

COASTAL CONSERVANCY

Staff Recommendation
October 29, 2009

**SOUTH SAN DIEGO BAY WETLANDS RESTORATION PROJECT:
IMPLEMENTATION**

File No. 09-017
Project Manager: Megan Johnson and Mary Small

RECOMMENDED ACTION: Consideration and possible Conservancy authorization to disburse up to \$4,244,388 to the Southwest Wetlands Interpretive Association to implement a part of the South San Diego Bay Wetlands Restoration Project, San Diego County; authorization of up to \$296,641 to the Port of San Diego to implement a part of the project; adoption of a Mitigated Negative Declaration.

LOCATION: South San Diego Bay, City of Imperial Beach, County of San Diego

PROGRAM CATEGORY: Resource Enhancement

EXHIBITS

- Exhibit 1: [Project Location](#)
 - Exhibit 2: [Mitigated Negative Declaration](#)
 - Exhibit 3: [Conceptual Design](#)
 - Exhibit 4: [June 4, 2009 Staff Recommendation](#)
 - Exhibit 5: [Exemption Letter from Department of Finance](#)
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RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following resolution pursuant to Sections 31251 - 31270 of the Public Resources Code:

“The State Coastal Conservancy hereby authorizes disbursement of up to four million two hundred forty-four thousand three hundred eighty eight dollars (\$4,244,388) to the Southwest Wetlands Interpretive Association (“SWIA”) to carry out the portion of the South San Diego Bay Wetlands Restoration Project that restores the western salt ponds; authorizes disbursement of up to two hundred ninety-six thousand six hundred forty one dollars (\$296,641) to the Unified Port of San Diego (“the Port of San Diego”) to carry out that portion of the South San Diego Bay Wetlands Restoration Project that restores the Chula Vista Wildlife Reserve; adopts the CEQA Mitigated Negative Declaration attached to the accompanying staff recommendation as Exhibit

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2; and adopts the mitigation monitoring program in Attachment 1 to Exhibit 2; subject to the following conditions:

1. Prior to the disbursement of funds to the Southwest Wetlands Interpretive Association, SWIA shall submit for the review and written approval of the Conservancy's Executive Officer a work program, including budget and schedule, and the names of any contractors to be employed for these tasks.
2. Disbursement of Conservancy funds to SWIA is conditioned upon the availability of bond funds sufficient to provide the funds to the grantee.
3. Prior to the disbursement of funds to the Unified Port of San Diego, the Port of San Diego shall submit for the review and written approval of the Conservancy's Executive Officer a work program, including budget and schedule, and the names of any contractors to be employed for these tasks.
4. SWIA and the Port of San Diego shall carry out the project consistent with the project description set forth in the adopted Mitigated Negative Declaration. In addition, SWIA and the Port of San Diego shall be responsible for ensuring implementation of all mitigation measures identified in the adopted Mitigated Negative Declaration."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed project is consistent with the Project Selection Criteria and Guidelines, last updated by the Conservancy on June 4, 2009.
2. The proposed authorization is consistent with the purposes and objectives of Chapter 6 of Division 21 of the Public Resources Code regarding the enhancement of coastal resources.
3. The proposed project serves a greater-than-local need.
4. The Southwest Wetlands Interpretive Association is a nonprofit organization existing under Section 501(c)(3) of the U.S. Internal Revenue code, and whose purposes are consistent with Division 21 of the Public Resources Code.
5. The proposed project is a high priority project that offers significant public benefits and provides an opportunity for significant matching funds, and therefore meets the criteria for the exemption from the restrictions set forth in the Department of Finance Budget Letter 09-15 (Exhibit 5).
6. The Conservancy has reviewed the final Mitigated Negative Declaration, prepared in accordance with the California Environmental Quality Act ("CEQA") along with the comments received during the public comment period, and finds that there is no substantial evidence that the South San Diego Bay Wetlands Restoration Project, as mitigated, will have a significant effect on the environment, as defined in 14 California Code Regulations Section 15382, and that the final Mitigated Negative Declaration reflects the Conservancy's independent judgment and analysis."

PROJECT SUMMARY:

Staff recommends that the Conservancy adopt the Mitigated Negative Declaration for the South San Diego Bay Wetlands Restoration Project and authorize two grants to implement the proposed project. The first authorization would be for up to four million two hundred forty-four thousand three hundred eighty eight dollars (\$4,244,388) to the Southwest Wetlands Interpretive Association (“SWIA”) for restoration of the western salt ponds. The second authorization would be for up to two hundred ninety-six thousand six hundred forty one dollars (\$296,641) to the Unified Port of San Diego for restoration work at Chula Vista Wildlife Reserve. The majority of funding for this project will come from two separate federal grants awarded to the Coastal Conservancy: a National Coastal Wetlands Conservation Grant of \$1,000,000 from the U.S. Fish and Wildlife Service (“USFWS”) and an award of \$2,975,000 of American Recovery and Reinvestment Act funds from the National Oceanic and Atmospheric Administration (“NOAA”).

On June 4, 2009, the Conservancy authorized funding for planning and engineering work for this project, see Exhibit 4. A portion of that authorization was contingent on the Conservancy receiving grant funds from NOAA. On July 1, 2009, the Conservancy was awarded \$2,975,000 for this project by NOAA from the American Recovery and Reinvestment Act. The actions in this staff recommendation would complete CEQA review for this project and authorize funding for implementation of the project. The project is on a very fast timeline because a portion of the federal funding for the project is coming from the American Recovery and Reinvestment Act.

The goal of the South San Diego Bay Wetlands Restoration Project is to restore about 280 acres of coastal habitat, in part by restoring tidal influence and tidal marsh elevations to about 225 acres of currently active solar salt ponds at the southwest end of San Diego Bay to support a range of tidal habitats, from subtidal to high salt marsh. Implementation of the project will involve restoring coastal salt marsh in the western salt ponds (Ponds 10, 10A and 11) by restoring appropriate elevations and breaching the levees to restore tidal circulation (See Exhibit 3, Conceptual Design). Prior to breaching the ponds, about 150,000 cubic yards of material from within the ponds would be dredged and redistributed among the three ponds to achieve appropriate elevations of between +3.5 feet and +4.5 MLLW, the elevation range suitable for supporting cordgrass- (*Spartina foliosa*) dominated salt marsh in San Diego Bay.

Another component of the South San Diego Bay Wetlands Restoration Project is the excavation of approximately 50,000 cubic yards of material from the Chula Vista Wildlife Reserve to improve tidal circulation and improve habitat quality for 30 acres of intertidal habitat. The Port of San Diego will deliver the sediment from the Chula Vista Wildlife Reserve to the western salt ponds in order to increase the opportunity for creating intertidal habitat. With the material excavated from the ponds and the additional 50,000 cubic yards of material from the Chula Vista Wildlife Reserve, approximately 40 acres of cordgrass habitat will be restored in Pond 11.

Additional description of the project is provided in the June 4, 2009 staff recommendation, Exhibit 4.

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Site Description:

The project is located in South San Diego, in the Otay River Watershed (Exhibit 1). The western salt ponds are located in the southwest corner of the bay in the South San Diego Bay unit of the San Diego Bay National Wildlife Refuge (“NWR”), and adjacent to the Bayshore Bikeway. The Otay River channel flows between ponds 12 and 10, 10A and 11. The Chula Vista Wildlife Reserve is located to the northeast of the western salt ponds.

Project History:

A detailed description of the project history is provided in the June 4, 2009 staff recommendation, Exhibit 4.

PROJECT FINANCING:

Western Salt Pond Restoration – Southwest Wetland Interpretive Association

Coastal Conservancy (via NOAA)	\$2,219,388
Coastal Conservancy (via USFWS)	\$825,000
<u>Coastal Conservancy, Proposition 84 Funds</u>	<u>\$1,200,000</u>
Total Project Cost	\$4,244,388

Chula Vista Wildlife Refuge – Port of San Diego

Coastal Conservancy (via NOAA)	\$146,641
Coastal Conservancy (via USFWS)	\$150,000
U.S. Environmental Protection Agency	\$1,000,000
<u>Port of San Diego</u>	<u>\$1,300,000</u>
Total Project Cost	\$ 2,596,641

The expected source of Conservancy funds for this project is the FY 2008/2009 appropriation to the Conservancy from the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84, Public Resources Code sections 75001-75090). This funding may be expended on projects that protect San Diego Bay and adjacent watersheds pursuant to Section 75060(f) of the Public Resources Code. Proposition 84 defines the term “protection” as “those actions necessary to prevent harm or damage to . . . natural resources or those actions necessary to allow the continued use and enjoyment of property or natural resources and includes acquisition, development, restoration, preservation and interpretation” (Public Resources Code Section 75003.5(m)). Accordingly, Proposition 84 funds are appropriate for the proposed project because the project will restore natural resources of San Diego Bay. In August 2009, the Conservancy requested an exemption from the Department of Finance from the restriction on authorization of new bond-funded projects (Budget Letters 08-33 and 09-15) to allow the Conservancy to review and approve projects meeting certain criteria. The Department of Finance granted the exemption for high priority future projects that offer significant public benefits and provide an opportunity for third party matching funds (Exhibit 5). This project has more than \$5 million in matching funds, including some funding from the American Recovery and Reinvestment Act, and it will create construction

and engineering jobs. The project's benefits to coastal resources, as described in the project summary and in the Mitigated Negative Declaration are significant. The project is also important to climate change given that the restoration will enhance the site's ability to sequester carbon. Accordingly, this is a high priority project that qualifies for the exemption from the restriction on authorization of new bond-funded projects.

Due to the current bond freeze, the Conservancy cannot guarantee when the Proposition 84 funds will be available and therefore, disbursement of Conservancy funds is conditioned upon bond funds becoming available. However, most of the construction work will not commence until September 2010 and Conservancy funds will not be needed until that time. Conservancy funds are required matching funds for both the USFWS and the NOAA grants. The Conservancy staff has discussed this issue with the federal granting agencies and if bond funds are not available in September 2010, either the entire construction project will need to be delayed or the project will have to be phased so that it can be completed with the available funding. Given that the project involves restoration of several ponds, phasing construction may be feasible.

The other components of the proposed authorization use funds that have been awarded to the Conservancy from the USFWS and from NOAA specifically for this project. The USFWS awarded \$1,000,000 to the Conservancy from the National Coastal Wetlands Grant Program. NOAA awarded the Conservancy a grant for \$2,975,000 from the American Recovery and Reinvestment Act. The Port of San Diego has received another award of \$1,000,000 from the EPA through the West Coast Estuaries Initiative, and it is also contributing \$1,300,000 from its environmental fund for the project.

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

The proposed project would be undertaken pursuant to Chapter 6 of the Conservancy's enabling legislation, Public Resource Code Sections 31251-31270.

Consistent with Section 31251 of the Public Resources Code, the proposed project would award a grant to a public agency and a grant to a non-profit organization to undertake activities necessary for the enhancement of the resources of San Diego Bay, which have been adversely impacted by improper location of improvements, human-induced events, and incompatible land uses and, as a result, have suffered the loss of natural and scenic values. This project will enhance the biological resources of San Diego Bay through the restoration of coastal salt marsh elevations and tidal circulation.

Section 31252 requires that the area to be restored be identified in a local plan which the Coastal Commission determines to be consistent with the policies and objectives of Division 20 of the Public Resources Code (the Coastal Act). In this case, the area to be restored consists of state public trust lands that are leased by the federal government (the western salt ponds) and lands managed by the Port of San Diego (the Chula Vista Wildlife Reserve). Therefore the project area is not within the jurisdiction of any local government. However, the area is identified as requiring public action to resolve resource protection problems in the USFWS's San Diego Bay National Wildlife Refuge Comprehensive Conservation Plan ("CCP"). The Coastal Commission has concurred in the USFWS determination that the CCP will not adversely affect coastal resources, as described in the "Consistency with Local Coastal Program Policies" section, below.

Section 31253 permits the Conservancy to provide up to the total cost of any coastal resource enhancement project, consistent with established project eligibility and priority factors. In determining the amount of Conservancy funding for this project, the factors identified in Section 31253 have been considered and applied, as described in detail below, under the heading “Consistency With Conservancy's Project Selection Criteria & Guidelines”.

**CONSISTENCY WITH CONSERVANCY’S 2007
STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):**

Consistent with **Goal 5, Objective B** of the Conservancy’s 2007 Strategic Plan, the proposed project would restore 255 acres of subtidal and tidal wetland habitat by re-establishing tidal influence, restoring appropriate elevations and revegetating with native plants.

**CONSISTENCY WITH CONSERVANCY’S
PROJECT SELECTION CRITERIA & GUIDELINES:**

The proposed project is consistent with the Conservancy’s Project Selection Criteria and Guidelines, last updated on June 4, 2009, in the following respects:

Required Criteria

1. **Promotion of the Conservancy’s statutory programs and purposes:** See the “Consistency with Conservancy’s Enabling Legislation” section above.
2. **Consistency with purposes of the funding source:** See the “Project Financing” section above.
3. **Support of the public:** The community and public agencies concerned with the bay’s restoration are in full support of the project. The public was involved with the approval of the CCP and has continued to show their support. Exhibit 4 provides letters of support from the USFWS, County Supervisor Greg Cox, and the Environmental Health Coalition.
4. **Location:** The proposed project would be located within the boundaries of the South San Diego Bay Unit of the San Diego Bay National Wildlife Refuge, adjacent to the City of Imperial Beach, County of San Diego.
5. **Need:** The grant funds awarded and potentially awarded to the Conservancy are directed specifically to this project and are the major funding sources for the project.
6. **Greater-than-local interest:** Protecting and enhancing San Diego is of regional interest because it supports federal and state listed species, serves as a stopover along the Pacific flyway, and is a destination for visitors from around the County and the State for bird watching and nature enjoyment.
7. **Sea level rise vulnerability:** To understand the impacts of sea level rise on the proposed project, modeling was conducted to simulate habitat types and water levels when the project is constructed and in the years 2050 and 2100. The purpose of this modeling was to determine the effect of future sea level rise on habitat distribution and flooding for the western salt pond project. The model was based on a tidal epoch distribution representative

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of the long-term characteristic tides of San Diego Bay. Consistent with the Conservancy’s guidelines, the model assumed the sea level rise scenarios of 16 inches (1.33 ft) by 2050, and 55 inches (4.58 ft) by 2100.

		Upland (acres)	Intertidal (acres)					Subtidal (acres)	Total (acres)
			High Marsh	Mid Marsh	Low Marsh	Non Vegetated	Total Intertidal		
Pond 11	Restoration	1.2	2.5	5.1	63.8	12.7	84.1	21.6	106.9
	Year 2050	0.6	0.9	2.6	6.5	68.8	78.8	27.5	106.9
	Year 2100	0.2	0.2	0.3	0.7	7.3	8.5	98.3	106.9
Pond 10	Restoration	2.5	5.0	14.7	57.8	3.1	80.7	3.3	86.6
	Year 2050	1.5	2.2	4.3	43.5	30.3	80.3	4.7	86.6
	Year 2100	0.3	0.5	0.7	1.3	18.9	21.4	64.8	86.6
Pond 10A (Option 1)	Restoration	12.8	6.8	2.5	1.2	3.7	14.3	9.5	36.6
	Year 2050	5.3	6.1	2.0	0.7	6.8	15.6	15.7	36.6
	Year 2100	1.3	0.4	0.5	1.7	1.8	4.3	30.9	36.6
Pond 10A (Option 2)	Restoration	3.4	22.4	2.5	1.5	3.8	30.2	3.0	36.6
	Year 2050	2.1	2.5	17.5	3.7	4.0	27.7	6.8	36.6
	Year 2100	1.3	0.4	0.5	1.7	5.6	8.1	27.2	36.6

Obviously, the model showed increased water levels as a result of future sea level rise in the Year 2050 and Year 2100. The changes in water levels corresponded to a shift in habitat elevations and distributions, as shown in the table above. In the Year 2050, the change is primarily a shift within types of intertidal habitat. The predicted change in the Year 2100 is a shift from intertidal habitat to subtidal habitat.

The results of the modeling indicate that over the next 40 years, the current emphasis on cordgrass-dominated salt marsh habitat would gradually be converted to mudflat habitat particularly in Pond 11. Over this time period however there would be sufficient opportunity for the light-footed clapper rail to reestablish a viable population in the western salt ponds and these individuals could then slowly shift over to new areas of suitable habitat in the south bay as sea level rises.

Plans for future restoration of the eastern salt ponds can be designed to take into account the changes that will be happening in the lower elevation ponds and ensure that areas with elevations suitable for mid- and high-salt marsh beyond 2100 are provided within the Refuge. The opportunity to restore habitats that can support the recovery of currently listed species should not be abandoned because conditions will change in the future. The protection of important habitats could also be addressed through adaptively managing the tidal elevations within these ponds, and/or through comprehensive resource planning in the south bay where new opportunities for providing salt marsh habitat are identified in areas where tidal influence will be expanding into areas currently supporting upland vegetation. Sea level rise modeling was not been conducted for the Chula Vista Wildlife Reserve, but similar changes in habitat are expected.

Modeling was also conducted to simulate flood water levels in the western salt ponds in response to future tides in Year 2050 and 2100. The model assumed no change in the flood hydrographs for the Otay River and Nester Creek as a result of climate change and the same hydrographs were used to model existing and future conditions. The flood modeling analysis indicated that the proposed restoration of the western salt ponds would not exacerbate flooding conditions in the adjacent neighborhood compared to existing conditions, even when analyzed in association with future sea level rise.

Modeling for the year 2050 showed that water levels in the Otay River followed the tide and continue to rise until reaching peak elevations of approximately 8.1 and 10.0 ft for the downstream end adjacent to Pond 11 and near the bend adjacent to Pond 10, respectively. Under existing conditions, since there is no tidal connection between the western ponds and San Diego Bay, the water levels in the ponds stay at the initial water levels until flood water levels in the adjacent Otay River start to overtop the levees. Water levels in the three ponds rise to a maximum of approximately 9.0 ft then recede to the elevation of the levee at 7.0 ft.

With the proposed project, part of the flood flows pass through the western ponds, effectively providing better flood conveyance for Otay River. Maximum flood elevations in the Otay River would drop to 8.0 and 9.7 ft. Subsequently, maximum flood levels in the three western ponds also drop to approximately 8.1 ft. There is no difference in the maximum flood elevations in Pond 10A (under Option 1 and Option 2) in Year 2050. Modeling results for the Year 2100 shown results similar to Year 2050 results with the proposed conditions providing better conveyance for Otay River resulting in slightly lower flood elevations for the Otay River and the three western ponds.

Additional Criteria

9. **Urgency:** The NOAA Recovery Act funding was conditioned on a commitment to start construction as soon as possible. The proposed action will allow initial construction to begin before the end of the calendar year.
10. **Leverage:** See the “Project Financing” section above. The Conservancy staff and other project partners have successfully applied for and received nearly \$5,000,000 in federal grants for this project. In addition, the Port of San Diego is contributing \$1,300,000 for the project. The Conservancy’s contribution is less than one fifth the total project cost.
13. **Readiness:** SWIA and the Port of San Diego are prepared to begin work immediately.
16. **Cooperation:** The proposed project is a collaborative effort between SWIA, the Port of San Diego, the USFWS, and several non-profit organizations such as the San Diego Oceans Foundation, the Coronado Rotary Club, and the San Diego Audubon Society.
17. **Minimization of Greenhouse Gas Emissions:** The project is not expected to have any long term green house gas emissions. The project has the potential to generate short-term greenhouse gas emissions associated with the operation of heavy equipment and trucks used for dredging, grading, and construction; and vehicles used by commuting construction workers and trucks hauling equipment would also generate and emit exhaust emissions. The project will minimize construction-related greenhouse gas emissions through reasonable

efforts to reduce such emissions. Reasonable efforts will include reuse of uncontaminated dredge material, transportation of dredge materials by pipeline instead of trucks if possible, the use of electric pumps and dredge to the extent possible, and the use of alternative fuel vehicles to the extent possible.

Further, converting the salt ponds to wetland habitat is expected to result in increased carbon sequestration over the long term. Studies have found that wetlands can sequester significant amounts of carbon dioxide. Saline mudflats and salt marshes sequester carbon both in living biomass and more permanently (thus more importantly) buried in layers of accreting sediment. Efforts are underway to quantify the carbon sequestration benefits of salt water marshes and to develop a carbon protocol associated with these benefits. However, even without the quantification, current research suggests that conversion of the salt ponds to marsh will increase the site's capacity to sequester carbon.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

The project does not fall within the jurisdiction of a local coastal program (LCP). However, through the federal consistency review of the CCP, the Coastal Commission agreed that the proposed CCP would not adversely affect coastal resources, and therefore concurred with the USFWS's negative determination. The project is consistent with the CCP.

COMPLIANCE WITH CEQA:

As the lead agency under CEQA, the Conservancy staff, together with the USFWS and with the assistance of consultants, prepared the Mitigated Negative Declaration for the South San Diego Bay Wetlands Restoration Project, attached as Exhibit 2.

The draft Mitigated Negative Declaration was noticed and circulated for 30 days of public review beginning on September 17, 2009. Comments were solicited from various local, state, and federal government agencies, Tribal governments, non-governmental organizations, and the public during a 33-day comment period. The draft document was posted on the Conservancy's website and sent to the California State Clearinghouse for distribution. A total of 8 agency and public comments were received during the public review period. A noticed public workshop was held on October 8, 2009 to provide the public with an opportunity to learn more about the project and to ask questions. The comment letters and responses to comments are provided in Attachment 2 to Exhibit 2. Based on the comments received, minor revisions were added to the document to clarify certain aspects of the project, amplify proposed mitigation and provide additional mitigation measures for potential impacts that were not found to be significant.

The Mitigated Negative Declaration identifies possible significant effects of the project in the areas of water quality, air quality, noise, biological resources, cultural resources, traffic and recreation. Possible effects and mitigation measures that will avoid, reduce, or minimize these possible effects to a level of insignificance are described in detail in Exhibit 2 and summarized below:

If the Mitigated Negative Declaration is adopted, staff will file a notice of completion. The records that constitute the record of proceedings for adoption of the Mitigated Negative Declaration will be located at the Coastal Conservancy's office in Oakland.

Possible Effect (Water Quality): Sediment from Chula Vista Wildlife Refuge (CVWR) has not yet been characterized; there are potential impacts to water quality if contaminated CVWR soil is transferred from CVWR to Pond 11.

Mitigation Measure #1 (Water Quality): Prior to Service acceptance of the 50,000 cubic yards of material from the Chula Vista Wildlife Reserve (CVWR), the Port shall characterize the sediment chemistry and physical properties of the sediments to be excavated at the CVWR and submit the results of the characterization to the Service's Contaminants Division for review. The Service will accept the material for placement in Pond 11 only if the Service determines that the sediment properties will not result in adverse effects to the bay's water quality or biological processes within in the bay and/or restored salt ponds.

Possible Effect (Air Quality): Construction activities including excavation to prepare the salt ponds and CVWR for restoration, truck activity, and construction of the tide gate and dredging of the ponds, could potentially create fugitive dust. Heavy equipment required for dredging and construction and the vehicles of commuting construction workers and trucks hauling equipment could generate and emit exhaust emissions.

Mitigation Measure #2 (Air Quality): The final construction plans and specifications for restoration at the CVWR and the western salt ponds shall include requirements for the implementation of measures to prevent visible dust emissions from leaving the project site boundary, including, but not limited to, watering prior to and during any earth movement, watering exposed soil three times per day, installing wind fencing, covering excavated materials to prevent erosion, and stopping work during high wind conditions. Erosion control within each of the project limits shall also be required as part of the standard project specifications.

Mitigation Measure #3 (Air Quality): The final construction plans and specifications for restoration at the CVWR and the western salt ponds shall include the requirement that the construction contractor cover all haul vehicles to reduce fugitive dust generated during the transport of materials.

Mitigation Measure #4 (Air Quality): The final construction plans and specifications for restoration at the CVWR and the western salt ponds shall include the requirement that the construction contractor not allow construction equipment and vehicles to track dirt and dust onto public roads. Equipment and tires shall be washed/swept prior to leaving the project site.

Mitigation Measure #5 (Air Quality): The final construction plans and specifications for restoration at the CVWR and the western salt ponds shall include the requirement that the construction contractor shall use Best Management Practices to fuel and maintain construction equipment and construction facilities. Additionally, all equipment shall meet APCD standards.

Possible Effect (Noise): Construction activities would involve the use of a number of construction vehicles at the CVWR and within the western salt ponds. Construction noise would

also be generated during the installation of the new tide gate in Pond 12.

Mitigation Measure #6 (Noise): Prior to site mobilization, a construction management plan shall be prepared which includes the following:

- All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers;
- Construction noise reduction methods such as shutting off idling equipment, installing temporary acoustic barriers around stationary construction noise sources, maximizing the distance between construction equipment staging areas and occupied residential areas, and use of electric air compressors and similar power tools, rather than diesel equipment, shall be used where feasible;
- During construction, stationary construction equipment shall be placed such that emitted noise is directed away from sensitive noise receivers;
- During construction, stockpiling and vehicle staging areas shall be located as far as practical from noise sensitive receptors;
- Operate earthmoving equipment on the construction site, as far away from vibration sensitive sites as possible.

Possible Effect (Biological Resources): Potential biological impacts include the loss of 2.9 acres of salt marsh habitat at the CVWR and on the levees of the western salt ponds.

Mitigation Measure #7 (Biological Resources): The loss of 2.9 acres of high salt marsh habitat at the CVWR and on the levees of the western salt ponds is offset by the restoration of more than 15.4 acres of high salt marsh habitat throughout the project.

Possible Effect (Biological Resources): Roosting opportunities available to gulls, pelicans, cormorants, and terns along the levee that separates Ponds 10 and 11 would be slightly altered by the project.

Mitigation Measure #8 (Biological Resources): The monitoring plan for the overall project shall include monthly pre- and post-project monitoring of the internal levee between Ponds 10 and 11 to record avian roosting activity by species. Upon completion of the monitoring program, the monitoring results should be analyzed and described in a report to be provided to the USFWS's Carlsbad Fish and Wildlife Office, USFWS Region 8's Division of Migratory Bird Management, and other interested agencies and individuals for future reference in evaluating similar projects.

Possible Effect (Biological Resources): Impacts of up to 204 square feet of salt marsh habitat in front of the new tide gate in Pond 12.

Mitigation Measure #9 (Biological Resources): Prior to completion of tide gate construction, the USFWS shall restore and enhance approximately 820 square feet of intertidal habitat at a site located in the NWR along the south side of the Otay River channel, upstream of the proposed tide gate project will be restored. The specific size of the area to be restored within the proposed restoration site will be determined once the final construction drawings for the tide gate have been completed and the total area of impact can be determined. The total area of mitigation will be based on a replacement ratio of 4:1 (i.e., four square feet of restoration for every one square

foot of habitat lost).

Possible Effect (Biological Resources): Potential loss of eelgrass from pumping slurry through the Bay, breaching levees, and installing tide gate.

Mitigation Measure #10 (Biological Resources): To mitigate the potential loss of eelgrass habitat as a result of temporarily installing a pipe across the bay, breaching the levees in Ponds 10 and 11, and installing a new tide gate in Pond 12, the Service and/or the Port will conduct pre- and post-construction eelgrass surveys in the vicinity of the proposed construction sites within 30 days of project commencement and completion to determine what mitigation, if any, is required as dictated by the Southern California Eelgrass Mitigation Policy (SCEMP, Revision 11; NMFS 1991). In accordance with the SCEMP, loss of eelgrass will be mitigated with restoration at a 1.2:1 area ratio.

Possible Effect (Biological Resources): Potential disturbance to breeding endangered California least terns and endangered Belding's savannah sparrows.

Mitigation Measures #11 (Biological Resources): Construction within the CVWR and the western salt ponds will occur during the non-nesting season between September 15 and April 1.

Possible Effect (Biological Resources): Potential impacts to sea turtles in the south end of San Diego Bay during the pumping of material from the CVWR to Pond 11.

Mitigation Measure #12 (Biological Resources): The following measures have been incorporated into the scope of the CVWR project and will be included on the construction specifications: 1) contractor access within the waters of San Diego Bay shall be limited to the placement and removal of and monitoring and maintenance of the dredge material pipeline; 2) the five mile per hour boating speed limit in the south bay shall be adhered to at all times; 3) the dredge pipeline shall be floated into position and removed from its temporary position across the South Bay Power Plant cooling water discharge channel during high tides when there is adequate clearance for vessel work above the bottom; 4) the dredge pipeline shall be anchored into place for the duration of work; 5) adequate clearance for turtle research vessels and turtle passage shall be ensured by sinking the dredge pipeline within the subtidal portion of the discharge channel , 6) an impingement barrier structure or rock filter shall be installed at the temporary 10-foot-wide water intake cut to prevent adult fish and turtles entrainment, and 7) the vessel operator shall not deploy any materials into the bay that have the potential for entangling sea turtles, Additionally, the Port shall conduct a preconstruction meeting with all construction personnel and project managers to review all measures required to be implemented to protect sea turtles.

Possible Effect (Cultural Resources): Restoration of the western salt ponds would alter the current use and function of the Western Salt Works site, which is eligible for listing on the National Register of Historic Places.

Mitigation Measure #13 (Cultural Resources): Prior to project construction, the Service will enter into a Memorandum of Agreement with SHPO to document past, current, and post-restoration conditions within and surrounding the affected areas of the salt works. Specific tasks

associated with this documentation include:

- 1) Photographically documented the existing conditions of the project site (i.e., the levee configuration in Ponds 10, 10A, and 11, the existing tide gate in Pond 10, and the western levee of Pond 12, using 35 mm or large format black and white photographs;
- 2) Assemble historic, current pre-restoration, and post-restoration aerial photographs of the affected ponds;
- 3) Prepare and record a detailed description of the affected site features and their associated construction methods; and
- 4) Compile the above mentioned material into a historic resource evaluation of the western salt ponds and provide copies of the evaluation to the California Office of Historic Preservation and the following local repositories: Chula Vista Heritage Museum, San Diego Historical Society, and San Diego Archaeological Center.

Possible Effect (Cultural Resources): Restoration of the western salt ponds would alter the current use and function of the Western Salt Works site, which is eligible for listing on the National Register of Historic Places.

Mitigation Measure #14 (Cultural Resources): Within three months of project implementation, the Service shall develop interpretive materials including at least one interpretive panel to be installed along the Bayshore Bikeway or South Bay Birding and Walking Trail that introduces the story of the Western Salt Company Salt Works.

Possible Effect (Cultural Resources): A cultural resource site, CA-SDI-5454/12270, is located adjacent to the project.

Mitigation Measure #15 (Cultural Resources): Prior to completion of the final restoration plans, the western edge of Pond 10 and the potential access route for haul truck between SR-75 and the northern levee of Pond 11 shall be surveyed to determine the northern and eastern site boundary of CA-SDI-5454/12,270. If it is determined that the site boundaries do extend into the pond, the restoration plans shall exclude these areas from the construction site and the construction specifications shall clearly indicated all areas in which construction activity shall be avoided. In addition, the Service shall ensure that any portions of the site that may extend into the pond are properly fenced with temporary construction fencing to ensure that no portions of the site are inadvertently impacted by construction equipment. If the site extends into the truck access route, any surface artifacts would collected, cataloged, and properly curated in accordance with existing regulations. In addition, be the route would be capped to prevent any disturbance to subsurface deposits.

Possible Effect (Traffic): Temporary impacts to traffic circulation on public roadways would result if trucks transport material to Pond 11 during peak traffic hours.

Mitigation Measure #16 (Traffic): The final construction plans and specifications for restoration at the CVWR shall state that transport of material between the CVWR and Pond 11 will only be permitted between the hours of 9:00 a.m. and 4:00 p.m. to avoid the use of roadways during peak traffic hours.

Possible Effect (Traffic): Temporary impacts to traffic circulation would result from truck traffic related to the transport of material for the CVWR to Pond 11.

Mitigation Measure #17 (Traffic): The final construction plans and specifications for restoration at the CVWR shall: a) require the preparation of a traffic control plan for review by Caltrans, District 11 that addresses truck ingress and egress from SR-75 at the entrance to the northern levee of Pond 11, and b) require the contractor to provide personnel to manage the queuing and stacking of haul trucks at Pond 11.

Possible Effect (Recreation): Potential impacts to recreational boaters and disruption of boating access into the south bay.

Mitigation Measure #18(for pumping option) (Recreation): The final construction plans and specifications for restoration at the CVWR shall include a requirement to connect hazard buoys and/or signage along the alignment of the pipe that cross the bay to demarcate its location for recreational boaters.

Mitigation Measure #19 (for pumping option)(Recreation): The final construction plans and specifications for restoration at the CVWR shall include a requirement the Contractor to provide at least one area along the proposed temporary pipeline that is sunken within the channel located adjacent to the CVWR in order to accommodate small vessels traveling through the area.

Mitigation Measure #20 (for pumping option)(Recreation): Prior to construction, the Port shall prepare and distribute notices describing the location of the pipe to all personal water craft rental business located from Pepper Park south, and shall also post notices in the Notice to Mariners.

Possible Effect (Recreation): Potential impacts to bicyclists on the Bayshore Bikeway.

Mitigation Measure #21 (for trucking option)(Recreation): The final construction plans and specifications for restoration at the CVWR or for restoration at the western salt ponds shall include a requirement that the Contractor provide flaggers at the point where trucks would cross the Bayshore Bikeway while trucks are present in the area.