California Regional Water Quality Control Board
San Francisco Bay Region

Tentative Order No. R2-2012-XXXX

Amending Waste Discharge Requirements Order No. R2-2008-0078 for:

U.S. Fish and Wildlife Service and
California Department of Fish and Game
South Bay Salt Pond Restoration Project (SBSPRP),
Modification 1 to Phase I

Findings

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter "Regional Water Board"), finds that:

1. The Regional Water Board issued waste discharge requirements (Order No. R2-2008-0078) for Phase I of the South Bay Salt Pond Restoration Project (SBSPRP) to the U.S. Fish & Wildlife Service (FWS) and California Department of Fish & Game (DFG), hereafter jointly and independently referred to as Discharger, on August 13, 2008.

2. This Order amends Order No. R2-2008-0078 to address design changes for the restoration of Ponds A16 and A17. The design modifications for Ponds A16 and A17 are included in Attachment G. This Order refers to these changes as "Modification 1 to Phase I" of the SBSPRP. Amendments to Order No. R2-2008-0078 are displayed as underlined type and deletions of text are displayed as ~~strikeout~~ format.

3. California Environmental Quality Act (CEQA) requires that project effects be analyzed to prevent significant avoidable impacts and reduce or mitigate unavoidable impacts. All projects approved by State agencies must be in full compliance with CEQA. For Phase I actions, DFG, as lead agency together with FWS, certified a final environmental impact statement/report (EIS/R) on March 11, 2008, that was considered and relied upon in preparation of the Order No. R2-2008-0078. DFG also issued an approval letter on October 6, 2011, to modify Phase I, stating "The proposed project [the project referred to as "Modification 1 to Phase I" in this Order] was found to be consistent with the Phase One Project and Programmatic actions planned at the Refuge and described in the Final Environmental Impact Statement/Environmental Impact Report (FEIS/R) for the SBSPRQ." The Regional Water Board, as a responsible agency under CEQA, finds that all environmental effects have been identified for project activities that it is required to approve, and that those proposed project activities, as conditioned with requirements of Order No. R2-2008-0078, as amended by this Order, will not have significant adverse impacts on the environment.

4. The Regional Water Board notified the Discharger and interested agencies and persons of its intent to consider adoption of this Order, and provided an opportunity to submit written comments.

5. In a public meeting, the Regional Water Board heard and considered all comments pertaining to this Order.

IT IS HEREBY ORDERED, pursuant to the provisions of California Water Code Division 7 and regulations and guidelines adopted thereunder, that the Discharger, its agents, successors, and assigns shall comply with Order No. R2-2008-0078, as amended by this Order, as follows:

1. Revise Finding Nos. 1, 3, and 9 to state that Phase I actions will cover 3,270 acres of former salt ponds instead of 3,069 acres; this corrects two mistakes in the pond dimensions presented in Order No. R2-2008-0078. For Pond A6, the surface area was given as 330 acres, instead of the correct 360 acres. For Pond A8, the surface area was given as 1,400 acres, instead of the correct 1,440 acres.

2. Revise Finding No. 4 as follows:

   The future ratio of tidal marsh to managed ponds will be between 50:50 and 90:10. These two endpoints represent the two alternatives that were evaluated for this project under the California Environmental Quality Act (CEQA). The variability between projected ratios of tidal marsh to managed ponds is significant because it is uncertain what percentage of managed ponds is necessary to provide habitat for shorebirds and waterfowl, and whether managed ponds can be reconfigured to protect water quality. The amount of tidal marsh restoration approved under Order Nos. R2-2008-0078 and R2-2004-0018 was 9.7% of the 15,100 project area. This included 480 acres to restore the Island Ponds to tidal marsh under Order No. R2-2004-0018. Order No. R2-2008-0078 included ponds A6 (360 acres) and E8A/E8X/E9 (630 acres) as tidal marsh. The redesign of Pond A16/A17 will increase the amount of tidal restoration from 9.7% to 10.5 %. This increase remains well below the approved 50% endpoint analyzed for the SBSPRP. The above tidal marsh restoration percentages do not include Pond A8 (1,440 acres), which is being operated as reversible muted tidal habitat and may eventually be restored to tidal marsh.

3. Revise Finding No. 8 as follows:

   This Order is organized into three sections: Phase I Marsh Restoration and Pond Management; Management of Ponds Under the Initial Stewardship Plan; and Ongoing Operation and Maintenance. The Findings are followed by Prohibitions, Specifications, Receiving Water Limitations, and Provisions. Attachments include Figures, Supplemental Tables, the Adaptive Management Plan, the Water Quality Self Monitoring Plan, the Landscape and Habitat Monitoring Plan, and Standard Provisions and Reporting Requirements. This Order constitutes revisions to the Pond A16/A17 restoration project, for Modification 1 to Phase I, and amends Order No. R2-2008-0078 accordingly. In addition, this Order updates some anticipated start and completion dates for activities that have either been completed or modified since the adoption of Order No. R2-2008-0078.

4. Revise Table 1 of Finding No. 10 as follows:

Table 1. Proposed Phase I Restoration Actions

PHASE I RESTORATION ACTION	ANTICIPATED START OF CONSTRUCTION	TYPE OF RESTORATION	ACREAGE	ANTICIPATED CONSTRUCTION COMPLETION
Alviso Pond Complex (FWS)				
Pond A6	Summer 2010	Tidal habitat	~~330~~360[3]	2010
Pond A8	Summer 2009	Reversible muted tidal habitat	~~1,400~~1,440[1]	~~2009~~ 2011
Pond A16 and A17	~~Summer 2009~~Fall 2011	Reconfigured managed pond and tidal habitat	~~242~~373[2]	~~2011 2012~~2013
Ravenswood Pond Complex (FWS)				
Pond SF2	Fall 2008	Reconfigured managed pond	237	2010
Eden Landing Pond Complex (DFG)				
Pond E8A, E9, and E8X	Summer 2009	Tidal habitat	630	2011
Ponds E12 and E13	Summer ~~2009~~ 2012	Reconfigured managed pond	230	~~2012~~ 2013
Total Acreage			**~~3,069~~3,270**	

[1] This acreage includes Ponds A5, A7, and A8S, which would be affected by tidal inundation over the low internal levees that separate these ponds from Pond A8. The total acreage for Pond A8 was incorrect in the Order No. R2-2008-0078. The correct acreage is 1,440 acres, instead of 1,400 acres.

[2] This acreage ~~does not~~ includes both Pond A16 (242 acres) which will be a reconfigured managed pond and Pond A17 (131 acres) which will be ~~operated jointly with Pond A16 to manage water levels within Pond A16~~breached to create tidal habitat~~; species supported in Pond A17 are not expected to change~~.

[3] Acreage for Pond A6 was incorrect in Order No. R2-2008-0078. The correct acreage is 360 acres, instead of 330.

Note 1: Recreational facilities include: Alviso Pond Complex improvements to the Bay Trail; Ravenswood Pond Complex improvements to Bay Front Park and Pond SF2; and Eden Landing Complex trail construction, kayak launch, and viewing platforms.

Note 2: Not shown in Table 1 is the 480-acre Island Pond tidal marsh restoration already approved by the Regional Water Board under the ISP, Order No. R2-2004-0018.

5. Revise Finding 15 as follows:

The SBSPRP area is divided into four general habitat types (tidal habitat, reversible muted tidal habitat, managed pond, and reconfigured managed pond) covering a total of 15,100 acres. ~~The habitat types in~~ Table 2 presents the resulting acres of each habitat type after implementation of the proposed Phase I actions in ~~3,069~~3,270 acres of salt ponds. The net benefit is an increase in tidal marsh, muted tidal, and reconfigured managed pond habitats, and a corresponding decrease in salt ponds. The Phase I restoration actions will provide approximately ~~2,360~~1,121 acres of tidal habitat including approximately ~~1,400~~1,440 acres of reversible muted tidal habitat, and 709 acres of reconfigured managed ponds (not including the 480 acres restored at the Island Ponds, approved under Order No. R2-2004-0018).

Table 2. Existing Habitats in the SBSPRP Area and Proposed Habitat Changes from Phase I

Habitat Type	Pond Complex	Existing Habitats	Phase 1 Future Habitats	Net Changes as a Result of Phase I
Former Salt Ponds	Alviso	7,360	~~5,388~~5,187	
	Ravenswood	1,440	1,203	
	Eden Landing	4,420	3,560	
	Subtotal:	**13,220**	**~~10,151~~9,950**	**-~~3,069~~3,270**
Tidal Marsh Habitat	Alviso	1,230	~~1,560~~1,721	
	Ravenswood	50	50	
	Eden Landing	600	1,230	
	Subtotal:	**1,880**	**~~2,840~~3,001**	**+~~960~~1,121**
Reversible Muted Tidal Habitat	Alviso	0	~~1,400~~1,440	
	Ravenswood	0	0	
	Eden Landing	0	0	
	Subtotal:	**0**	**~~1,400~~1,440**	**+~~1,400~~1,440**
Reconfigured Managed Ponds	Alviso	0	242	
	Ravenswood	0	237	
	Eden Landing	0	230	
	Subtotal:	**0**	**709**	**+709**
	TOTAL	**15,100**	**15,100**	**0**

6. Revise Finding No. 16 as follows:

Existing wetlands and other waters of the State will be impacted by Phase I dredge and fill activities. Table 3 below summarizes the Phase I impacts to existing wetlands in the six Phase I action ponds. Since temporary disturbances will not last more than a few months, only ~~256~~153 acres of permanent impacts are counted in the total ~~3,069~~3,270-acre area, leaving an estimated 3,117 acres restored or managed for wildlife after Phase I is completed in 50 years. No compensatory mitigation is required for impacts to existing wetlands and waters of the State, since this restoration project will result in many more acres of restored and enhanced habitats than the acres of habitat that are impacted.

Table 3. Summary of Dredge and Fill Information for Phase I of the SBSPRP

POND/POND SYSTEM	TEMPORARY DISTURBANCE AREA (ACRES) (EXCLUDED FROM TOTAL)	DREDGE AREA (ACRES)	FILL AREA (ACRES)	PERMANENT IMPACTS (= DREDGE + FILL ACRES)	POND SIZE (ACRES)	ACRES RESTORED OR IMPROVED FOR WILDLIFE
A6	1.74	1.98	3.21	5.2	~~330~~360	~~325~~355
A8	0.15	0.81	0.11	0.92	~~1,400~~1,440	~~1,399~~1,439
A16/A17	~~22.2~~10.0	~~110~~35.81	~~35.2~~6.74	~~145.2~~42.59	~~242~~373	~~97~~330
SF2	18.2	55.7	21.4	77.1	237	160
E8A/E8X/E9	242	2.88	5.49	8.37	630	622
E12/E13	4.72	9.92	8.98	18.9	230	211
Total	~~289~~277	~~181~~107	~~74~~46	~~256~~153	~~3,069~~3,270	**~~2,814~~3,117**

Note: Permanent impacts are calculated as dredge plus fill acres. Temporary disturbance is not counted as a permanent impact. The fill area for Ponds A16/A17 and SF2 includes areas where fill will be used for the construction of nesting islands.

7. Revise Finding No. 18 as follows:

The San Francisco Bay Conservation and Development Commission (BCDC), a state regulatory agency, is responsible for issuing a consistency determination (CD) and a permit to the Discharger. The CD is for actions on federal lands, and the permit is for actions on lands owned by the State. BCDC also has an active role in the planning and design of the Project. One element of BCDC's CD/permit ~~will~~ addresses public access via the Bay Trail. BCDC has approved Phase I of the Project and is expected to take an action on the revised Pond A16/A17 design after adoption of this Amendment~~Order~~.

8. Revise Finding No. 27 as follows:

POND A16/A17 RECONFIGURATION, VIEWING PLATFORM, AND INTERPRETIVE DISPLAY

The Pond A16 managed pond will be reconfigured to create islands for nesting birds and shallow water habitat for shorebird foraging (~~Figure 5 and Attachment B, Table B-~~Attachment G, which amends descriptions of Pond A16 and Pond A17 in Figure 5 in Attachment A to Order No. R2-2008-0078 and in Table B-4 in Attachment B to Order No. R2-2008-0078). Pond A17 tidal habitat restoration (131 acres) will breach the existing levees and allow full tidal inundation within Pond A17. The Pond A16 Phase I action will create 242 acres of high quality nesting and shallow water foraging habitat for shorebirds. It is important to note that the reconfigured, managed pond habitat of the type proposed for Pond A16 restoration, a high density of bird nesting islands interspersed with shallow water foraging habitat, is a large-scale experiment. The Alviso Pond A16 managed pond will be reconfigured to create ~~50~~16 islands for nesting birds and shallow water habitat for shorebird foraging via the installation of ~~3~~2 new water control structures (inlet and outlet), excavation of a pilot channel~~s~~ to ~~Coyote Creek and~~ Artesian Slough, ~~development of an internal water circulation system using a series of berms and water control structures such as flashboard weirs~~, and the construction of the nesting islands. Water will be introduced into Pond A16 from restored tidal habitat in Pond A17. The intake~~s~~ into Pond ~~A17~~A16 from ~~Coyote Creek~~Pond A17 will be screened

to exclude anadromous fish. In addition, a viewing platform and interpretive station will be constructed at Pond A16 and a fishing platform and interpretive station will be constructed at the northwestern end of Pond A17 in Coyote Creek. Restoration construction is expected to occur over 2 seasons within a 24 month period.

9. Revise Finding No. 29 as follows:

Ravenswood Pond SF2 will be reconfigured to create 237 acres of high quality nesting and shallow water foraging habitat for shorebirds. It is a large-scale experiment similar to Pond A16/A17. Water levels will be managed via the installation of 2 new water control structures, excavation of pilot channels through the fringe marsh outboard of the new water control structures, development of an internal water circulation system using a series of berms and water control structures such as flashboard weirs, and the construction of 36 nesting islands (Figure 6 and Attachment B, Table B-5). Three cells would be created; the two eastern cells would be reconfigured to create nesting islands for birds and shallow water habitat for shorebird foraging. The third, western cell would be managed to provide snowy plover habitat similar to existing conditions. In addition, 2 viewing platforms and interpretive stations will be constructed, and portions of the existing trail along Pond SF2 will be upgraded. Restoration construction is expected to occur over 2 seasons within a 24 month period. As Pond SF2 is dry, Bay waters will flow into this pond when the Discharger reconnects it to the Bay, and, therefore, there will not be a discharge of highly saline waters from this pond.

10. Revise Finding No. 37 as follows:

Modification 1 to Phase I restoration actions will directly impact the design and management of Ponds A6, A8, A16, A17, SF2, E8A, E8X, E9, E12, and E13. This Order also continues to permit the Discharger to operate the remaining ponds under the management protocols that were authorized under the ISP. Most of the remaining ponds are managed to maintain open water conditions. Without the introduction of Bay water, these ponds would dry down during the summer and become seasonal ponds in the winter, which would significantly reduce open water habitat. Operating former salt ponds as managed ponds is considered by the Board to be a transitional phase between salt-making and restoration. This transitional lagoon management phase for most of the former salt ponds benefits the environment in the near term by providing shallow open water habitat for shorebirds, thus avoiding the consequences of operating them as seasonal ponds (See Finding 88).

11. Revise Finding No. 45 as follows:

Alviso System A16/A17. This consists of two ponds (A17 and A16). As explained in an earlier finding, Pond A16 will be a reconfigured managed pond and Pond A17 will be restored to tidal habitat~~affected by Phase I restoration actions~~. ~~Discharger implements Phase I actions, Pond A17 will be operated under muted tidal conditions.~~ Until Modification 1 to Phase I actions are implemented, this system will continue to operate as it was under the ISP. Under this scenario, A17 intakes water from Coyote Creek through a 48-inch gate. From A17 a 50-foot levee gap transfers water to A16. From A16 a 48-inch gate structure discharges into Artesian Slough (Discharge Point A-A16-1). In this system, both intake and discharge structures include operable gates to close off all flow, allow inflow only, or outflow only. The table below shows the expected hydraulic residence times for this system in the summer.

Because the Discharger needs to close the intake structure at pond A17 in the winter (to avoid entraining migrating salmonids) and may use it as an alternative discharge point, only small flows will discharge from this system during these months, under the operating protocols of the ISP. Table 8 also describes the revised Pond A16/A17 design hydraulic residence time as outlined under the management scenario described in the revised Finding 27 for Modification 1 to Phase 1 noted above. Pond A17 will be restored to tidal habitat and therefore revised numbers for Pond A17 are not listed in the table.

Table 8: Summer Hydraulic Residence Times for Pond ~~System~~ A16

Pond	Area (acres)	Depth (ft)	Volume (acre-ft)	Outlet Flow (ft^3/s)	Residence Time (days)
~~A17~~	~~131~~	~~1.2~~	~~157.2~~	~~24~~	~~3.3~~
~~A16~~	~~243~~	~~1.7~~	~~413.1~~	~~2~~	~~8.7~~
~~Total~~	~~374~~				~~12~~
Revised Pond A16	242	1.68	408	60	3.4

12. Revise Finding No. 59 as follows:

Migration of Salmonids. Steelhead trout and Chinook salmon migrate in South Bay sloughs, or slough channels that receive pond discharges. During certain times of the year, Coyote Creek and Alviso Slough may contain steelhead trout and Chinook salmon. The table below describes the upstream and downstream migration periods when former salt ponds have the potential to affect migrating salmonids.

Table 16: Migration Periods for Salmonids

Species	Upstream Migration	Downstream Migration
Steelhead Trout	January-March	March-April
Chinook Salmon	September-November	March-April

While Steelhead Trout and Chinook Salmon migrate primarily downstream in March and April, storm induced migrations can begin as early as December. For this reason, NMFS recommends that the Discharger close intakes on all salmonids creeks and sloughs from December through April. Therefore, this Order as amended requires that, during this period, the Discharger close intake structures at Ponds A9 and A17 unless it installs fish screens, or the pond A17 levees are breached and Pond A17 is exposed to full tidal inundation. As part of the Modification 1 to Phase I action for Pond A16, the Discharger indicates that it plans to install fish screens at the Pond ~~A17~~A16 intake from Pond A17.

13. Revise Finding No. 67 as follows:

Applied Studies. To address how the Discharger needs to adaptively manage ponds in the long term, this Order as amended requires that the Discharger continue to implement applied studies. These studies will focus on ponds that may be operated as managed ponds in the long term (e.g.,

A3W, A14, and E10) and ponds that will be reconfigured (SF2 and A16/A17) under Phase I restoration actions. The purpose of these applied studies is to guide long-term restoration efforts to determine (a) how pond geometry (surface area, depth, filling borrow ditches) should be altered to make managed ponds ecologically sustainable, (b) if the Discharger should move towards a restoration effort that will involve fewer managed ponds and more tidal marsh (especially if managed ponds cannot be reconfigured to become ecologically sustainable), and (c) how to develop a site-specific objective for dissolved oxygen in managed ponds.

14. Revise Prohibition A.4 as follows:

    Intake from waters of the State into Ponds A9 and A17 between December 1 through April 30 is prohibited. For Pond A17, this prohibition will cease to apply once the Pond A17 levee is breached and the Pond A16 intake is properly screened to exclude anadromous fish.

15. Revise Provisions 11 and 12 to include Pond A17.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on _____.

_____
Bruce H. Wolfe
Executive Officer

Attachments

Attachment G: Alviso Pond A16-A17 Restoration Design Modifications to Existing Environmental Permits Memorandum