix M presents the preliminary design memorandum for the Mountain View Ponds, for which extensive modeling was done (and included in that memorandum) about the relative rates of sediment accretion and sea-level rise, both of which used empirical data from recent years (up to 2013) to improve upon previous assumptions about accretion rates.

I-PB-7

The opening statement of this comment asserts that the 2007 EIS/R covered only broad alternatives that varied the regional ratio of tidal and nontidal (i.e., enhanced managed ponds) habitat restoration. This is incorrect. The Programmatic Alternative C, which was selected by the Project Management Team and included in the Final, certified EIS/R, included restoration goals that were specific to each pond in all three of the SBSP Restoration Project's pond complexes. While those restoration goals were not rigid commitments that each pond would eventually be restored to exactly that condition, they did provide a clear statement of the general intent for each pond's restoration. It also allowed some flexibility in those goals, as part of the commitment to adaptive management, as summarized in the concepts of the "restoration staircase" and the "bookends" between Programmatic Alternative B and Programmatic Alternative C.

The 2007 EIS/R also laid out a plan for its own implementation in subsequent project phases that would not need to include a reinvestigation or reselection of the restoration destinations or goals for each pond or the need to look beyond the boundaries of the programmatic extent of the project. This tiering from the programmatic portion of the 2007 EIS/R is an essential part of the SBSP Restoration Project as a whole.

See also the response to comment I-PB-2 for more discussion on the question of including external ponds in the Phase 2 project alternatives. See also Master Comment Response #8 and the response to comment O-CCCR2-10 on the process for selecting which ponds to include in Phase 2. A report from those processes has been added as an appendix to the Final EIS/R for Phase 2 to address this concern.

I-PB-8

The main difference between Charleston Slough and the other "external ponds" discussed in this comment letter is that the owner of Charleston Slough, the City of Mountain View, was a willing participant in the Phase 2 restoration process. The city holds a mitigation requirement on Charleston Slough and saw collaborating with the SBSP Restoration Project as the most likely and the most cost-effective way of meeting that requirement and is willing to share costs and coordinate the implementation to achieve those shared goals. That willingness to participate makes in the inclusion of the slough in the project "reasonable", which is the NEPA standard discussed in this and other comments in this comment letter. The similar participation by other external owners or mineral rights holders is not reasonably foreseeable.

Exclusion of Charleston Slough from the Phase 2 planning is a case where the charge of arbitrary scope definition would have been accurate due to the stated willingness of the City of Mountain View to participate in and assist with the Phase 2 planning and implementation. The same cannot be said of the other pond groups discussed in this comment letter.

I-PB-9

This comment questions the statement in the Draft EIS/R about the independence of the four pond clusters included in the USFWS Refuge portion of Phase 2. That statement was intended to be limited to the selection of alternatives and components of them to be part of Phase 2 and to how they were being presented in the EIS/R. It neither stated nor implied that all impacts were evaluated as though they were independent. The comment correctly notes that the construction and operation activities at the pond clusters are independent. Though not mentioned by the comment, given the physical and temporal separation of the clusters and the implementation of selected actions at them, so too are impacts associated with traffic, noise, public services, utilities, geologic and soils-related hazards, greenhouse gas emissions, recreational resources visual resources, vector control and associated aspects of public health, air quality, and most water quality conditions.

The comment asserts that the ecological impacts are not independent. The SBSP Restoration Project and the Phase 2 EIS/R acknowledge the accuracy of that statement in some cases, particularly for migratory birds and fish species. However, even within the category of biological resources, many of the impacts evaluated are site-specific and essentially independent of what actions are implemented elsewhere. For example, construction-related impacts on various biological resources are sufficiently short-term and localized that they are rightly treated as independent. Recreational impacts on sensitive wildlife are similarly localized, as are impacts on existing wetlands, special-status plants, and even some wildlife species such as salt marsh harvest mouse. Impacts to these resources at different locations may be additive, but they do not have substantial interactive effects in the same way as overall sediment availability in the South Bay – the example used in the comment – does. For biological resources like birds and fish that use a broader range of habitats in the South Bay and elsewhere, the impact analysis did not assume complete independence; it used overall trends in population and habitat availability as well as the Adaptive Management Plans ongoing balancing of competing restoration goals to assess and convey the net effect of the likely impact at the Phase 2 ponds.

Regarding interdependence across pond clusters, the comment correctly notes that sediment accreted at one pond cluster does reduce the overall availability of sediment elsewhere. This is a factor that is being taken into account by the SBSP Restoration Project and outside projects such as the U.S. Army Corps of Engineers' Shoreline Study Project. (See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study.) That is why substantial efforts and investments continue to be made by these projects and others to monitor and model sediment availability, sea-level rise, and other critical aspects of the dynamic environment of the South Bay.

I-PB-10

The separate but parallel NEPA and CEQA processes for the CDFW-owned Eden Landing ponds and the USFWS-owned Refuge ponds were necessary because of several constraints, having to do with land ownership, flood control, and funding requirements. However, that does not mean that Eden Landing was excluded from the scope of Phase 2 planning. Indeed, at the many public meetings, stakeholder forums, and regulatory agency meetings, as well as on the SBSP Restoration Project's website and newsletters, there has been repeated discussion and disclosure of the restoration plans for Eden Landing. The Phase 2 ponds and large-scale plans for all three pond complexes (Ravenswood, Alviso, and Eden Landing) were developed together, but the NEPA and CEQA documents were separated.

Given that Programmatic Alternative C in the 2007 EIS/R included all of these ponds in the same types of restoration destinations being planned for Eden Landing, the future implementation there can be considered another phase of the project that would have its own project-level NEPA and CEQA clearance that would tier from the programmatic document. There is nothing in either NEPA or CEQA that requires that each phase of future implementation be fully planned and evaluated at each individual project-level step, particularly when a rigorous adaptive management plan was developed and is being used to evaluate past effects and incorporate them into plans for future phases.

However, the main point of this comment is correct: more discussion of and information about the Phase 2 alternatives at Eden Landing would be helpful. To address that, text and maps of the conceptual alternatives initially developed for consideration under Phase 2 actions at Eden Landing have been added to the Final EIS/R as Appendix Q. It is important to note, however, that the more recent hydraulic modeling done to evaluate whether those concepts would satisfy both the restoration and the flood control requirements of the project indicate that some changes to these concepts are likely to be required.

I-PB-11

See the responses to comments I-PB-2 and I-PB-8 for a discussion of these external ponds and the questions and concerns about their not being included in Phase 2.

This comment includes the following sentence, “Because the project period has a long 50-year planning horizon, the potential inclusion of both Alameda Cargill-managed ponds and Eden Landing ponds in alternatives may be “foreseeable” and is within scope under NEPA.” The programmatic level of the project is indeed intended to have a 50-year planning horizon. But the Phase 2 project planning is happening now. So the relevant question is not whether the availability of the aforementioned external ponds may be reasonably foreseeable for the program-level of the project. The relevant question for the Phase 2 project-level EIS/R is whether they may be available on a time frame appropriate to the current project phase which they are not.

I-PB-12

This comment and the next few (through I-PB-16) address different aspects of the reasonable range of NEPA alternatives and screening. Though part of one combined discussion, certain paragraphs have been split out as separate comments to clarify the responses to them.

The premise of this comment is the excerpted text from part of the Project Description that reads, “…each subsequently lettered alternative generally has successively more components and greater amounts of construction”. The comment then draws a false equivalence between maximum construction activities and maximum environmental benefits. Based on that equivalence, it then asserts that “Reduced restoration alternatives reduce environmental benefits”, which is not necessarily the case.

The ordering of the alternatives and the grouping of components into alternatives was a way of organizing the discussion and the in-document treatment of the alternatives, not necessarily a way of ranking the restoration benefits from lesser to greater. Some of the different restoration alternatives bring different types or different locations of environmental benefits; others have different mixes and degrees of restoration benefits and impacts. Some bring a different mix of the three main project goals of restoration, flood control, and public access/recreation, all of which are different types of environmental benefits.

For example, at the Ravenswood Ponds, there are options to breach Pond R4 at one location or at two locations as well as to include a lowering of its northwest levee or not. The big picture restoration outcome of different combinations of those choices is not radically different: Pond R4 would be opened to tidal flows and begin forming marsh, as was its restoration goal in Programmatic Alternative C. But how that restoration takes place and what other types of environmental benefits and impacts might be associated with it are different. In lowering the northwest levee, habitat connectivity with Greco Island would be increased and still provide some high-tide refugia for salt marsh harvest mouse and other species. Breaching that northwest levee would provide added aquatic habitat connectivity (a benefit to fish) and a more even short- and medium-term distribution of sediment and marsh. These are different types (as opposed to different amounts) of habitat benefits that fit within and comply with the larger restoration plan established in the 2007 programmatic document.

A similar situation exists in the two different concepts for the habitat transition zone in Pond A2W. The larger zone goes all the way across the southern margin of the pond and thus involves the most earthmoving and the most construction, but it does not necessarily bring the greatest environmental benefit. Certainly, some species would benefit greater from a larger transition zone, but that would also bring a greater reduction in deeper water habitat for species that use that part of the habitat, which would realize more benefits from a smaller transition zone or from none at all. The larger transition zone would also foreclose the possible habitat benefits of a future connection to the existing mitigation marshes behind that pond.

The three different restoration concepts for Ponds R5 and S5 present even more obviously different types of restoration and associated environmental benefits, one of which includes added flood control, which is one of the three main goals of the project as a whole, even though not a restoration goal at all.

There are other examples of the broader types of trade-offs and balancing of associated impacts and benefits between different mixes of public access and restoration, as in the case of the proposed trail on the eastern levee of Pond A2W: recreation is a benefit, but so are the various competing forms of habitat restoration that could be implemented in that pond.

The discussion in this response illustrates that the range of alternatives presented in the Draft EIS/R – and from which the Preferred Alternative, presented in the Final EIS/R, is drawn – are not, as the comment asserts, straw-man or nominal alternatives that are simply arrayed from the most to the least restoration-related benefits. Instead, they are different ways of meeting the restoration goals and fitting in with the larger project plan set forth in the 2007 program-level EIS/R while still providing project-level variations on the mix of the 3 major project goals (restoration, flood control, and public access/recreation) as well as on aspects of how, where, and what types of each of those three goals may be achieved.

I-PB-13

This comment suggests incorporation of a number of habitat restoration features that could enhance the complexity and ecological functioning of the restoring ponds. These include ditch blocks, internal berms, and upper intertidal berms. Ditch blocks are not specifically mentioned often in the text but are included more generally as a use for sidecast material from levee breaching, lowering, or removal, which the project description includes quite often as “raising the pond bottom elevations”. The borrow ditches are part of the pond bottoms. Also the habitat transition zones extend well up and into the intertidal zone. The habitat islands are plentiful in the descriptions and are included in the project designs, and they fulfill many of the same hydrological functions as internal berms. These are somewhat different types of

restoration features than those used in the Phase 1 alternatives, but they are ones that are more appropriate for the restoration alternatives selected. Text has been added to the Preferred Alternative chapter of the Final EIS/R to make these points more clearly.

I-PB-14

Please refer to the responses to comments I-PB-12 and I-PB-13.

I-PB-15

The SBSP Restoration Project is appreciative of the constructive presentation of the list of several broad types of restoration "packages" based on the eponymous "emphasis" in the title of each one. However, those emphases are more appropriate for deciding what "big picture" types of restoration goals to pursue. They are analogous to the larger-scale programmatic alternatives presented in the 2007 EIS/R for the project's program level, and they would be much more necessary if there had not been a programmatic document from which to tier each of the subsequent project phases.

The selection of ponds to evaluate for inclusion in Phase 2 was made prior to beginning work on the NEPA and CEQA document, as is appropriate for a project-level phase that is tiering from an approved programmatic document. The big picture restoration goals (tidal marsh versus managed ponds) and at least some of the necessary flood control and public access goals were similar included in Programmatic Alternatives B and C, which thus strongly encourage their consideration and analysis in the project-level EIS/R. See also Master Comment Response #8, which is a general discussion of the choice of ponds included in the Phase 2 planning.

I-PB-16

This comment raises the question of the ponds selected for Phase 2 and the range of alternatives developed and screened for inclusion in the eventual Phase 2 alternatives. See Master Comment Response #8, which is a general discussion of the choice of ponds included in the Phase 2 planning. The programmatic portion of the 2007 EIS/R laid out restoration goals for the individual ponds, which helps avoid a full re-opening of the questions of what restoration goal is appropriate for each pond and allows each project phase to focus on the balance of public access, flood protection, and restoration components and on different ways to achieve all of those goals. The selection of Programmatic Alternative C provides the flexibility to make necessary adjustments to those objectives as necessitated by the Adaptive Management Plan.

I-PB-17

This comment includes an introduction to suggestions for a list of project-level alternative components and the intent behind those suggestions. The SBSP Restoration Project appreciates these suggestions and their larger purpose of informing and improving the results of the restoration. The comment letter was also bracketed to include the first of those suggestions, sediment slurry marsh nourishment. The subsequent comments through I-PB-28 are specific to the individual suggestions.

As noted above, ditch blocks have been added to the Preferred Alternative in the Final EIS/R to reflect this point.The concept of using a sediment slurry to nourish the upstream extent of marsh is interesting, and the SBSP Restoration Project did initially consider the use of similar slurries to deliver sediment to all four of the Phase 2 pond clusters. However, the act of establishing a slurry pipe system with the required offloader and booster stations (or dredging a channel for barge delivery of sediments) was not feasible to

do on either a financial basis or a regulatory one. It would also create more environmental impacts than the benefits such a system might provide. Text has been added to Chapter 2 of the Final EIS/R to make this clearer.

I-PB-18

This comment suggests high marsh mounds, which the SBSP Restoration Project also agrees are useful components. Text has been added to the Final EIS/R to elaborate on and clarify the ways in which the basic principles behind them have been included in the Phase 2 alternatives.

At the Mountain View Ponds, the plans call for habitat islands, which they would initially be because those ponds are somewhat subsided. But after sufficient sediment has accreted in the ponds and tidal marsh begins to form, those "islands" would not really be islands anymore. They would become high marsh mounds, and would then bring the same sorts of ecological benefits described in the comment. Similarly, the Preferred Alternative at the Island Ponds calls for some remnant portions of levees to be left between the breach locations and portions that will be lowered or removed. The intent of these residual portions is a similar island-marsh mound functions as at the Mountain View Ponds.

I-PB-19

The Phase 2 alternative designs include very little rip-rap. There would be a few breaches that need to be armored on one or both sides to prevent future scour. Rip-rap is required here because those breaches either will be bridged to provide ongoing access or because there is a trail or road to a viewpoint and/or water intake at that breach location. In neither of those cases would coarse beach material provide sufficient protection against scour to allow its use there.

I-PB-20

This comment suggests retaining interior salt ponds within salt marsh matrix. In fact, the plan for Pond R3 at Ravenswood is such a pond. The proposed water control structures would provide the ability to periodically improve water quality and refresh the forage potential in borrow ditches and slough channels, but it would otherwise remain in its current state.

I-PB-21

The places most suitable for back-marsh ponds like the ones suggested in this comment are at Ponds R5 and S5 at Ravenswood, where there were pre-existing barriers and water bodies behind the proposed tidal marsh habitat at Pond R4. And, in fact, this idea is more or less what was described for these ponds in Alternative Ravenswood B, and these ponds would be similarly enhanced under the Preferred Alternative at the Phase 2 actions at Ravenswood.

I-PB-22

This comment suggested adding coarse woody debris to the restoration efforts at the Ravenswood Ponds and at the Island Ponds. That idea will be considered.

I-PB-23

The comment suggested incorporating treated wastewater and other discharge to create a gradient of brackish marshes. This concept is similar to that proposed under Alternative Ravenswood D, which would have included Bayfront Canal and Atherton Channel Project to provide occasional input of

freshwater to Ponds R5 and S5 at the Ravenswood Ponds. However, as discussed in Master Comment Response #4, this component was removed from the Phase 2 Preferred Alternative at Ravenswood.

The working versions of alternatives being developed for Phase 2 at Eden Landing include an even closer match to this comment's suggestion by planning for the possible inclusion of treated wastewater from the Union Sanitary District into the restoration efforts there.

I-PB-24

See the response to comment I-PB-23. While not identical suggestions, these two comments led to a similar response about current and future plans to somehow include what would otherwise be wastewater into ongoing restoration efforts.

I-PB-25

The SBSP Restoration Project does not plan to include floating platforms or rafts in the Phase 2 designs at the present time. However, those options are interesting ideas and could be part of a future adaptive management action that would be implemented to offset habitat losses for shorebirds or other species that are affected in an unforeseen way or to an unanticipated extent. Not including them in Phase 2 does not mean that they would not be available for implementation.

I-PB-26

This comment suggests adding submerged aquatic vegetation such as *Ruppia maritima* to muted tidal managed ponds as part of Phase 2. The only Phase 2 muted tidal ponds of suitable size and depth for *Ruppia maritima* are at the A8 Ponds, where Phase 1 actions have joined Pond A8, A8S, A5, and A7 into a muted tidal system. These ponds are currently being managed to address concerns associated with remnant mercury and are also the subject of substantial research and monitoring efforts to track mercury levels in water, fish, and bird eggs. At the present time, and until the residual mercury issue is resolved, the SBSP Restoration Project considers it unwise to confound and complicate those experiments and the delicate operational balance with additional restoration components.

I-PB-27

The salmonid habitat improvements referred to involve primarily breaching several large ponds (Ponds A1 and A2W) to tidal flows to provide better nursery habitat for outmigrating juveniles. The fish would thus be larger and stronger before continuing their migration to the bay itself. Other salmonid benefits would come from adding breaches and/or levee removal to portions of the Island Ponds (specifically Ponds A19 and A20) to improve habitat connectivity and create larger and more complex areas of nursery habitat for salmonids. Text has been added to the Final EIS/R to clarify these points.

I-PB-28

As noted in the response to several previous comments ditch blocks have been added to the Preferred Alternative chapter in the Final EIS/R.

I-PB-29

Text has been added to the Final EIS/R to include more discussion of the interaction between Phase 2 of the SBSP Restoration Project and the Shoreline Study's first implemented segment (near the community of Alviso and the New Chicago Marsh. Most of this additional text is within the cumulative impacts

section (Chapter 4) because they are two separate projects, despite the spatial overlap between the SBSP Restoration Project's overall program-level footprint and this portion of the Shoreline Study. See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study.

There are no overlapping elements between Phase 2 of the SBSP Restoration Project and this portion of the Shoreline Study, as the comment suggests there are. Nor does Phase 2 include setback levees or managed retreat, so these components need not be analyzed in a project-level EIS/R.

The comment also suggests a need to address long-term maintenance of levees and how that might be complicated by sea-level rise. This topic of ongoing Refuge management practices is discussed in general in Master Comment Response #4 and more specifically in the response to comment I-PB-5. Master Comment Response #10 also provides a discussion of sea-level rise and its impacts and influences on habitat restoration planning and implementation.

Note on Comments I-PB-30 through I-PB-50

Comments I-PB-30 through I-PB-50 are about specific alternative components and designs at the Ravenswood Ponds in particular. Some of the responses to these comments were addressed in the above responses to comments from Dr. Baye. Additional specificity is provided as necessary in the following.

I-PB-30

The SBSP Restoration Project disagrees with the assertion made in this comment that these alternatives are no more than scaled down versions of the same project design. A fuller discussion on this suggestion was provided in the response to comment I-PB-12, above and in I-PB-38, below, and it is restated here. First, the end state of restoration for Ponds R5 and S5 are different in all 3 outcomes. Second, there are different levee breach, lowering, and pond bottom channeling scenarios that would change the types of habitat connectivity and aquatic restoration outcomes. The different placement and size of habitat transition zones and a habitat island are further modifications. The three alternatives presented in the Draft EIS/R also provide several different ways to incorporate restoration and public access features into the project, and one alternative involves incorporating an external project partner's flood control element.

The suggestion that the outcomes of designs at different successional stages (5, 10, 15 years, etc.) is interesting but is beyond the scope of an EIS/R.

I-PB-31

Ditch blocks have been added more specifically to the Final EIS/R's chapter on the Preferred Alternative (Chapter 6). There are no new significant impacts from that modification because the text of the Draft EIS/R said that material from levee breaching and lowering would be used on-site to fill borrow ditches. A ditch block is a more specific way to fill old borrow ditches; the material is placed in a particular part of the borrow ditches to modify water flows within the pond.

I-PB-32

The Preferred Alternative at the Ravenswood Ponds has the location of the breach info Pond R4 from Ravenswood Slough relocated to a point near the northeast corner of this pond. This will, as the comment suggests, reduce the amount of excavation/earth moving and direct impacts on existing marsh as well as the amount of habitat fragmentation experienced by species that use the marsh, relative to the locations

assessed in the Draft EIS/R. Adding ditch blocks inside the pond will efficiently direct flows into the historical slough trace. Thus, there would be no new significant impacts from this change and only a reduced magnitude of impacts already evaluated and disclosed.

I-PB-33

See response to immediately preceding comment (I-PB-32), as these two comments are two parts of the same recommendation.

I-PB-34

Regular pond filling and draining with the tidal cycles is the primary design requirement, as correctly stated in Appendix O to the Draft EIS/R.

I-PB-35

The improved levees and the habitat transition zone in the center of the pond cluster is a feature that would provide high-tide refugia. Remnant levees will continue to provide high-tide refugia also. The Ravenswood Ponds are not subsided, so the marsh would form quickly, and high areas within them would naturally form marsh mounds. As long as the total volume of material imported to these ponds does not increase substantially over the volumes presented in the Draft EIS/R, this relatively minor change of design would not cause new significant impacts.

I-PB-36

This comment asks a number of different questions, which are responded to in turn as follows.

The Cargill pipeline and ownership note was added at the request of Cargill, an entity whose cooperation with the project remains necessary for a number of different components. The Final EIS/R contains an additional figure and more details on other parcel ownership in the area.

The comment also asks why that piece of Cargill property was not acquired and incorporated into the project. Thus far, Cargill has opted to retain that pipeline strip, and since it is not necessary for the Phase 2 alternatives, the SBSP Restoration Project has proceeded without acquiring it.

The flood control levee improvements and habitat transition zone are, in fact, at the back of the area planned for tidal marsh restoration. The pond behind them, Pond R3, would not be restored to tidal marsh but would be retained as pond with salt panne habitat and improved for western snowy plover and other small shorebirds.

The All-American Canal and its surrounding levees provide a base for the required flood protection improvements and as the sort of higher ground for high-tide refugia that many previous comments have suggested are imperative for successful restoration. It is more efficient (in terms of financial costs and construction work) and has less environmental impact to use existing features and improve or modify as necessary than to relocate or reconstruct the features needed.

I-PB-37

The SBSP Restoration Project appreciates this input and shares the concern. Material generated from cut activities will be analyzed for its chemical composition and reused as appropriate in onsite fill activities.

I-PB-38

This comment makes an inaccurate statement about the three different restoration alternatives for Ponds R5 and S5. It contends that only their operation and management would differ across the three action alternatives here. This is incorrect. In one alternative (Alternative Ravenswood B) they would be kept at more or less their current depth and managed as shallow water ponds. In a second alternative (Alternative Ravenswood C), material would be imported from elsewhere in the pond cluster (generated from breaching or levee lowering here) to raise the pond bottoms to intertidal mudflat elevation. And in the third alternative (Alternative Ravenswood D), they would be deepened to provide more capacity for temporarily detaining storm water runoff from the Bayfront Canal and Atherton Channel Project. There were also operational and management differences across these alternatives, as the comment notes.

I-PB-39

It is unclear which aspect of managed ponds and associated vegetation this comment is referring to. There were three different types of managed ponds considered in the Ravenswood alternatives in the Draft EIS/R.

I-PB-40

The only habitat island proposed or planned for the Ravenswood pond cluster in Phase 2 would be in the middle of a group of managed ponds, as the comment suggests. There would be none in tidal marsh or in open water subject to high wave energies. And the comment is also correct that a topping of shells or similar substrate would be beneficial to control weeds. That was discussed in the Draft EIS/R, and more details are provided in the Final EIS/R.

I-PB-41

Habitat features and improvements targeted for western snowy plover are included in Phase 2 at the Ravenswood Ponds because those ponds have been the location of the most snowy plover nests in the west bay in recent years, and the SBSP Restoration Project is attempting to provide restoration balance across a range of types of locations in all three pond complexes. Building upon recent nesting success in these areas was seen as a rational approach that has greater potential to succeed than others. The Final EIS/R contains text added to Section 2.2.5 to explain this more clearly.

Also, text has been added to Chapter 1 of the Final EIS/R – and an appendix with more detailed text and maps has also been added – to explain the Phase 2 plans for the Eden Landing pond complex, as requested in this comment. The possibility of acquiring other ponds and including them into Phase 2 was thoroughly addressed in a response to a previous comment and is not repeated here. The costs of ongoing levee maintenance and improvements are discussed in Master Comment Response #4.

I-PB-42

The potential inclusion of the Bayfront Canal and Atherton Channel Project would have made use of storm water runoff to address residual salinity in Ponds R5 and S5 and to reduce an existing problem with flooding. The benefits and impacts of this were analyzed and discussed in the Draft EIS/R. However, as discussed in Master Comment Response #4, that component is not part of the Phase 2 Preferred Alternative.

I-PB-43

See response to comment I-PB-44 for how question of water quality requirements would be addressed.

I-PB-44

The risk of algal blooms in Pond R4 would be controlled largely by making that pond fully tidal. Algal blooms in Pond R3 would be managed and reduced by improving the ability to circulate water into and through the borrow ditches and slough channels as needed. Finally, Ponds R5 and S5 are the managed ponds that would likely face the greatest risk of algal blooms. The presence and active operation of multiple water control structures to improve circulation will help control that risk. The full range of algal bloom control would include water circulation, controlled inputs, and turbidity management.

I-PB-45

The text on page 2-50 (Section 2.2.5) of the Draft EIS/R explained the intention of lowering the levee to mean high water (MHW). Similar information was provided in the preliminary design memorandum (Appendix O). The intent in initially planning to lower the levee to MHW was to allow the highest tides to flow over the lowered levee and into the ponds. It is intended to allow the highest tides to overtop it and be a separate source of water and sediment delivery into Pond R4 than the main breach would be. It would also be low enough to provide habitat connectivity for salt marsh harvest mouse between Greco Island and the restoring Pond R4. However, there are other ecological and restoration benefits to lowering only to mean higher high water (MHHW) elevation instead, particularly in light of the sea-level rise expected for the area. The designs and the Final EIS/R have been modified to lower the levee to MHHW instead. This would bring a reduced amount of earthmoving and other construction-associated impacts relative to that discussed in the Draft EIS/R.

I-PB-46

The revegetation plan for the habitat transition zones will be developed during the next project stage. It will include the sorts of details being requested by the comment. Revegetation/replanting plans are often one of the last parts of project designs to be developed. As noted in the project description, though, the plans would include a mix of native seeds and planted individuals that are appropriate for each section of the gradient across different tidal elevations.

I-PB-47

The only pond bottom elevation considered at the Ravenswood Ponds in Phase 2 was at Ponds R5 and S5. The bottom of Ponds R5 and S5 would only be raised in Alternative Ravenswood B, where those ponds would be modified to simulate tidal mudflats. That component was not included in the Preferred Alternative at Ravenswood.

I-PB-48

The Final EIS/R contains the selected public access and recreation features in the Preferred Alternative at the Ravenswood Ponds. The selection includes a loop trail around Pond R5 and S5, with a viewing platform at a location along that trail. The trail would be on top of improved levees with gated and signed entry and low fences to remind visitors that they must stay on the trail and not enter the restoration areas. Master Comment Response #9 provides general background on the topic of public access-related impacts on wildlife as well.

The recreation alternatives considered in the Final EIS/R included public access components developed and included in the 2007 EIS/R. These general alignments were developed more fully for Phase 2 to include the restoration goals for these ponds and to draw on the lessons learned from the applied science studies funded by the SBSP Restoration Project.

The choice to begin developing alternatives by building on existing infrastructure was made to avoid unnecessary earthmoving and associated impacts, as well as to minimize the future failure risks and maintenance efforts that would be required, as the comment suggests. Similarly, the alignment around R5 and S5 is on levees that are necessary for flood control and would thus be most sensible to maintain in the face of future sea-level rise, also as suggested.

I-PB-49

Boardwalks would have been necessary to maintain trail alignments over levees that would be removed, which is why they were included in the alternatives in the Draft EIS/R. The Preferred Alternative at Ravenswood, however, includes only a levee-top trail with a viewing platform (not necessarily an elevated one; just a widened portion of trail with signage and/or benches) at or near the intersection of several different ponds to enhance the range of habitats viewable from a single location.

I-PB-50

The SBSP Restoration Project shares the concern about invasive vs. native *Spartina* expressed in this comment. The project itself, the Refuge, and other project partners will continue to participate in the many programs to control this and other invasive plant species.

Comments I-PB-51 through I-PB-53 address the Alviso-Island Ponds.

I-PB-51

As in the response to comment I-PB-45, there are different reasons behind the levee lowering, which are intended to produce different outcomes. At the Island Ponds, as described in the preliminary design memorandum (Appendix L), the intent in initially proposing to lower levees to MHW was to lower them to improve hydraulic connectivity and allow the highest tides to flow over it and into the ponds. Lowering levees to MHHW instead would provide different restoration benefits of high-tide refugia and a center of future marsh mound formation. The Preferred Alternative discussed in the Final EIS/R has been changed to make the levee lowering to MHHW instead of to MHW. This would bring a reduced amount of earthmoving and other construction-associated impacts relative to that discussed in the Draft EIS/R.

I-PB-52

The Final EIS/R more clearly describes that material from levee breaching, lowering, or removal will be used to fill borrow ditches, build ditch blocks, or create marsh mounds for high-tide refugia. The Preferred Alternative at the Island Ponds also includes a modified version of the lowered and removed levees presented in the Draft EIS/R for the two action alternatives; this modification would leave several portions of the existing levees in place to act as isolated island-like high ground at the present time that would become marsh mounds in the future as the pond fills in around them.

I-PB-53

The Preferred Alternative at the Island Ponds does not include pilot channel construction.

Comments I-PB-54 through I-PB-65 address the Mountain View Ponds.

I-PB-54

The question of placement with hydraulic slurry was discussed in the response to comment I-PB-17.

I-PB-55

The SBSP Restoration Project shares this comment's concern about the suitability of upland material for use in a restoration project. The beneficial reuse of upland material in previous restoration projects (e.g., Bair Island) managed by the Refuge has successfully addressed this concern through the development, approval, and implementation of a Quality Assurance Plan (QAP) that includes material testing, record keeping, and other important details. That QAP continues to be updated with new information and regulatory requirements, as necessary. The SBSP Restoration Project is committed to screening out material that is not appropriate for use in restoration. The cooperation and compliance with the RWQCB, the USACE, and the BCDC during the permitting stage of the project will ensure the continued success of this approach.

I-PB-56

The future beneficial reuse of sediment is not an impermissible deferment of an impact assessment as long as all of the potential impacts of that material import, placement, and use are included in a NEPA and CEQA document in advance of that potential future use. The text of the EIS/R says that dredged material is *not* included as part of Phase 2 of the project but that it may be undertaken in a future phase. If it is included in a future phase, the text is clear in stating that any use of that material for that purpose would be analyzed in a future EIS/R or in an addendum or supplemental at the same level of detail as the current project-level impacts from Phase 2.

It would be similar to the level of detailed analysis that was done in the current EIS/R on the addition of habitat transition zones in the corners of the A8 Ponds. The A8 Ponds were a Phase 1 pond cluster, but an additional project component was developed and considered for implementation in Phase 2 of the project, so the Phase 2 EIS/R contained a full analysis of those impacts.

I-PB-57

See response to comment I-PB-3 for a discussion of the environmental baseline and how the various requirements and allowances of both NEPA and CEQA were included in the analysis.

I-PB-58

This comment again suggests the addition of ditch blocks. The concept of ditch blocks along the interior of ponds has been added to the Preferred Alternative where it is appropriate and practicable to do so. The comment also requests more information on the choice of the breach locations. The breach locations were placed at the historic slough channels to make use of whatever relic channels may still exist, though the comment is correct in noting that – at the Mountain View Ponds – the several feet of water that has been in the ponds for several decades may have rendered those channels less functional.

I-PB-59

In the Preferred Alternative at the Mountain View Ponds, Charleston Slough has not been included, so the lowering of the levee between the slough and Pond A1 is no longer under consideration.

I-PB-60

As explained in the response to comment I-PB-36, the flood control levee improvements and habitat transition zone at the Ravenswood Ponds are, in fact, at the back of the area planned for tidal marsh restoration. The pond behind them, Pond R3, would not be restored to tidal marsh but would instead be retained as seasonal pond with salt panne habitat and improved for western snowy plover. But at the Mountain View Ponds, the transition zones are placed against the existing landfill levee because the entire pond area to the north of them (in Pond A1 and Pond A2W) would be opened to tidal flows.

I-PB-61

In Programmatic Alternatives B and C of the 2007 EIS/R, Ponds A1 and A2W were selected for restoration to tidal marsh. Moving toward that outcome for those ponds requires protecting a portion of the City of Mountain View (around the southwestern corner of Pond A1 / the northwestern corner of Shoreline Park) from the full tidal flows that would result from opening those ponds to tidal flows. The most efficient and least environmentally impactful way to provide that measure of protection is by raising and improving the existing levees to provide the necessary protection. Building a new levee from scratch, such as the comment suggests, would require much more material, a longer and more complicated construction schedule, and would have the restoration outcome of reducing the amount of existing pond that was available for tidal marsh restoration. Also, the City of Mountain View has existing recreation and water management infrastructure that needed to be retained or protected. The options of set-back levees suggested by the comment were infeasible to design and include in proposed alternatives because of the current land uses behind the existing levees.

I-PB-62

It is somewhat unclear what this comment is referring to. The levee maintenance permit referred to in the Draft EIS/R is the Refuge's levee operations and maintenance permit, not a Cargill permit. At the Mountain View Ponds, which this portion of the comment letter refers to, many of the existing levees would be allowed or even encouraged to break down and would thus not be maintained. Exceptions include the eastern and northern levee of Pond A2W, which must be maintained for PG&E access, and the flood control levees around the western and southwestern portion of this pond cluster. In the Preferred Alternative at the Mountain View Ponds, this would include the southern levee around Charleston Slough (the Coast Casey Forebay levee). The response to comment I-PB-61 explained the constraints on flood protection measures other than levees in this area.

I-PB-63

The habitat transition zones will naturally have seepage, as the comment notes, but they should not have so much seepage that they become unstable and erode or fall apart. Any levees intended to provide ongoing flood control should not have seepage. As discussed in responses to comments from the Citizens Committee to Complete the Refuge, the seepage analysis conducted for this project has determined that the implemented action alternatives would not increase seepage.

I-PB-64

It is true that some of the recreational features were developed to a greater level of detail than some other elements of the project alternatives. Those designs were intended to be "typicals" to represent likely design outcomes, and there was no negative consequence of including them. Note, however, that the

SBSP Restoration Project has three primary goals: restoration, flood protection, and public access/recreation.

I-PB-65

The designs for the Mountain View Ponds contain a number of habitat islands that would naturally evolve to become marsh mounds as the currently subsided ponds fill in around them. There is no need to construct marsh mounds now because the ponds are subsided.

Comments I-PB-66 and I-PB-67 address the A8 Ponds.

I-PB-66

See response to comment I-PB-3 for a discussion of the environmental baseline and how the various requirements and allowances of both NEPA and CEQA were included in the analysis.

I-PB-67

The A8 Ponds may be opened to tidal marsh in the future, if the issues with residual mercury can be satisfactorily addressed. Until then, that pond cluster will remain as muted tidal ponds. The construction of habitat transition zone is proposed under the presumption that the ponds would someday be restored to tidal marsh, and at that time, in the EIS/R for that project phase, the questions posed in this comment would indeed need to be answered. However, there is no requirement for a single project-level EIS/R to ask or answer restoration questions for a hypothetical future project phase. If the A8 Ponds are not ever able to be opened to the tides, then the placement of habitat transition zones in its corners is still appropriate because it will help reverse and avoid a problem with internal erosion and scour along the entire southern portion of this pond cluster. Recent surveys by Wheeler Consulting, the company that helps manage the closed landfill just to the southeast of this pond cluster, has reported over 10 feet of horizontal scour on the southeastern corner of the A8 Ponds. So the construction of a transition zone here would enhance and protect the repair of that scour into the future.

Hobbs, James (I-JAH)

From: hobbsja@gmail.com on behalf of James Hobbs
To: phase2comments@southbayrestoration.org
Subject: [phase2comments] Dr. Hobbs Comments on Phase 2
Date: Monday, August 24, 2015 6:52:39 PM
Attachments: Pond A19.pptx

Alviso Island Pond Cluster

I-JAH-1 I support alternative B for phase 2 restoration of the Island Ponds. I have been monitoring fish and invertebrates in these ponds since 2010. Ponds A21 and A20 have been colonized by Spartina sp. and the marsh plain is approximately 75% covered based on visual observations during surveys in July 2016. Pond A19 has a few small patches of Spartina, but is otherwise operating as a vast mudflat. The existing breaches have widened significantly since 2010, with the South breach approximately doubling in width. Lowering the levee along the Northwest corner of the pond, against Coyote Creek should be more than sufficient to accelerate breach expansion. I also support connecting Pond A19 to A20 by removing or lowering the internal levee between the two ponds, and breaching the backside of Pond A19 with Mud Slough. Water quality in the back of pond A19 can be very poor in summer months, and increasing circulation may ameliorate water quality issue. However; water quality in the entire Alviso Marsh in poor during summer months with dissolved oxygen concentrations near or below 2mg/L during the summer. I wouldn't expect breaching the backside of A19 would do much for water quality marsh wide.

I-JAH-2 I don't think it is necessary to further expand the North breach of A19 with Coyote Creek. Historically, these areas where not ponds, but rather tidal pickleweed marshes with tidal creeklets. Google Earth images on the ponds prior to breaching show the historic creek channels. The Island Ponds had only 1-2 major creek inlets, thus I would be hesitant to expand this breach. Moreover, the South breach on pond A21 has actually filled in significantly. The tidal prism and physics of the ponds is causing deposition along the South West sides of the Island Ponds and from our fish surveys, this appears to be a good thing. These sides of the ponds have higher residence time in the winter and spring, and greater mysid shrimp densities and longfin smelt catches.

Alviso-A8 Pond Cluster

I-JAH-3 I greatly support the development of transition zones on the Southwest and Southeast corners of the A8S pond. This pond consists of long stretches of primarily rip rap levee and relatively steep banks. Small fishes utilize shallow depths with broad sloping shoals as refuge from large predatory fishes, such as striped bass. Moreover these habitats serve as foraging grounds for fish eating birds. Addition of this type of habitat would greatly increase habitat quality and complexity in the A8 complex.

I don't sample the Alviso Ponds A1-2 so I can't provide specific feedback other than to keep in mind Steelhead trout passage will come into play if any adaptive management and tide gates are planned, like the A8 complex.

I-JAH-4

Ravenswood Complex.

In general I am not a fan of managed ponds. We find very high densities of non-native invertebrates and fishes in managed ponds compared to tidal ponds. Water quality conditions in managed ponds is a serious issue. Our limited work in pond SF2 at Ravenswood suggested dissolved oxygen concentrations were much lower than in open water habitats adjacent to the Ravenswood. Unlike the Alviso Marsh this area does not have frequent hypoxia and poor water quality conditions could be more directly linked to management actions. Also, SF2 has been filling in significantly. I would strongly suggest monitoring water quality and sediment deposition as well as fish assemblages. Small leopard sharks can easily enter these managed ponds and then not be able to get out and die when the DO crashes. Not a pleasant site for visitors.

Hope my comments help.

Jim

--
James A. Hobbs PhD
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Better science through fishing

Pond A19

May 2006

February 2014

Response to Hobbs, James (I-JAH)

I-JAH-1

The Preferred Alternative at the Island Ponds is much like Alternative Island B that was presented in the Draft EIS/R. This selection was made in part on the basis of the support expressed in this comment and in several others. There were some modifications to the selected alternative, however, which are summarized in Master Comment Response #6 and fully described in the Chapter 6 of the Final EIS/R.

I-JAH-2

See response to comment L-JAH-1.

I-JAH-3

The SBSP Restoration Project appreciates the support for the habitat transition zones in the A8 Ponds that is expressed in this comment.

I-JAH-4

This comment notes some of the management concerns with managed ponds and recommends monitoring water quality and sediment deposition. The SBSP Restoration Project shares these concerns and makes every effort to manage around them. The suggestions for monitoring will be taken under advisement in future management planning.

Lucas, Libby (I-LL1)

From: JLucas1099@aol.com [JLucas1099@aol.com]
Sent: Tuesday, September 15, 2015 10:34 AM
To: sbsp-maillist@southbayrestoration.org; Bourgeois, John@SCC
Cc: sbsp-announce@southbayrestoration.org
Subject: South Bay Salt Pond Restoration Project DEIS/DEIR Phase 2

John Bourgeois
Executive Project Manager
South Bay Salt Pond Restoration Project

September 15, 2015

Dear John,

I-LL1-1 Hesitate to address your Phase 2 of the Salt Pond Restoration Project in light of residual concerns that I still have with the COE San Francisco Bay Shoreline Phase 1 Project, as find commingled projects may qualify under CEQA as segmenting of projects on same natural resource area with cumulative impacts that are not sufficiently evident or analyzed.

I-LL1-2 Thought I understood restoration alternatives as presented in Final EIS/EIR South Bay Salt Pond Restoration Project of 2007 but evidently did not. Aspects of actions proposed in Phase 2 that are of concern:

~ Ponds A22 and A23 do not appear to be incorporated in either COE or SBSP management scenarios?

I-LL1-3 ~ Ponds A19, A20 and A21 were initially to be breached and managed as mitigation marshes by SCVWD, presumably in perpetuity and on their dollar, so why included in Phase 2? (numbering differs in documents)

I-LL1-4 ~ Refuge lands need be shown extending up Coyote Creek to SCVWD Salt Marsh Harvest Mouse mitigation site so both can be considered in conserving continuity of SMHM refugia around end of South Bay to A19

I-LL1-5 ~ Where is proposed mitigation for SMHM refugia lost to COE levee in New Chicago Marsh and inboard A18 and shouldn't this uplands wetlands replacement be functional habitat before old levee is removed

I-LL1-6 ~ Appendix K of COE Shoreline Ecosystem Restoration Phasing Alternatives (Ponds A9-A15) is too confusing and do not see adaptive management options reflect wildlife resource protection criteria Why are not these ponds included in SBSP Salt Pond Restoration efforts? This is piece-mealing.

I-LL1-7 ~ What is plan for Ponds A5, A6 and A7, Ponds A16 and A17, and AB1, A2E, AB2, A3N and A3W? Will go back to DEIS/DEIR in library but feel it is serious deficiency not to analyze them at this time

I-LL1-8 ~ In consideration of the overwhelming loss of open water refugia for migrating waterfowl of Pacific Flyway - annually in the millions in Estuary's Sacramento Refuges which are now dry and brown - believe all ponds of South Bay need to be managed as open water and efforts made to optimize food sources for waterfowl If 'adaptive management' is criteria then this year is time to put protecting avian resources as top priority

I-LL1-9 Had hoped pond restoration efforts would evaluate which ponds provided suitable nesting or foraging habitat for particular species ie snowy plover, least tern, diving ducks, etc. and attempt to accommodate refugia to maximize healthy numbers of resident waterfowl, as well as have resilience to support migratory flocks. Then A22 and A23 ponds at upper reach of Mud Slough would be managed for Harbor Seal pupping. But all such considerations need to have been being studied or in place for this entire process since its inception in 2007.

I-LL1-10 As you can see my thoughts on DEIS/DEIR South Bay Salt Pond are all too open ended so am going back to review notes and report data and will continue this comment at later time.

Thank you for consideration in this matter,

Libby Lucas
174 Yerba Santa Ave.,
Los Altos, CA 94022

Response to Lucas, Libby (I-LL1)

This was an informal comment letter in the form of an email from Ms. Lucas to the SBSP Restoration Project's Executive Project Manager. They were not formally submitted comments. The contents of the message were preliminary, but they are being included in the responses to comments in an attempt to be inclusive and thorough rather than not respond to meaningful input from a stakeholder.

I-LL1-1

The U.S. Army Corps of Engineers' Shoreline Study Project is a separate project from the SBSP Restoration Project and from Phase 2 in particular. See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study.

The Shoreline Study Project has independent utility from the SBSP Restoration Project and is not considered a segmented project under either CEQA or NEPA. However, because the Shoreline Study Project could affect the same physical location or a resource in or around location, the Shoreline Study Project is included in the evaluation of the Phase 2 project alternatives. The cumulative impacts chapter (Chapter 4 of the EIS/R) was prepared following CEQA guidelines (CEQA 15130) and U.S. Fish and Wildlife Service (USFW) NEPA Guidance related to cumulative impacts (USFW NEPA for National Wildlife Refuges Handbook Section 4.7.3.5).

I-LL1-2

Ponds A22 and A23 are part of the overall SBSP Restoration Project and are covered by the 2007 EIS/R, which was a programmatic document, but they are not part of Phase 2 actions. Those two ponds will continue to be managed by the Refuge under its established management practices.

I-LL1-3

Ponds A19, A20, and A21 (also known as the Island Ponds) were breached and opened to tidal flows in 2006 as part of the SBSP Restoration Project's Initial Stewardship Plan. Phase 2 of the project considers a modification to levees and other aspects of those ponds as an enhancement to prior restoration actions. There is nothing in the SBSP Restoration Project that prohibits or suggests against follow-up modifications to previous restoration actions, if conditions warrant. On the contrary, the Adaptive Management Plan encourages such ongoing adjustments to previous actions to achieve the intended restoration goals. In the case of the Island Ponds, the restoration is working very well in Ponds A20 and A21, but improved habitat and hydrological connectivity can be achieved through the additional modifications proposed under the Preferred Alternative for Phase 2 at the Island Ponds. Finally, the comment suggests that the Santa Clara Valley Water District (SCVWD) breached and is managing those ponds as mitigation marshes. The SCVWD did receive mitigation credits from the 2006 breaching of these ponds for impacts associated with the District's Stream Maintenance Program. However, those ponds are still part of the overall SBSP Restoration Project, and the SCVWD is working as a project partner with the USFWS and other Project Management Team entities to ensure their optimal functioning as restored wetlands.

I-LL1-4

The boundaries of the SBSP Restoration Project itself are not the same as the Refuge boundaries. Other areas within the Refuge are not included in the restoration project (e.g., Bair Island), and not all areas within the project as a whole are Refuge lands (e.g., the Eden Landing pond complex, owned by the

California Department of Fish and Wildlife). The maps included in the Draft EIS/R and the Final EIS/R correctly identify the project's boundaries. The Refuge's Comprehensive Conservation Plan includes strategies for creating a continuity of corridors for salt marsh harvest mouse, including synergies with other uses and landowners.

I-LL1-5

The proposed USACE levee associated with the New Chicago Marsh is part of the Shoreline Study Project which encompasses a separate set of ponds than those included in Phase 2. (See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study.) The SBSP Restoration Project need not present mitigation impacts from an external (although related) project. However, the cumulative impacts analysis in the SBSP Restoration Project's Final EIS/R for Phase 2 should and does include an assessment of relevant impacts and mitigation from the Shoreline Study Project.

I-LL1-6

This is a comment about an appendix to another project's EIS/R, that of the USACE's Shoreline Study Project. The SBSP Restoration Project cannot comment on those impacts or associated mitigation. However, the comment does note that some ponds included in the SBSP Restoration Project's overall programmatic footprint (Ponds A9-A15) that are part of the currently proposed mitigation for impacts from the Shoreline Study Project. The cumulative impacts of the Shoreline Study's proposed conversion of Ponds A9-A15 have been added to the Cumulative Impacts chapter of the Final EIS/R for Phase of the SBSP Restoration Project and should have received full analysis and disclosure in the primary impact sections of the Shoreline Study EIS/R. See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study.

The possible restoration of Ponds A9-A15 under the funding, management, and environmental clearance of another project proponent is not prohibited; the general impacts of that restoration were covered in the programmatic components of the 2007 EIS/R. In addition, the restoration of Ponds A9 through A15 will still be guided by the same overall SBSP Restoration Project Adaptive Management Plan.

I-LL1-7

The restoration plan for the ponds listed in this comment has not been developed. As part of the SBSP Restoration Project's Adaptive Management Plan, the prudent course is to delay making final plans for ponds that could be included in future project phases until observations about how wildlife and the environment respond to previous changes can be measured and assessed. The 'bookends' for those ponds were included in the range of programmatic alternatives presented in the 2007 EIS/R.

I-LL1-8

This comment discussed California's drought impacts on Central Valley habitats and loss of open water refugia for Pacific flyway waterfowl. It should be noted that changes in freshwater wetlands in the Central Valley are not equivalent to open water ponds around San Francisco Bay. Further, a long-term restoration project such as this one cannot and should not modify ongoing planning and implementation in response to interannual variability in rainfall. The comment also postulates an overwhelming loss of open water refugia and potential impacts on flyway-level populations. The 2007 EIS/R and the Adaptive

Management Plan established triggers and potential response actions for possible impacts on flyway level populations of migratory waterfowl.

Those documents also established that at least 50% of the total SBSP Restoration Project area would be converted from former commercial salt ponds to tidal marsh. This 50% threshold was the lower end of the "bookends" established by Programmatic Alternatives B and C, that latter of which would convert up to 90% of the total pond area. Following the completion of Phase 2 actions, including at Eden Landing, the project would still be somewhat under the 50% tidal marsh threshold. It is possible that with the combination of the USACE's proposed Shoreline Study Project actions at Ponds A9-A15 (which will also be subject to the Adaptive Management Plan), restored tidal marsh would be over 60% but nowhere near the maximum of 90% conversion. Following an assessment of project impacts on Pacific flyway level populations of migratory waterfowl and other pond-dependent species at that point in time, any additional conversion to tidal marsh will be considered and decisions made about appropriate actions to take past the 50% marsh restoration threshold. Preliminary analysis of SBSP and Cargill Pond bird survey data by the U.S. Geological Survey does not provide evidence for any reduction in dabbling duck or diving duck abundance trend in the last four years of drought. Specifically, wintering (Dec.-Feb.) dabbling duck abundance has remained fairly steady since about 2008, and wintering diving duck abundances have shown a steady increase since about 2008.

Additionally, an upcoming report from the USGS has provided current information on the abundance of different guilds and species within the ponds. This report includes information regarding current trends of bird populations following Phase 1 implementation. Managers will be using that knowledge to alter pond management actions in order to optimize the number and diversity of bird species using the SBSP ponds. That information will also be included in ongoing management and pond-selection decisions. Together, these actions would avoid significant and unavoidable impacts on waterfowl or other pond-dependent species.

See also Master Comment Response #7, which provides a general explanation of the impacts, thresholds of significance, and management triggers used in the 2007 program-level EIS/R and the way in which they were used in the Phase 2 EIS/R.

I-LL1-9

The Phase 2 project planning did consider which ponds provided suitable nesting habitat for the listed species and attempted to accommodate these considerations. This planning included choosing ponds to evaluate for inclusion in Phase 2 and others to leave for possible future phases, and it also included considering which restoration treatments to include at the various Phase 2 ponds. For example, at Ravenswood, Pond R3 is planned to be enhanced for western snowy plover, while Ponds R5 and S5 are being deepened and modified with water control structure for better management for dabbling ducks and small shorebirds, while Pond R4 is being restored to tidal marsh for California Ridgway's rail and salt marsh harvest mouse. The A8 Ponds are being kept as deep water habitat for pond-dependent species, and the Island Ponds are being enhanced for better connectivity for fish habitat and creating several areas of high-tide refugia for roosting birds. This EIS/R is limited to making these decisions and analyzing specific impacts of actions proposed for implementation at the Phase 2 ponds. The programmatic portions of the 2007 EIS/R covered more and broader selections of pond restoration goals and laid out the plan for balancing restoration goals over a number of project phases. Studies by the USGS in the finals stages of completion provide additional information regarding current trends following Phase 1 implementation. This information analyzing pond features by guild and species provide managers with appropriate

information to accommodate habitat needs for listed species. Findings from this USGS report and other current scientific studies are being used to inform the details of Phase 2 implementation. The Phase 2 EIS/R contains several observations from these studies.

I-LL1-10

The SBSP Restoration Project is grateful for this input and for subsequent comment letters from Ms. Lucas.

Lucas, Libby (I-LL2)

From: Bourgeois, John@SCC
To: Buxton, Brenda@SCC; Halsing, David; Anne Morkill
Subject: FW: South Bay Salt Pond Restoration Project DEIS/DEIR Phase 2 - comment 2
Date: Saturday, September 19, 2015 3:08:04 PM

John Bourgeois
South Bay Salt Pond Restoration Project
Sent from my iPhone using Mail+ for Outlook

From: Lucas, Libby
Sent: 9/19/15, 12:31 PM
To: sbsp-announce@southbayrestoration.org, Bourgeois, John@SCC
Cc: South Bay Salt Pond Restoration Project
Subject: South Bay Salt Pond Restoration Project DEIS/DEIR Phase 2 - comment 2

John Bourgeois
Executive Project Manager
South Bay Salt Pond Restoration Project

September 19, 2015

Dear John,

There is an area in your comprehensive analysis of salt pond restoration that needs to be investigated more fully, I believe, and that is the existing constraints of landfills and long term toxic cleanup of groundwater.

When interviewed first manager of San Francisco Bay National Wildlife Refuge, decades ago, his biggest concern about establishing a refuge in such an urban area was the presence of landfills that were improperly lined and/or capped. He came from Wisconsin and said South Bay landfills did not comply with that State's standards, and he felt leaching of contaminants into marshes would be an inevitable problem over the years. **I-LL2-1**

In SBSP Restoration Project, Phase 2, Ponds A1 and A2W would probably qualify as prime source of his concern, especially in consideration of sea level rise in San Francisco Bay. Not being up to date on what measures Regional Water Quality Board has required City of Mountain View to take to ensure contaminants do not seep into Bay, this would still seem to be a constraint in opening up A1 and A2W to full tidal action especially with high tides in storm events.

A conservative measure might be to sink impervious membrane between landfill and ponds and to implement COE super levee to hold it in place and to provide upland marsh refugia inboard of Ponds A1 and A2W. Feel these ponds deserve sufficiently scientific management that it would be unwise to include Charleston Slough in this scenario.

Also in Mountain View area, understand groundwater pollutants are being released into Stevens Creek so it would seem unwise to breach that levee into Ponds A1 and A2W. Stevens Creek carries sufficient sediment load under storm conditions that needs be flushed as far out in bay as possible to retain capacity in channel. **I-LL2-2**

Access for duck hunters and boats has historically been guaranteed along Stevens Creek levees by Refuge so this further supports need for continuity of flood control levees out into Bay. **I-LL2-3**

As mitigation for wetlands marsh lost to COE super levee placed in Ponds A1 and A2W, an island might be found to be feasible just east of Stevens Creek outfall where one is evident in Nichols & Wright **I-LL2-4**

I-LL2-1-4 cont.

Historic Tidal Marshlands of South San Francisco Bay (1971), caption Fig. 2. Not sure if original was excavated for salt pond levees or whether island sub strata still remains, but it lies in appealing location for waterfowl refugia. An island in this location might also be barrier to wave action and protect Sunnyvale Treatment Pond levees.

I-LL2-5

As to Permanente Creek outfall between Ponds A1 and A2W , would think it advisable to retain channel to flush out sediments from upper watershed out into Bay. Permanente Creek's upper watershed has produced, historically, tons of sediment under storm conditions and its high perched channel needs as clear an outfall as is feasible to maintain.

Reflux flows from Permanente Creek to low lying land inboard of Shoreline Park is of sufficient concern that a tidal basin, managed like Palo Alto tidal basin, would be my suggestion. This would require tide gates for Ponds A1 and A2W that could be closed at low tide to provide creek retention capacity for peak storm event.
The rest of the time the tidal basin could remain open for either full tidal action or only sufficient to retain 50/50 option of uplands and wetlands, but this could be a refined management scenario.

I-LL2-6

At recent CCCR meeting considerable enthusiasm was expressed to retain Charleston Slough in its present configuration. Charleston Slough continues to provide rather unique public access point to view a wide variety of species of waterfowl, (between Palo Alto Flood Basin and A1 and A2W Salt Ponds), who forage, seemingly impervious to heavy recreation trail use by birders, cyclists, seniors and school children. (As in Island Ponds, marsh restoration here is responsibility of local jurisdiction as mitigation for past project, rather than USF&WS.)

Charleston Slough has been significant feature on historic tidal maps of San Francisco Bay and has always been referenced as a prime marsh of the South Bay. It has lost its upstream tributaries of Adobe, Barron and Permanente Creeks, and Shoreline Park lake pumps reverse tidal flows, but it still represents dynamics of tidal marsh creation and needs to be preserved and restored with as high a degree of integrity as possible.

(Baylands Ecosystem Habitat Goals Report, Chapter 4, examines Tidal Marsh variables and limits of 'muted' or managed microtidal marsh, but there does not appear to be sufficient reason why Charleston Slough is not able to be returned to full historic health and lush marsh. BCDC and Mountain View could achieve this.)

I-LL2-7

The other SBSP Phase 2 Restoration focus, Ponds A8 and A8S, has similar constraints of adjacent dump, (sometimes referred to as Hoxie Dump) that could use an impervious membrane between dump and Pond A8S, Guadalupe River and inboard wetlands along Gold Street and railroad tracks. A COE super levee at end of Pond A8s would hopefully sufficiently buffer wetlands marsh and water quality of pond from contaminants.
Containing toxic elements at Pond A8S interface with this dump site should be Phase 2 priority and perhaps regulatory authorities contacted before more proposed development is authorized and implemented.

I-LL2-8

One other concern in regards Pond A8 and A8S is that SBSP management appears to focus on flood control criteria rather than water bird habitat refugia and marsh restoration. Felt prospect of opening up Pond A8 to Pond A5 and Guadalupe Slough was not entirely thought out and there now seem to be problems. Definitely think proposal to cut through to San Tomas Aquino Creek and mitigation wetlands complex is flawed idea.

I-LL2-9

Would suggest that every tax dollar spent on salt pond restoration that attempts to satisfy two or three vital aspects of restoration be placed at top of priority list while projects that degrade associate wetlands habitat and especially mitigation marsh be placed at bottom of priorities. There will never be enough money for salt pond restoration successes so please avoid cumulatively costly mistakes.

As hear that your deadline is modified will send this off now and attempt to formulate more precise comment.

All best,

Libby Lucas, 174 Yerba Santa Ave., Los Altos, CA 94022

Response to Lucas, Libby (I-LL2)

I-LL2-1

This comment generally concerns the potential for contaminated groundwater in and around existing capped landfills to leach into the bay and/or into the ponds, sloughs, and tidal marshes surrounding them. It also proposes an impervious membrane between landfills and the ponds. The City of Mountain View's comments also express a concern about seepage through the existing levees around landfills; however, those concerns are about bay water from tidal flows in what are now Ponds A1 and A2W flowing into the groundwater and then into the cells of the closed landfill.

A seepage analysis was conducted as part of the next stage of design. The results of that analysis indicate is that a very slightly increased phreatic surface (i.e., an elevation of the groundwater levels across the levee may result from the pond and toward the landfill, but not enough to increase seepage into the landfill cells. The SBSP Restoration Project is committed to continue collaborating with the City of Mountain View to assess and develop design options including, if necessary, though not expected to be, the addition of a geofabric (an impervious liner such as the one suggested by the comment) to be placed between the existing levee slopes and the areas where the habitat transition zones would be constructed. Another suitable design option could be a cut-off wall built into the levee. Either of these or other suitable design details would further protect against seepage.

I-LL2-2

The comment suggests that groundwater pollutants are being released into Stevens Creek and asserts that this may be a contraindication to connect Stevens Creek and Pond A2W. It also suggests that the sediment load carried by fluvial flows should not be deposited in the stream channel but should instead be carried into the bay.

Opening Pond A2W to connect to Stevens Creek would provide over 200 acres of beneficial habitat for outmigrating smolts as well as other fish and bird species that can forage in shallow-to-medium depth waters. It would also allow the pond to begin accreting sediment and eventually transition to tidal marsh. Without opening this pond to tidal flows or inputs from South SF Bay, tidal marsh formation cannot occur. With regard to delivery of contaminated water into Stevens Creek and then into Pond A2W, water collected in the Crittenden Sump (not landfill leachate or condensate) is pumped into Stevens Creek, but this is done under approved water quality management plans, which suggests the levels of contaminants are low. Further, the seepage analyses done for this project and for the City of Mountain View's Lower Stevens Creek Levee Improvement Project indicates that there is minimal flow into (not out of) the landfill cells.

However, because the long-term goal of many restoration projects would increase the overall connectivity of waters in South San Francisco Bay, and because those waters currently flow into Ponds A1 and A2W though a siphon and would flow into them more readily under a different set of breach locations than the ones proposed for Phase 2 actions, it is reasonable to conclude that the benefits of direct connection of this pond to Stevens Creek outweigh whatever minor risks may exist from limited groundwater seepage into a restored tidal lagoon there that would eventually (~ a decade) become tidal marsh. Note too that the waters in what is now Pond A2W would be well-flushed and any existing contaminants well-dispersed by the time the marsh itself began to form.

With regard to sediment loads carried by Stevens Creek in fluvial storm runoff events, note that Pond A2W is somewhat subsided, and the delivery of sediments to it – or to the outer reaches of Stevens Creek, where it would be delivered by subsequent tidal flows into Pond A2W itself – would speed the restoration of this pond to tidal marsh by reducing the time to accrete the necessary sediment to reach marsh plain elevation.

I-LL2-3

The Phase 2 actions under consideration would not affect the continued existence of levees along either Stevens Creek or recreational access along them. The existing levee top trail along the east side of Stevens Creek (Pond A2E) would not be part of Phase 2, and the west side of Stevens Creek (eastern levee of Pond A2W) would be breached and bridged to provide continued PG&E access. In addition, the Preferred Alternative for Phase 2 would open the latter of these levees to recreational use with the addition of a trail.

I-LL2-4

This comment describes a possible mitigation action for the USACE "super levee" described in comment I-LL2-1. However, that suggested USACE levee is not part of the Phase 2 planning or goals, so the described mitigation action is not necessary at present.

I-LL2-5

In the existing condition, sediments from the upstream portion of the Permanente Creek watershed are carried into the Phase 2 project area (i.e., the lower reaches of Permanente Creek/Mountain View Slough) and then are either carried into the bay or deposited in the stream channels. As in the response to comment I-LLC-2, the connection of two former ponds to the streams would allow the streams carrying this sediment to deposit this sediment directly into the ponds (where it could speed the restoration of marshes) or into the lowest reaches of these streams, where subsequent tides would then carry it into the ponds. The recent modeling work by the USACE has shown that similar "seeding" of nearby tidal mud flats (south of the Dumbarton Bridge) with dredged sediment from offsite locations could increase the delivery of that sediment into the ponds themselves.

In addition, the deposition of sediments from fluvial flows into relatively flat slough channels presents more of an upstream flood risk from blocking outbound flows in the case where there are not connections into adjacent sinks for that sediment (subsided ponds) than where such a connection is available.

I-LL2-6

This comment discusses the inclusion of Charleston Slough into the SBSP Restoration Project as described in Alternative Mountain View C. It does so by expressing support for the slough as a public access feature that provides substantial and easily accessible viewing of birds and other wildlife to a range of observers. The closing paragraph of this comment letter is a parenthetical request to return Charleston Slough to "full historic health and lush marsh."

Charleston Slough is currently an intertidal mudflat that was a tidal marsh in the years before development. Approximately half of its total acreage is required by the San Francisco Bay Conservation and Development Commission (BCDC) to be restored to tidal marsh. That conversion from intertidal mudflats to tidal marsh is not a choice; it is a regulatory requirement. The City of Mountain View currently holds the responsibility for providing that restoration. The inclusion of Charleston Slough into

the Phase 2 alternatives analyzed in the Draft EIS/R was intended to help the City achieve that restoration goal. However, the option to integrate restoration within Charleston Slough into Phase 2 of the SBSP Restoration Project has been removed from the Preferred Alternative at the Mountain View Ponds. Master Comment Response #1 is about the removal of the option to integrate Charleston Slough into the Phase 2 Preferred Alternative. Master Comment Response #6 summarizes the Preferred Alternative, and Chapter 6 of the Final EIS/R contains the full descriptions.

Finally, it should be noted that the public access in the area in and around Charleston Slough would not be diminished by the SBSP Restoration Project. In fact, the Preferred Alternative would expand public access in the vicinity, continuing to provide easy access to a variety of bay habitats with enhanced interpretive features and new trail spurs.

I-LL2-7

See the response to comment I-LL2-1 for a discussion of how the SBSP Restoration Project is currently conducting the necessary analysis of geotechnical information to understand the need for water quality protection measures such as cutoff walls or impermeable membranes, as well as plans for incorporation of these measures into the project.

I-LL2-8

The main content of this comment is about current management actions at the A8-A8S-A5-A7 pond group and whether it focuses on flood control criteria and not on water birds and marsh restoration. As the many directed research studies and ongoing monitoring, data collection, and modeling at the A8 Ponds and in the Guadalupe River, Alviso Slough, and Guadalupe Slough indicate, most management efforts have been directed toward understanding and managing the problems of remnant mercury in the biota, sediments and waters in and around this pond cluster. The results of each of those studies have been carefully used to inform the next set of studies and the ongoing management of the directional culverts and the reversible armored notch that allows muted tidal flows into this pond cluster. The results of these studies have shown that there have been spikes in mercury levels in water, fish, and bird eggs in the periods immediately following opening but that these mercury levels in water and fish return to levels similar to nearby reference areas by the end of the season.. Within two years the mercury levels in bird eggs were similar to local reference areas. The last two years of study have found that mercury levels in water, fish and birds are now about what would be expected had the opening of Pond A8 to muted tidal flows had not occurred. The lessons learned are that it may soon be appropriate to open the A8 Ponds to full tidal flows without undue concern for ongoing adverse environmental impacts related to mercury. There is essentially no operation of these ponds and water control structures to address flood control concerns.

Finally, there are no immediate plans to connect the A8 Ponds to San Tomas Aquino Creek, though the placement of the two transition zones in the southern corners of this pond group is intended to allow it at some point in the future if that is appropriate. At the very least, the Phase 2 action at this pond cluster would not foreclose that future option.

I-LL2-9

The SBSP Restoration Project is conscious of the value of tax dollars, as well as funding from other sources, and is committed to making the most out of every restoration effort. Thank you for this comment.

Lucas, Libby (I-LL3)

From: JLucas1099@aol.com [mailto:JLucas1099@aol.com]
Sent: Tuesday, October 27, 2015 11:31 AM
To: Bourgeois, John@SCC; sbsp-maillist@southbayrestoration.org
Subject: South Bay Salt Pond Restoration - Phase 2 - Alviso/Charleston Slough - Comment 3

John Bourgeois, Executive Project Manager
South Bay Salt Pond Restoration Project
State Coastal Conservancy, 13th floor
1330 Broadway, Oakland, CA 94625

October 27, 2015

Dear John Bourgeois,

In continuation of my submittal on South Bay Salt Pond Restoration, Phase 2, I would like to draw particular attention to Charleston Slough and its unique value as shorebird foraging refugia, especially in context of its neighboring complex of marshes.

I-LL3-1 Due to pump action for Mountain View Shoreline Lake, bay waters and sediments have been drawn into old Chalreston Slough (rather than flushing historic Adobe Creek sediments out to Bay) to create raised tidal mud flats. This tidal mud flat, though sadly it replaced an exceptional marsh, is exactly what SBSP claims to envision for extensive marshland in South Bay. However, it is my contention that, due to land subsidence, most of anticipated, proposed wetlands acreage is now. and is likely to remain, open water waterfowl habitat.

To breach levee between Charleston Slough and Pond A1 will alter slough tidal dynamic entirely and degrade one of your most successful tidal marshes. Just note, as believe these pictures show, your wealth of wildlife in Charleston Slough compared to that evident in Pond A1's half dozen sea gulls on pilings and three egrets scouting upland grasses.

To further consider Charleston Slough in context with its neighboring marshlands, slides illustrate the inland Coast Casey forebay retention basin, which always provides resting mudflat habitat with a different biological appeal, and with developing marsh grasses to east, adjacent to Shoreline Park.

I-LL3-2 Then note confined Adobe Creek channel, where Coast Casey's pumped storm water to Palo Alto Baylands has induced a forest of invasive Phragmites to expand into mitigation preserve's uplands. Due to endangered species protocol, City of Palo Alto has been unsuccessful in attempt to restore marshland over past decade.

I-LL3-3 Believe you can appreciate how essential it is to preserve all viable shorebird habitat that Charleston Slough is providing in present configuration, which retains historic meander identifiable on centuries of marsh maps. Migratory waterfowl of Pacific Flyway have Charleston Slough on their radar so do not alter its natural design.

I-LL3-4 Then, mentioned earlier how contaminants may leach into Ponds A1 and A2, not only from Shoreline dump but from inboard residual toxic plumes (as evident on contaminant map) from Spectra Physics and Teledyne. A conservative approach would appear advisable to not homogenize the water quality constraints bound to be present in each shoreline community, dependent on past practices of 'when in doubt dump it by the Bay'.

I-LL3-5 Another constraint to managed marshlands, which is of concern in City of Palo Alto's Baylands Preserve, is how to accommodate tidal water levels within a basin to maximize viable wetland and upland refugia, with the mosquito abatement criteria of reduced levels of inundation of marsh to reduce mosquito breeding wetlands. Palo Alto City Council commissioned studies and decreed a minus 1.7 for tidal elevation in mitigation marsh however mosquito abatement and SCVWD set tide gates for minus 2.0, I believe, for Palo Alto Flood Basin.

I-LL3-6 There need to be scientific protocols established in SBSP restoration plan that satisfy both wildlife wetlands marsh habitat conservation, appropriate for wildlife refuge, with impinging angst of humanity in urban setting. If this has already been accomplished, would appreciate being referred to chapter and verse.

The other aspect of this Phase 2 of your Salt Pond Restoration Plan that concerns me is difficult to address. In revisiting New Chicago Marsh it is more evident than ever it is vital southern fringe of San Francisco Bay. There is no amount of human engineering or resource expenditure by which this ecotone can be duplicated.

I-LL3-7 Seasonal wetlands here are fast becoming tidal wetlands and there is no way to reverse the natural process. Subsidence and artesian action are more pronounced than was recognized but result in unique ecosystems.

To site a COE levee between these wetlands and the open water bay appears infeasible in numerous ways. However, I will cite only my doubt that a COE levee can be engineered to accommodate Union Pacific tracks and South Bay tidal flood gates, at right angles, and for extended period that mega storm event will demand.

In short, do not believe SBSP Restoration Plan should be coupled with a COE levee design that did not give priority to critical constraint of coordination with Union Pacific's West Coast railroad line service schedule. As suggested to COE, it would be just as extensive and expensive a levee to place it outboard of railroad line and it would provide a far greater cost benefit to South Bay Region.

Alviso could still survive with ring levee that was mandated thirty years ago to protect it from all sides, from both fluvial and bay storm events, but do not believe proposed COE levee alignment can assure the same.

I-LL3-8 Guess might also mention here that do not think that tide gates on Artesian Slough will be able to handle treatment plant flows in variety of storm event circumstances that are bound to take place in coming years. Had initial impression that Pond 18 was acquired to retain all treatment plant flow in extended storm events until bay levels receded sufficiently to allow releases. Believe there is still wisdom in this scenario and that a separate canal or conduit should be built to put plant outflow into beefed-up-leveed Pond 18. Artesian Slough in fluvial and bay storm events will be too impacted by natural forces to capably handle water plant releases.

Will send this on with seven enclosures which hopefully illustrate mentioned marsh and wetlands concerns.
Thank you for all considerations of same.

Libby Lucas
174 Yerba Santa Ave.,
Los Altos, CA 94022

Response to Lucas, Libby (I-LL3)

I-LL3-1

This comment misstates Charleston Slough as "one of [the] most successful tidal marshes." Charleston Slough is an intertidal mudflat in an area that used to be tidal marsh and that is under a regulatory requirement from the BCDC to be restored to that status.

The comment also overstates the degree of subsidence and the end fate of restored ponds by asserting that many areas slated for tidal marsh wetland restoration would remain open water waterfowl habitat. While there are certainly areas where that statement is correct, the modeling done on sedimentation rates (using empirical data from recently breached ponds in the SBSP Restoration Project area) shows that the Mountain View Ponds are likely to accrete sediment and develop marsh even under a moderate sea-level rise scenario. Further, there is continued progress being made on developing regulatory/permitting agreements and the physical infrastructure to bring dredged material to the South Bay for beneficial reuse in restoration projects. Finally, note that subsidence under the salt ponds has largely been stopped by the SCVWD's groundwater recharge program.

The comment compares the relatively high amounts and diversity of bird use in the slough with the levels in Pond A1. Note that the current status of Pond A1 and A2W are not the proposed end state for those ponds under Phase 2. Rather, ponds A1 and A2W would be breached and begin transitioning to tidal marsh. Also, however, those two ponds have been shown to be important forage and roosting areas for a number of waterfowl, particularly diving ducks.

The connection between Charleston Slough and Pond A1 to the Bay was seen as the best way for the City of Mountain View to meet its regulatory permitting requirement. However, that option is no longer part of the Preferred Alternative at the Mountain View Ponds. See also the Master Comment Response #1.

I-LL3-2

The SBSP Restoration Project notes that Phragmites and other invasive species continue to be a management concern. Master Comment Response #2 is about ongoing Refuge management activities.

I-LL3-3

Intertidal mudflats are the dominant habitat of the South Bay. Also, the channel visible in Charleston Slough appears to be maintained by the intake of up almost 10 million gallons per day of water. This channel may have been a historical slough trace, as the comment suggests, but it very likely would have filled in with sediment by now if the pumping intake were not there.

I-LL3-4

See the responses to comments L-CMV-1 and I-LL2-1, which speak to the seepage analysis and other aspects of the landfill levees and possible issues with contamination of groundwater.

I-LL3-5

These are notable management concerns for managed basins. However, the Phase 2 alternatives at the Mountain View Ponds, which are the ones addressed in this comment letter, do not propose any managed basins. The proposed restoration to more open tidal systems is expected to decrease problems with mosquitoes, for example.

I-LL3-6

See Master Comment Response #2, which address several common concerns about ongoing management practices of the National Wildlife Refuge.

I-LL3-7

New Chicago Marsh is not a part of the SBSP Restoration Project. The U.S. Army Corps of Engineers (USACE) levee discussed appears to be part of the USACE's Shoreline Study Project for which separate alternatives development and analysis and NEPA/CEQA processes were undertaken. The Phase 2 SBSP Restoration Projects are not coupled with that project. See Master Comment Response #3 for a discussion of the relationship between the SBSP Restoration Project and the Shoreline Study. Clearly, the SBSP Restoration Project must consider that project's proposed outcomes and impacts in Chapter 4 – Cumulative Impacts of this EIS/R, and the Final EIS/R has additional detail on those potential cumulative impacts in that chapter.

I-LL3-8

The tide gates on Artesian Slough are part of the USACE's Shoreline Study Project and warrant consideration under this project's cumulative impacts section only. That information is presented in Chapter 4 of the Final EIS/R.

Reid, Chris and Jim (I-JCR)

From: "J Reid" via Phase 2 Comments
To: phase2comments@southbayrestoration.org
Subject: [phase2comments]
Date: Friday, September 18, 2015 9:01:30 AM

I-JCR-1 Great work. Keep up the momentum. A big plus for the bay

Jim & Chris Reid

To unsubscribe from this group and stop receiving emails from it, send an email to phase2comments+unsubscribe@southbayrestoration.org.

Response to Reid, Chris and Jim (I-JCR)

I-JCR-1

This comment expresses general support for the project. No response is necessary.