# United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish and Wildlife Office
650 Capitol Mall, Suite 8-300
Sacramento, California 95814

In reply refer to:
2022-0047506-S7-001

Memorandum

To: Brian Lopez, Chief (Acting), Environmental Compliance Branch, Bureau of Reclamation, California Great-Basin South-Central California Area Office, Fresno, CA

From: Jana Affonso, Assistant Field Supervisor, U.S. Fish and Wildlife Service, San Francisco Bay-Delta Fish and Wildlife Office, Sacramento, CA JANA AFFONSO Digitally signed by JANA AFFONSO Date: 2023.08.16 15:55:59 -07'00'

Subject: Second Reinitiation of Formal Consultation on the Contra Costa Water District Shortcut Pipeline Improvement Project near the Unincorporated Community of Clyde, Contra Costa County, California (U.S. Bureau of Reclamation file number: 09/098/21-024; U.S. Army Corps of Engineers file number: SPK-2010-00293S; U.S. Fish and Wildlife Service file numbers: 08ESMF00-2015-F-0008-2 and 08ESMF00-2015-F-0008-R001)

This memorandum is in response to the Bureau of Reclamation's (Reclamation's) May 25, 2022, request for reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Contra Costa Water District (CCWD) Shortcut Pipeline (SCPL) Improvement Project (project) near the unincorporated community of Clyde in Contra Costa County, California. At issue are the effects of the proposed project's changes to Phase 3 on the federally endangered salt marsh harvest mouse (*Reithrodontomys raviventris*). This response is in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act) and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

In 2018, following completion of Phase 2 improvements, inspections of the SCPL between Site 4 and Site 5 determined that significant settling of the underlaying young bay mud beneath the SCPL had caused the pipe to sag directly beneath Walnut Creek and in the vicinity of the Concord fault line. This has caused strain on the SCPL in this location and further settling or a seismic event could lead to rupture of the pipeline and a loss of service to the City of Martinez and the PBF Refinery (formerly the Shell Oil Martinez refinery).

This reinitiation of consultation updates the description of the proposed project actions and construction that are proposed for Phase 3 repairs to the SCPL (Phases 1 and 2 have been completed). Specifically, CCWD proposes: (1) to install high-density polyethylene (HDPE) pipes using horizontal directional drilling (HDD); (2) to abandon the existing 48-inch SCPL in the area of repair following the 1-year warranty period; (3) to conduct utility access road improvements and creation of permanent maintenance areas around the new facilities; (4) to acquire new permanent easement rights for the new HDPE pipelines; (5) to acquire short-term construction easement rights; (6) to acquire access rights along existing and new Contra Costa County Flood Control & Water Conservation District (CCCFC&WCD) levees to the SCPL long

term easement; (7) to install settlement monitors; (8) to dispose of construction ground water; (9) to remove standing water in wetland areas prior to the start of construction; (10) to compensate offsite for permanent and temporary construction impacts to wetlands; (11) to compensate for permanent and temporary construction impacts to habitat for the salt marsh harvest mouse; (12) to use night lighting for construction of new pipelines; (13) to implement an Inadvertent Returns Prevention and Contingency Plan for construction of new pipelines; (14) to consider cumulative projects (Marathon Refinery Project, Conco Industrial Development, and Lower Walnut Creek Restoration Project – CCCFC&WCD); and (15) to review CCWD Pipelines in the vicinity of the Phase 3 work (reclaimed water line, 14-inch water pipeline, and 8-inch water pipeline).

Approximately 2,000 feet of twin 36-inch HDPE pipelines would be installed under Lower Walnut Creek between Site 5 (owned by Marathon) and Site 4 (owned by Conco). The existing (sagging) 48-inch SCPL in this location would be disconnected, blind flanged between the two tie-in locations, and then retained for the warranty period for materials and workmanship of the two HDPE pipelines. Once this warranty period has passed, the segment of the SCPL between the two connection points would be abandoned. The twin 36-inch HDPE pipelines would be 60 to 80 feet below the ground surface to ensure that the new pipelines are in a layer of subsurface soil conditions that are more stable in the event of a potential seismic event. Installation of the HDPE pipelines under Lower Walnut Creek avoids the need to open trench through wetlands and open water and minimizes environmental impacts.

In reviewing this second reinitiation request, the Service has relied upon: (1) Reclamation's May 25, 2022, letter and the *Shortcut Pipeline Improvement Project – Phase 309-098/21-024 Biological Assessment Addendum* (biological assessment addendum); (2) the September 23, 2015, biological opinion (Service file number: 08ESMF00-2015-F-0008-2) and December 2, 2016, reinitiated biological opinion (Service file number: 08ESMF00-2015-F-0008-R001); (3) emails and meetings between the Service, Reclamation, and CCWD; (4) the track changes version of the 2016 reinitiation emailed to the Service on June 6, 2023; and (5) other information available to the Service.

The remainder of this document is the Service's amendment to the 2016 reinitiation as it relates solely to the changes proposed for Phase 3. Phases 1 and 2 have been completed and the 2016 reinitiated biological opinion remain in place and valid for those aspects of the proposed project.

**Add to Consultation History:**

| | |
|---|---|
| December 22, 2016 | The Service issued the reinitiated biological opinion (Service file number 08ESMF00-2015-F-0008-R001). |
| February 15, 2022 | The Service attended a meeting with Reclamation to discuss proposed changes to the proposed project. |
| May 25, 2022 | The Service received Reclamation's reinitiation letter and biological assessment addendum. |
| July 2022 | The Service and Reclamation exchanged emails. |
| September 22, 2022 | The Service emailed Reclamation regarding a staffing change. |

| | |
|---|---|
| November 7, 2022 | The Service and Reclamation exchanged emails regarding the Service's request to provide a track changes draft version of the previous biological opinion to ensure changes are captured correctly. |
| November 22, 2022 | The Service and Reclamation exchanged clarifying emails regarding the Service's request to provide a track changes version of the previous biological opinion. |
| June 6, 2023 | The Service received a track changes draft biological opinion from Reclamation. |
| June 2023 | The Service, Reclamation, and CCWD exchanged emails regarding the format of the current reinitiation and consistency with the 2016 reinitiation. |
| July 21, 2023 | The Service, Reclamation, and CCWD met to discuss outstanding information required to complete the consultation. |
| July-August 2023 | The Service, Reclamation, and CCWD exchanged emails regarding outstanding information required to complete the consultation. |

## BIOLOGICAL OPINION

### Description of the Proposed Action

**Note the Change:** Shell Oil Martinez refinery is now PBF Refinery

**Add to Location:**

Phase 3 of the SCPL Project is limited to Sites 4 and 5 on the west and east sides of Lower Walnut Creek, respectively. Site 4 is located on the Conco property and Site 5 is located on parcels owned by the Marathon Refinery and Reclamation. Site 4 of the SCPL Project is located on property owned by Conco and is accessed via Imhoff Drive at Waterbird Way. Two routes can be used to get to Site 4, including an access easement via the Contra Costa County Flood Control and Water Conservation District (CCCFC&WCD) levee accessed through a Republic Services yard, or via a Conco road adjacent to their facility (easements on Conco pending). Site 5 is accessed through the Marathon Refinery entering from Arnold Industrial Way. Permission to enter this facility must be gained beforehand and access badges must be obtained at the Marathon Badging Office before entering the facility. Once inside the refinery, head north on Solano Way approximately 1.5 miles and turn left into the powerplant facility and head to the southwest corner.

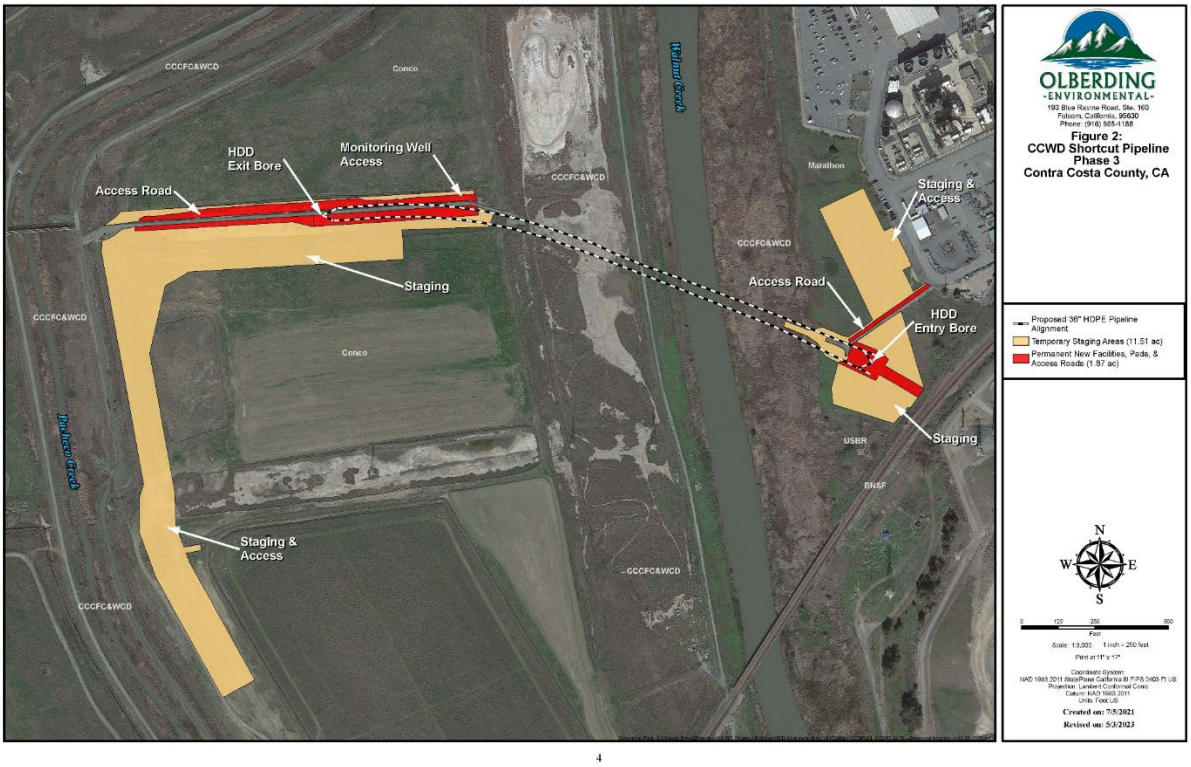


Figure 4. CCWD SCPL Phase 3

**Add to Purpose:**

In addition, there are on-going O&M activities that require unobstructed access to the SCPL to ensure reliable operation. The repairs became needed after work on Phase 2 revealed pipeline sagging beneath Walnut Creek and in the vicinity of the Concord fault line (the Phase 3 area of the Project) which resulted from the settling of bay sediments. Table 5 summarizes the differences between what is now proposed for Phase 3 vs. what was completed for Phases 1 and 2. Table 6 details information about what proposed improvements, current land use, habitat types, and hazards exist at each site. Table 7 summarizes what activities and timeframes are for each phase of the SCPL Project.

**Table 5. Summary of Proposed Phase 3**

| New Proposed Phase 3 Project Activity | 2014 BA | Project Changes | Impact Assessment | Proposed Conditions |
|---|---|---|---|---|
| Installation of HDPE Pipes Using HDD | Assumed open trench methods for repairs. | Use of deep boreholes for two new HDPE pipelines. | Requires new easements, larger temporary staging area, permanent maintenance areas. | Update permits to reflect project footprint and compensate as required. |
| Abandonment of the Existing 48-Inch SCPL in the Area of Repair | Not Considered. | 2,000 feet of existing pipeline will be abandoned in place. | Minimal. | Slurry fill 20 feet on each side of the abandoned pipeline. |

| | | | | |
|---|---|---|---|---|
| Creation of permanent maintenance areas around the new facilities | Not Considered. | Pads around new pipelines expanded to support maintenance. | Impacts to wetlands and habitat. | Compensate for wetlands and habitat consistent with Phase 2. |
| Elimination of a Portion of the Site 4 Access Road | Assumed that the Site 4 access road would be constructed across the full length of Site 4. | District will not construct the approximately 400 feet of the Site 4 access road on the CCCFC&WCD property. | Impacts to wetland and habitat reduced. | Will access pipeline during construction until abandoned using Pacheco Creek and new Walnut Creek Restoration levee roads. |
| Acquisition of permanent easement rights for the new HDPE pipelines | Considered potential need for new right-of-way from CCCFC&WCD and Tesoro (now Marathon). | New easement rights from Marathon, CCCFC&WCD and Conco. | The District will be seeking an additional 20 feet on either side of the existing right-of-way easement from three property owners where the new pipeline will be installed. | Obtain needed land rights/agreements prior to installation of the HDPE pipelines. Follow CCCFC&WCD Encroachment Permit Conditions. |
| Short-term construction areas outside of the existing SCPL right of way. | Assumed potential new temporary access from CCCFC&WCD, East Bay Municipal Utility District (EBMUD) and the Concord Naval Weapons Station (CNWS). | Will need temporary construction easement rights from Marathon, CCCFC&WCD, USBR, and Conco. | Marathon: 2.534 acres on Site 5;<br>CCCFC&WCD: 0.06 acres on Site 5;<br>USBR: 0.79 acre on Site 5;<br>Conco: 8.13 acres on site 4. | Obtain needed temporary construction rights/agreements before the start of construction. Follow CCCFC&WCD Encroachment Permit Conditions. |
| New Access Routes:<br>Access to Site 4 eastern portion on new CCCFC&WCD Levees<br>Access to Site 4 western portion using the new Conco Industrial property road | Access route to Site 4 along Pacheco Creek and Walnut Creek Levee was obtained from the CCCFC&WCD prior to the start of Phase 2 construction. | New CCCFC&WCD Levee on Conco and CCCFC&WCD property to access SCPL Phase 3 construction areas and long-term access following | Minimal impacts on Conco and CCCFC&WCD Access Roads. | Follow CCCFC&WCD Encroachment Permit Conditions during construction and for long-term maintenance.<br>Follow Conco agreements when using |

| | | | | |
|---|---|---|---|---|
| | | completion of construction.<br><br>Access Site 4 along new Conco Industrial property road. | | Conco property and roads. |
| Installation of settlement monitors | Included installation of up to 70 monitoring points. | Adding short term settlement monitors for project construction within the new easement areas. | Approximately 7 soil deformation monitors (0.35 square feet [sqft] each), 17 surface monitors (0.2 sqft each), and 1 inadvertent drilling fluid return relief well (0.2 sqft each), 3 utility monitors (1.07 sqft each) on the CCCFC&WCD Property.<br><br>Approximately 5 utility monitors (1.07 sqft each), 3 surface monitors (0.2 sqft each), on Marathon Property (Site 5). | Obtain needed temporary construction rights before the start of construction. Follow CCCFC&WCD Encroachment Permit Conditions. |
| Consideration of adjacent projects | Not considered. | a. Marathon Refinery Project,<br><br>b. Conco Development<br><br>c. Lower Walnut Creek Restoration Project. | a. Marathon Refinery Project will not conflict,<br><br>b. CCCFC&WCD LWCRP Project Construction completed before SCPL Phase 3.<br><br>c. Conco project construction expected to be completed before SCPL Phase 3. | CCWD will coordinate with Marathon and Conco to minimize conflicting construction timeframes.<br><br>Follow CCCFC&WCD Encroachment Permit Conditions. |
| Utilities and CCWD Pipelines in the vicinity of Phase 3 | Not considered. | a. Reclaimed,<br>b. Foster Wheeler Treated,<br><br>c. Foster Wheeler Untreated. | Avoid pipeline right-of-way. If necessary, armor the areas above the pipelines. | Protect pipelines during construction. |
| Environmental Conditions | Ground Water Disposal / Dewatering Plan. | Disposal of ground water. | Test ground water for potential hydrocarbons. | Dispose of groundwater at the Marathon refinery and or |

| | | | | |
|---|---|---|---|---|
| | | | | at Contra Costa County Sanitation District (CCCSD). Off-haul if Marathon and CCCSD not available. |
| | Construction limited in any areas where there is standing water. | Unwater standing water in wetland staging areas if needed. | Unwater to adjacent property or other approved location. | Obtain Service and San Francisco Regional Water Quality Control Board (SFRWQCB) approval and any required conditions. Follow CCCFC&WCD Encroachment Permit Conditions if unwatering occurs on CCCFC&WCD property or within Walnut Creek. |
| | No night lighting was needed for Phase 2. | Night lighting during construction. | Night lighting may be needed during construction of the pipelines. | Have a biological monitor on site when using night lighting. |
| | Wetland impacts, assumed HCP or in-lieu fees. Permits required use of Rheem Creek. | Additional Wetland Compensation. | 1.37 acres of permanent impacts and 1.5 acres of temporary impacts to State and Federal jurisdictional wetlands/waters. | Compensate for wetland at 1:1 permanent and 0.1:1 temporary using the Rheem Creek Preserve. 1.52 acres of Rheem Creek Preserve wetlands. |
| | Habitat Impacts. Considered in the Service biological opinion - Compensation for both wetland | Additional habitat compensation. | Approximately 1.77acres of permanent impacts and 5.79 acres of temporary impacts. | Compensate for habitat impacts at 1:1 for temporary and 3:1 for permanent at the Cordelia |

| | | | | |
|---|---|---|---|---|
| | and uplands provided at the Cordelia Slough Preserve. | | | Slough salt marsh harvest mouse mitigation (SMHM) site resulting in a total of 11.1 acres of SMHM mitigation. |
| | Inadvertent Returns Prevention and Contingency Plan for Construction of the New Pipelines. | Planning in the event of inadvertent returns of drilling fluid. | Low probability of any inadvertent drilling fluid return impacting the surface since the drilling is deep at 60 to 80 feet. | Instrumentation will determine if the drilling is not working according to plans. Drilling will be stopped as soon as any issues arise that suggest that inadvertent drilling fluid return could occur. |

**Table 6. Summary of Information for Site 4, Site 5, and Walnut Creek Levee**

| Work Site | Site Description | Proposed Improvements | Land Use | Habitats and Wetlands | Hazardous Materials |
|---|---|---|---|---|---|
| Site 4 | Conco Property | HDD Exit Bore, Surface and subsurface monitors, Access road improvements, Maintenance Area | Heavy Industrial | Wetlands Grassland Ruderal | Medium |
| Site 5 | Marathon Refinery and Reclamation Property | HDD Entry Bore, Surface and subsurface monitors, Access road improvements, Maintenance Area | Heavy Industrial | Wetlands Tidal Marsh Grasslands Ruderal | Minimal |
| Walnut Creek Levee | CCCFC&WCD levee on west bank of Walnut Creek | Temporary instrumentation and monitoring wells | Levee | Grassland Wetlands | Minimal |

| | | | | | |
|---|---|---|---|---|---|
| | between Sites 4 & 5 | | | | |

**Table 7. List of Activities and Estimated Time Frames Involved in the SCPL Improvement Project**

| Activity | Subactivity | Construction or Maintenance Timeframe |
|---|---|---|
| Pipeline Inspection Phase | Inspect pipeline valves. Third–party access agreements have been obtained as required. | Complete |
| Phase 1 Valve Repair &Refurbishment Work began in June 2010 and was completed in early 2011.[1] | Refurbish 3 existing air valves and 1 blow–off valve. Replace 3 butterfly valves and construct four new air valves.Construct 500–foot gravel haul road (Tesoro property). At Contra Costa Canal construct 18–inch air vent adjacent toSCPL slide gate. Maintain valves that have been repaired or newly installed.Maintain new access road on Tesoro property. | Complete |
| Phase 2 | Construct five new gravel at-grade access roads. Approximately 2,080 feet along the easternmost segment of the pipeline. Three segments within the Tesoro Refinery consisting of approximately 760 feet near Waste Management Unit 4 (WMU4),465 feet near the power plant. | Complete |
| Phase 3 | Install approximately 2,000 feet of dual HDPE pipelines from Site 4 to Site 5 at an approximate depth of 60 – 80 feet below the surface under Lower Walnut Creek. Improve access road at Sites 4 & 5 from ~14 to ~50 feet. Installation of maintenance pads at the pipeline tie-in points. | Implement proposed project in 2024 |
| Routine Operations and Maintenance | Access pipeline. Test valves as required. Inspect and repair cathodic protection system as needed. Inspect settlement monitors.Perform maintenance as required while minimizing and avoiding impacts to sensitive resources. | Started in 2015; ongoing once repairs made |

**Remove "4" from Seasonal Timing of Construction:**

Sites 3, 4, 7, and 10 are the most constrained since road construction would take place in wetlands and also would have to avoid the disturbance of nesting migratory birds. At these sites, the possible work window is very narrow and would need to occur from September 1 to October 15.

**Remove paragraph from Seasonal Timing of Construction:**

At Sites 4 and 5, road construction would not be subject to constraints from nesting migratory birds. Work there could proceed from April 15 through October 15. Site 6, located on Tesoro property on the Waste Management Unit 4 (WMU4) site, has the least habitat and wetland constraints; however, this site does have potential for hazardous waste.

**Change Access Roads and Road Construction subheader section to:**

Access Roads and Pads and Road Construction

**Remove "4" from 1st Sentence in Access Roads and Road Construction:**

CCWD has obtained a long-term license from Contra Costa County to utilize roads to access the SCPL at Sites 3 and 4.

**Add to Access Roads and Pads and Road Construction:**

CCWD has obtained a long-term license from CCCFC&WCD to utilize roads to access the pipeline at Site 4. CCWD also has an ongoing agreement with Marathon to access the pipeline at Site 5. Use of the CCCFC&WCD levee road to access Site 4 and for the installation of surface and settlement monitors on the Walnut Creek levee will be needed until such time that this segment of SCPL is abandoned. Once the two new HDPE pipelines are in place and operational and their 1-year warranty period has elapsed, the segment of SCPL between the HDPE pipeline tie-in points will be capped and abandoned. The use of the CCCFC&WCD levee road will no longer be necessary and access to Site 4 will occur via an access agreement with Conco to utilize their new road.

The project requires construction of two maintenance pads (70 to 90 feet wide) where the two HDPE pipelines will tie into the existing 48-inch SCPL. Improvements will also be made to two existing access roads. The roads would be widened from approximately 14 feet wide to 30-50 feet wide and surfaced with compacted gravel.

To construct the maintenance pads and improved access roads, a dozer would clear, grub (clear of roots and stumps), and scarify (remove any existing pavement) the ground, then an excavator would over-excavate the roadbed to a depth of one to two feet below the natural ground surface. The roadbed would be uniformly graded and crowned for positive drainage away from the road. A non-woven geotextile fabric would be laid and then the roadbed would be backfilled with soil, crushed rock, and compacted with a vibratory compactor. The roadbed, consisting of imported California Department of Transportation Type II aggregate base, would be built up to match the height of the existing roadway. On Site 4, the road may be built up above existing road grade to remain above water levels when the area floods. The roadbed would be finished with gravel compacted by a two-roller compactor.

Construction of the access roads would require approximately four weeks to complete. Some roads may be constructed prior to, or concurrently with the HDD pipeline work. Approximately 5,318 cubic yards of fill material (primarily aggregate) would be imported, resulting in approximately 332 round trip truck trips to the sites, or an average of about 48 one-way trips per workday, or 24 round trips over the construction period. It is estimated that no more than 1,772 cubic yards would be exported from the sites if all the excavated materials were removed. Exported spoils would be less than imported fill. Since it is unlikely that trucks exporting excavated spoils off the site during the project would involve the same trucks importing fill to the site, an additional 220 one-way trips and 110 round trips would be added, resulting in a total of approximately 8 one-way trips and 4 round trips per workday. Any hazardous materials found within the ROW are expected to be disposed of at an approved waste disposal site.

**Add:**

**Installation of HDPE Pipe using HDD**

Construction of Phase 3 of the proposed project consists of the installation of two 36-inch DR11 HDPE pipes 60 to 80 feet below ground surface. The new HDPE pipes will be fused on-site at a pre-determined lay down area with each fused joint inspected and approved by a certified inspector. HDD will be used to drill from Site 5 to Site 4 for approximately 2,000 feet. See the biological assessment addendum for a description of the HDD process.

The two new HDPE pipelines will tie into the existing SCPL on both Sites 4 and 5. Portions of the 48-inch SCPL in the vicinity of the HDPE pipeline tie in locations for Phase 3 will be replaced. The tie in locations will include valves to control the water flow through the two HDPE pipelines.

The HDD entry pits, drilling equipment, mud handling area, mud separation plant, and soil drying area will be located at Site 5. The drilling exit pits, HDPE pipeline laydown area, and additional construction staging area will be located at Site 4.

To minimize inadvertent return of drilling fluids to the surface, the pipeline will be installed 60 to 80 feet below ground surface. Inadvertent returns have the highest likelihood of occurring on Site 4, where drilling fluid pressures will be the highest and boreholes begin to decrease in depth. To control any potential inadvertent drilling fluid returns, relief wells will be installed on Site 4 to provide a preferential pathway for drilling returns to the surface. The contractor will also prepare an Inadvertent Drilling Fluid Return Contingency Plan to establish procedures and responsibilities for the prevention, containment, and clean-up of inadvertent return of drilling fluids.

Soil cuttings will be dried on-site, sampled, and tested at a state certified laboratory. Depending on analytical results, soil cuttings may be used as fill at adjacent facilities or transported and disposed at an appropriately permitted facility consistent with all local, state, and federal laws and regulations.

Portions of the construction are in low lying areas. If significant precipitation occurs prior to or during construction activities, surface water will be required to be removed from the construction areas. Appropriate Best Management Practices will be employed once the low-lying areas are dewatered. Additionally, during tie-in activities, groundwater will likely be encountered that will also require dewatering. All surface and groundwater that will be required to be removed will be tested for constituents of concern, as required by permits, and discharged to the appropriate location consistent with all local, state, and federal requirements.

**Abandonment of the Existing 48-Inch SCPL in the Area of Repair**

Following successful construction of the two new 36-inch HDPE pipelines, the section of existing SCPL between the two tie-in locations will be disconnected with blind flanges installed until the warranty period for materials and workmanship (typically 1 year) has passed and the new 36-inch HDPE pipelines are operating as designed. Upon successful completion of the warranty period, the section of existing SCPL between the tie-in locations will be permanently abandoned by installing 20 feet of grout plugs on either end of the pipeline. Abandonment of the

existing SCPL underneath the western flood control levee of the Walnut Creek will be completed consistent with the requirements of the CCCFC&WCD.

**Monitoring Points and Inadvertent Drilling Fluid Return Wells**

The proposed project also includes the installation of soil deformation monitoring points, utility monitoring wells, surface monitoring points, and inadvertent drilling fluid return wells at several locations along the SCPL and new HDPE pipeline alignment at Site 4, Site 5, and the CCCFC&WCD Walnut Creek levee site. The soil deformation monitoring points, utility monitoring wells, and surface monitoring points will be installed to measure natural or seismic ground subsidence. Monitoring the pipeline for settlement is critical to preventing potential damage of the pipe. Additionally, a series of return wells along the Site 4 tie-in location will be installed. The purpose of the return wells is to control any potential inadvertent drilling fluid returns. Instrumentation on the drilling equipment will advise whether there are inadvertent return issues. An Inadvertent Returns Prevention and Contingency Plan for Construction will be assembled prior to the initiation of construction.

Although the exact number and locations are still being determined, up to 70 monitoring points/wells would be installed along the SCPL. The Site 5 entry bore area would have approximately 12 surface monitoring points which cover an area of 0.2 square feet each, and 3 utility monitoring points which cover an area of 1.07 square feet each. The Site 4 exit bore area would have approximately 10 surface monitoring points, 10 utility monitoring points, and 2 temporary relief wells. Finally, the CCCFC&WCD Walnut Creek levee area would have approximately 17 surface monitoring points and 7 soil deformation monitoring points. The total area of all instrumentation/monitoring points and relief wells would not exceed 25 square feet (<0.001 acre).

**Remove from Phase 3 Pipe Inspection and Repair**

This activity would entail excavation of an area—centered on the pipeline—of about 10 feet wide and 10 feet deep, with length varying depending on the length of damaged pipe section. The cracked pipe sections, if reparable, would be wrapped and sealed, and then the pipe will be stabilized with crushed stone and backfilled with compacted soil.

Under a worst-case scenario, an approximately 2,100-foot-long SCPL section between Walnut Creek and Pacheco Creek would be replaced. In order to replace the pipe, a 10-foot-wide trench would be excavated by backhoe and excavator following dewatering of the pipeline. Replacement pipe would be laid on a crushed stone foundation, and then the trench would be backfilled with compacted soil.

**Add:**

**Phase 3 Salt Marsh Harvest Mouse Compensation**

In addition to the 13.5 acres preserved at Cordelia Slough for impacts associated with SCPL Phase 2, 11.1 acres of salt marsh harvest mouse habitat would be preserved at Cordelia Slough (or another Service-approved site if not possible at this location).

**Change Conservation Measure 2:**

**From:**

2. Sediment (visqueen or equivalent) barriers will be installed prior to initial disturbance of wetlands or uplands adjacent to wetlands to prevent the flow of spoil or heavily silt-laden water into any water body. Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after passage of the excavator).

**To:**

1. Sediment (straw waddles, compost filter sock, or equivalent) barriers will be installed prior to initial disturbance of wetlands or uplands adjacent to wetlands to prevent the flow of spoil or heavily silt-laden water into any water body. Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after passage of the excavator).

**Change Conservation Measure 6:**

**From:**

6. CCWD will schedule as much work as possible during the dry season in order to minimize the potential for wet weather, surface flooding, and high water tables in the work sites. Where possible, the work will be conducted during periods of reduced daily tidal peaks to further minimize the chance of encountering surface and groundwater. CCWD will minimize the potential for injuring or killing salt marsh harvest mice seeking unsubmerged cover within the ROW during flood events by avoiding construction activities and O&M activities when the adjacent marsh is flooded to the maximum extent practicable (this requirement does not apply to emergency conditions that require immediate repair of the pipeline).

**To:**

6. CCWD will schedule as much work as possible during the dry season in order to minimize the potential for wet weather, surface flooding, and high water tables in the work sites. Where possible, the work will be conducted during periods of reduced daily tidal peaks to further minimize the chance of encountering surface and groundwater.

**Change Conservation Measure 18:**

**From:**

18. Vegetation removal:

    a. If any areas with pickleweed vegetation or other marsh vegetation within 50 feet of the edge of pickleweed vegetation need to be cleared for proposed project activities, vegetation will be removed.

b. Initial vegetation removal will preferably be accomplished with a band of sheep and/or goats in order to avoid injuring any salt marsh harvest mice within the construction areas. Grazing with sheep and/or goats will involve the use of a portable battery powered electric fence system to keep the livestock in the correct locations. This electric fencing cannot touch any vegetation or shorting may occur, compromising the efficacy of the system. Thus, a four-foot wide path will need to be cleared of vegetation initially in order to install the sheep/goat fence. A string trimmer (*i.e.,* weed whacker) or hand clearing tools will be used to clear a four-foot wide path centered on the location of the sheep/goat fencing. The Service-approved biologist will inspect the path to be mowed immediately prior to the mowing field work to clear the path of any salt marsh harvest mice within the mow area. Once the four-foot wide path is mowed, then the sheep/goat fencing will be installed by the grazing contractor within the center of the mowed path. The sheep and/or goats will be allowed to graze the construction areas and exclusion fence area (including pickleweed) vegetation to remove as much above ground plant material as possible.

   Pickleweed vegetation is mostly unpalatable for sheep/goats and all that remains after sheep/goat grazing will be harvested, stored, and re-applied post construction.

c. If initial clearing of the vegetation is not feasible with sheep/goats, then string trimmers (*i.e.*, weed whackers) may be used to conduct the initial vegetation removal; however, the Service-approved biologist will need to walk immediately in front of the trimmer to clear vegetation to be mowed of any salt marsh harvest mice or nests for the entire mow area.

d. As directed by the Service-approved biological monitor, cut native vegetation will be stored onsite and re-spread as mulch at the completion of the proposed project in areas where the impact is temporary. Any cut vegetation stored onsite will be surrounded with salt marsh harvest mouse-proof exclusion fencing. Cut non-native vegetation listed as moderately to highly invasive by the California Invasive Plant Council (http://www.calipc.org/ ip/inventory/, California Invasive Plant Council 2006) will be bagged and removed offsite at a suitable disposal site. Areas of vegetation removal that are part of "permanent impact areas" will not be restored as part of the proposed project; therefore, cut vegetation in "permanent impact areas" will be removed and disposed of offsite.

e. If necessary, maintenance will be conducted to keep vegetation trimmed down. Maintenance will be conducted using one or several typical technologies such as mowing, use of string trimmers, application of bonded fiber matrix, and/or herbicide application. The Service-approved biologist will conduct a pre-maintenance survey to determine that no areas needing maintenance provide vegetative cover that may attract or hide salt marsh harvest mice. As determined by the Service-approved biologist, areas that do provide vegetative cover will first be removed of vegetation by the methods described above in the preceding measures.

**To:**

18. Vegetation removal:

    a. If any areas with pickleweed vegetation or other marsh vegetation within 50 feet of the edge of pickleweed vegetation need to be cleared for proposed project activities, vegetation will be removed.

    b. Vegetation will be removed by hand and will be trimmed to no higher than one inch above ground. Root crowns shall be preserved in areas of temporary impact.

    c. Where possible, trimming will begin farthest away from remaining marsh or pickleweed habitat and proceed toward the remaining habitat.

    d. All clearing of vegetation will be done under the direct supervision of a Service-approved biologist. If more than one crew of vegetation clearers is working at a given time, then a Service-approved biologist will be with each crew.

    e. Only hand operated tools will be used with a preference for non-mechanical tools such as machete, trowel, hoe, rake, or shovel. However, use of weed whackers for herbaceous vegetation is allowed, but only if the Service approved biologist walks in front of the operator of the weed whacker, clearing the area of salt marsh harvest mice. Use of hand operated chain saws is allowed for larger woody vegetation (e.g., coyote brush), but only if the Service-approved biologist precedes the operator clearing the area of salt marsh harvest mice.

    f. As directed by the Service-approved biological monitor, cut native vegetation will be stored onsite and re-spread as mulch at the completion of the proposed project in areas where the impact is temporary. Any cut vegetation stored onsite will be surrounded with salt marsh harvest mouse-proof exclusion fencing. Cut non-native vegetation listed as moderately to highly invasive by the California Invasive Plant Council (http://www.calipc.org/ ip/inventory/, California Invasive Plant Council 2006) will be bagged and removed offsite at a suitable disposal site. Areas of vegetation removal that are part of “permanent impact areas” will not be restored as part of the proposed project; therefore, cut vegetation in “permanent impact areas” will be removed and disposed of offsite.

    g. If necessary, maintenance will be conducted to keep vegetation trimmed down. Maintenance will be conducted using one or several typical technologies such as mowing, use of string trimmers, application of bonded fiber matrix, and/or herbicide application. The Service-approved biologist will conduct a pre-maintenance survey to determine that no areas needing maintenance provide vegetative cover that may attract or hide salt marsh harvest mice. As determined by the Service-approved biologist, areas that do provide vegetative cover will first be removed of vegetation by the methods described above in the preceding measures.

**Change Conservation Measure 20:**

**From:**

20. Salt marsh harvest mouse exclusion fencing:

    a. Exclusion fencing for salt marsh harvest mice will be installed between areas of salt marsh harvest mouse habitat and work sites immediately following vegetation removal and before excavation activities begin to prevent entry of the salt marsh harvest mice into cleared areas. Exclusion fencing will not be used during annual vegetation maintenance.

    b. The final design and proposed location of the fencing will be submitted to the Service for review and approval prior to placement. The Service-approved biologist will have the ability to make field adjustments to the location of the fencing based on site-specific habitat conditions.

    c. The wildlife exclusion fence will be a minimum of two feet in height. The fencing will be constructed from a material (*i.e.*, plastic or metal) so that the outside is too smooth to be climbed by salt marsh harvest mouse. The toe of the fence will be buried approximately 4 inches in the ground to prevent salt marsh harvest mouse from crawling or burrowing underneath it. Entrance gates will be similarly protected with a rolling fence exclusion device or similar on the bottom of the gate with close ground contact making it extremely difficult for a salt marsh harvest mouse to enter the site. Other alternatives that provide equivalent exclusion will be allowed at the discretion of the Service-approved biological monitor. Attachment 4 in Olberding Environmental, Inc. (2015) provides more detailed information regarding various options for small mammal exclusion fencing suitable for salt marsh harvest mouse.

    d. Maintenance of the fencing will be conducted as needed throughout the work period. Any necessary repairs to the fencing will be completed within 24 hours of the initial observance of damage. Work will not continue within 300 feet of the damaged fencing until the fence is repaired and the site is surveyed by a Service-approved biologist to ensure that salt marsh harvest mice have not entered the work area.

    e. A qualified biologist or site manager will monitor site fencing periodically throughout each day when work is conducted within 300 feet of the fence. If there is no construction activity within 300 feet of the exclusion fencing, the qualified biologist or site manager will inspect the fencing: (1) at least twice per week during clear weather, and (2) within 24 hours after a storm.

**To:**

20. Salt marsh harvest mouse exclusion fencing:

    a. Exclusion fencing for salt marsh harvest mice will be installed between areas of salt marsh harvest mouse habitat and work sites immediately following vegetation removal and before excavation activities begin to prevent entry of the salt marsh harvest mice into cleared areas. Exclusion fencing will not be used during annual vegetation maintenance.

b. The final design and proposed location of the fencing will be submitted to the Service for review and approval prior to placement. The Service-approved biologist will have the ability to make field adjustments to the location of the fencing based on site-specific habitat conditions.

c. The wildlife exclusion fence will be a minimum of two feet in height. If Ertec wildlife exclusion fencing is used as in Phase 2, the fencing will be supported by t-posts. The fence will be constructed with a climber barrier bend at the top facing the sensitive habitat with the t-posts on the construction side of the barrier. The toe of the fence will be buried approximately five to six inches in the ground to prevent salt marsh harvest mouse from crawling or burrowing underneath it. To provide strength, durability, and wind resistance, the Ertec fencing segments will overlap by 8 inches and be zip tied or wire tied together at the seams to make sure there are no gaps for the mice to get through. A 14-gauge galvanized wire will be used at the top of the barrier to support the top of the fence with climber barrier brackets and guide wire clips used to secure the climber barrier bend and keep tension in the fence.

f. Maintenance of the fencing will be conducted as needed throughout the work period. Any necessary repairs to the fencing will be completed within 24 hours of the initial observance of damage. Work will not continue within 50 feet of the damaged fencing until the fence is repaired and the site is surveyed by a Service-approved biologist to ensure that salt marsh harvest mice have not entered the work area.

g. A qualified biologist or site manager will monitor site fencing periodically throughout each day when work is conducted within 300 feet of the fence. If there is no construction activity within 300 feet of the exclusion fencing, the qualified biologist or site manager will inspect the fencing: (1) at least twice per week during clear weather, and (2) within 24 hours after a storm.

**Change Conservation Measure 21:**

**From:**

21. Work will be confined to daylight hours as a normal practice. Nighttime work will not be performed except as required to restore hydraulic integrity of the pipeline when working on in-line valves or should an emergency event occur that requires the full pipeline to be returned to service.

**To:**

21. Project activities may require night work with lights within the Project boundary. Up to 4 months of night work may be needed, primarily around the pipe pullback procedure. Light sources associated with Project construction shall be shielded and/or aimed so that no direct beam illumination is provided outside of the Project boundary, however, construction lighting shall not be so limited as to compromise the safety of construction workers. Biological monitors will be on-site during all night work.

**Change Conservation Measure 24:**

**From:**

24. Offsite salt marsh harvest mouse habitat compensation:

    a. CCWD will compensate at a 3:1 ratio for both the temporary disturbance and permanent loss of salt marsh harvest mouse habitat offsite at Wildlands' Cordelia Slough Preserve in Suisun Bay (Wildlands 2015) (or another Service-approved site within the Suisun Bay Area Recovery Unit if not possible at this location). CCWD has elected to compensate at a 3:1 ratio for both temporary and permanent effects instead of restoring temporarily disturbed areas under a Service-approved restoration plan and compensating at a 1:1 ratio for temporary effects. All access roads, annual SCPL ROW mowing areas, temporarily disturbed areas (not restored within one year) and other permanent features within the SCPL ROW will be compensated at a 3:1 ratio. CCWD will purchase a total of 13.5 acres of salt marsh harvest mouse habitat compensation at Wildlands' Cordelia Slough Preserve. Using the 3:1 compensation ratio for the temporary staging area at Site 4 and the road improvements at Site 10 along with all other habitat compensation requirements to address coverage of the entire SCPL ROW with the compensation ratio for permanent effects results in 13.257 acres of the 13.5 acres of habitat compensation being used for proposed project implementation. This leaves 0.243 acre of habitat compensation available for future O&M/pipeline repair.

    b. CCWD has elected not to restore any pickleweed habitat within the SCPL ROW. Therefore, CCWD will compensate for all pickleweed habitat within the site that is impacted on a temporary or permanent basis assuming a permanent impact compensation ratio of 3:1.

    c. Habitat will be preserved in perpetuity under a Service-approved compensation plan with an endowment and Service-approved long-term management plan (*e.g.*, Cordelia Slough Preserve Long-term Management Plan (Wildlands 2015)). CCWD will have a final compensation plan reviewed and approved by the Service and provide the funding for the compensation plan prior to the initiation of construction of the proposed project. As stated previously, CCWD may elect to compensate for permanent impacts (3:1 ratio) for the 0.166 acre of temporary disturbance to pickleweed-dominated wetland habitat rather than restoring this habitat.

    d. CCWD will obtain 0.243 acre of salt marsh harvest mouse habitat compensation for expected future O&M work (this is consistent with the 2011 California Environmental Quality Act documentation that estimated up to 21,000 square feet (0.48 acre) of further repairs under Phase 3 once the pipeline is able to be inspected). If this level of repair is not needed once the pipeline is inspected, then CCWD would use the 0.243 acre of habitat compensation over time for potential road repairs that may develop. The compensation ratios discussed below would apply to future O&M work based on the timeline for restoration of temporarily disturbed habitats. Temporary impact compensation ratios will be as low as 0.5:1 if restored within six months of the start of construction and will increase to 1:1 if

restored within one year of the start of construction and will further increase to 2:1 if restored within two years of the start of construction. If longer than two years, this is effectively a permanent impact and will be compensated at a 3:1 ratio. CCWD will strive to restore temporary impacts within six months but may need up to one year to restore temporary impacts depending on actual project conditions.

**To:**

24. Offsite salt marsh harvest mouse habitat compensation:

    a. CCWD will mitigate for salt marsh habitat impacts offsite at Cordelia Slough (or another Service-approved site if not possible at this location), at a 1:1 ratio for short-term temporary disturbance (less than 12 months) involving major construction activities including vegetation removal, trenching, HDPE mats, and the use and staging of heavy equipment. Permanent impacts will be compensated at a 3:1 ratio.

    b. Habitat will be preserved in perpetuity under a Service-approved compensation plan with an endowment and Service-approved long-term management plan. CCWD will have a final compensation plan reviewed and approved by the Service and provide the funding for the compensation plan prior to the initiation of construction of the proposed project. If the performance-based criteria for the recovery of vegetation onsite to pre-project conditions or better is not achieved, then the total amount of offsite compensation that CCWD will provide at the proposed Cordelia Slough (or another Service-approved site if not possible at this location) Preserve will increase based on the compensation ratios discussed above.

**Add:**

27. Habitat restoration period: All temporarily disturbed (due to road improvement and maintenance pad construction as well as temporary construction staging) sites are anticipated to be restored to full functions and values in the 12-month period following impacts. A three-year monitoring and maintenance period is prescribed for these sites to ensure they meet pre-construction habitat quality.

28. Reference sites: Reference notes and photographs will be made of all work sites prior to ground disturbance by the monitoring biologist. Revegetation reference sites will be designated at that time and delineated with a Global Positioning System for future analysis. The revegetation sites will be paired with disturbance sites and should have comparable biological values, vegetation cover, and plant species composition.

29. Revegetation techniques:

    a. Disturbed work sites will be revegetated by re-spreading surface duff and previously cleared native vegetation. This material will contain seed and mulch to promote revegetation. In circumstances where the biological monitor doubts the efficacy of this method alone, the following supplemental revegetation measures may be required.

b. Pickleweed plant material will be harvested using hand instruments. The harvested material will be temporarily stockpiled at the work site. The harvested stockpiles will be lightly watered daily as needed to maintain viability.

c. Pickleweed plugs will be custom collected and grown and maintained in a nursery. Plugs will be installed at two-foot centers in areas that had HDPE marsh mats over them and at three-foot centers in pedestrian use areas.

d. Where the biological monitor directs, the following native seed mix will be applied for brackish marsh areas disturbed by the proposed project: meadow barley at 12 pounds per acre, small fescue at five pounds per acre, and marsh rosemary at one pound per acre. The biological monitor may substitute species as long as the plants are natives and ecologically appropriate for the location.

e. Where the biological monitor directs, the following native seed mix will be applied for upland areas disturbed by the proposed project. Re-seeding will be done if it appears that there is not a sufficient seed bank present to allow natural revegetation: small fescue at 20 pounds per acre, blue wildrye at 10 pounds per acre, and meadow barley at 10 pounds per acre. The biological monitor may substitute species as long as the plants are natives and ecologically appropriate for the location.

30. Perennial pepperweed control:

a. Control is best achieved with application of herbicide which will be applied when perennial pepperweed is in bud.

b. The on-site restoration sites will be monitored regularly and closely to determine when the perennial pepperweed is in bud. At that time, the perennial pepperweed will be subject to herbicide treatment. At the discretion of the monitoring biologist, cutting may be combined with herbicide treatment. Sometimes, cutting will encourage new growth by the perennial pepperweed, which is more sensitive to herbicides.

c. The herbicide will be appropriate for use in wetlands. The herbicide would not harm fish or other aquatic life when used as directed. The herbicide would be applied in a focused stream to minimize losses of non-target plants due to drift or overspray. The solution would be sprayed on large infestations and wicked on to isolated individual plants. The herbicide may not completely kill the below-ground root structure, and re-sprouting may occur the following year. Treatments would continue throughout the monitoring period as long as perennial pepperweed is detected.

d. AquaMaster® or an equivalent herbicide would be used. The herbicide must be aquatically approved to control emerged vegetation in and around bodies of fresh or salt water. The active ingredient would be glyphosate (AquaMaster® is 53.8 percent glyphosate). The active ingredient becomes deactivated once it touches water so that vegetation only on or above the waterline is controlled. A surfactant

would be added to the herbicide, which would be one of the following: Agri-dex, Competitor, or Cygnet Plus.

31. Stinkwort control: The particularly invasive non-native plant stinkwort should be treated before the plant goes into seed in the late summer and early fall. Hand weeding of the stinkwort will be done as new plants emerge. Stinkwort is an annual, which germinates each year from seeds.

32. Weed abatement post-construction monitoring: Throughout the designated monitoring periods of the individual work sites, visits will be made three times a year: in April/May, June/July, and August/September. Both hand weeding and herbicide applications (with possible cutting) will be made as needed during those visits.

33. Compliance verification report following construction: Following completion of construction, CCWD will submit a brief compliance certification report to the Corps, Reclamation, Service, Bay Conservation and Development Commission, California Department of Fish and Wildlife, and SFRWQCB. The Corps as well as the other agencies may require further measures and reporting. This will be determined when the applications are approved by the agencies. The compliance verification report will be due 60 days after construction is completed. The completion of construction would come at the end of the construction and cleanup phase of the proposed project. The on-going restoration efforts will continue throughout the monitoring and maintenance period.

34. Restoration will be considered successful when:

    a. Absolute plant cover within restored pickleweed marsh and brackish marsh areas is at least 80 percent of comparable adjacent areas and an average height of at least six inches.

    b. The composition of non-native plants does not exceed those of comparable adjacent areas.

    c. All three federal parameters - hydrophytic vegetation, hydric soils, and wetland hydrology - are achieved for all wetland restoration sites.

35. Monitoring of restoration sites: The restored project sites will be monitored annually by a qualified biologist following completion of construction work. Monitoring, maintenance, and remedial actions will continue until performance standards are met. That is, the designated monitoring period of three years is a minimal period. If performance standards are not met in the prescribed period, monitoring, maintenance, and remedial actions will be continued until those performance standards are met. Monitoring reports are due annually by December 15 of the monitoring year. Reports will be submitted to the following agencies: Corps, Service, SFRWQCB, and Bay Conservation and Development Commission. Reports are due until performance standards have been met and the monitoring period has been completed.

**Change the Status of the Species:**

**From:**

Salt Marsh Harvest Mouse

There are two subspecies of the salt marsh harvest mouse: the northern subspecies (*R. r. halicoetes*) and the southern subspecies (*R. r. raviventris*). Both subspecies are listed as endangered. For the most recent comprehensive assessment of the species' range-wide status, please refer to *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Recovery Plan; http://ecos.fws.gov/ docs/recovery_plan/TMRP_Final.pdf; Service 2013). No change in the species' listing status was recommended in the February 2010 5-year review (Service 2010). Threats evaluated during that review and discussed in the final document have continued to act on the species since the February 2010 5-year review was finalized, with loss of habitat being the most significant effect. While there have been continued losses of salt marsh harvest mouse habitat throughout the various recovery units, including the Suisun Bay Area unit where the proposed project is located, to date no project has proposed a level of effects for which the Service has issued a biological opinion of jeopardy for the species. The Service is in the process of finalizing its most current 5-year review for the species.

**To:**

Salt Marsh Harvest Mouse

There are two subspecies of the salt marsh harvest mouse: the northern subspecies (*R. r. halicoetes*) and the southern subspecies (*R. r. raviventris*). Both subspecies are listed as endangered. For the most recent comprehensive assessment of the species' range-wide status, please refer to *Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California* (Recovery Plan; http://ecos.fws.gov/docs/recovery_plan/TMRP_Final.pdf; Service 2013). Threats evaluated during the drafting of the recovery plan and discussed in the final document have continued to act on the species since its publication, with loss of habitat being the most significant effect. For the most recent comprehensive assessment of the species' range-wide status, please refer to the salt marsh harvest mouse 5-year review at https://ecos.fws.gov/docs/tess/species_nonpublish/3630.pdf (Service 2021). No change in the species' listing status was recommended in this 5-year review.

**Add to Environmental Baseline:**

Phase 3 Study area consists of approximately 47 acres that surrounds the approximately 13-acre area that will be used for construction. Permanent new facilities will require approximately 2 acres. This reinitiation focuses on the 3000 feet of the SCPL in shallow bay mud that sits within Sites 4 (Conco) and 5 (Marathon) and the CCCFC&WCD Walnut Creek Levee between these two sites.

**Add to Environmental Baseline, Habitats within the SCPL ROW, Creeks and Local Hydrology:**

Two drainages cross the pipeline in the Phase 3 work area. Lower Walnut Creek and upper Pacheco Creek are larger channelized features in the industrialized areas contained within a well-developed levee system. The pipeline crosses under these drainages just upstream of their intersection (Bureau of Reclamation 2010). Neither Pacheco Creek nor Walnut Creek in their current configuration experience tidal exchanges in the vicinity of the SCPL right-of-way.

**Add to Environmental Baseline, <u>Habitats within the SCPL ROW,</u> Developed and Industrial Areas:**

Developed areas along Phase 3 of the SCPL consist of industrial development (primarily active refinery), dirt lots, infrastructure pads, and roads containing few species of vegetation. These areas provide little to no value as habitat for plant and wildlife species due to the high level of disturbance and human activity. Plant species present in these areas include stinkweed (*Dittrichia graveolens*), artichoke thistle (*Cynara cardunculus*), perennial pepperweed (*Lepidium latifolium*), and Italian thistle (*Carduus pycnocephalus*). Areas within the study area containing this habitat include Sites 4 & 5. The Conco property adjacent to Site 4 is being developed while the Marathon refinery is adjusting its operations to produce renewable diesel fuels.

**Add to Environmental Baseline, <u>Habitats within the SCPL ROW,</u> Ruderal/Grassland Habitat:**

Ruderal fields are generally present in areas that have been disturbed in the past but have been left fallow or undeveloped for a number of months to years following the disturbance. Ruderal fields can provide limited to moderate habitat for plant and wildlife species depending on the amount of past disturbance and the proximity to developed or other low value habitat areas. Ruderal fields are present adjacent to and among the developed areas within the SCPL alignment. Typical plant species that occur in ruderal fields include fennel (*Foeniculum vu*lgare), vetch (*Vicia villosa*), artichoke thistle, Italian thistle, stinkweed, perennial pepperweed, and annual grasses including wild oats (*Avena* sp.), various species of brome grass (*Bromus* spp.), and creeping wild rye (*Leymus triticoides*). Areas within the study area containing this habitat include most of Site 4 south of the SCPL alignment where Conco has been developing additional industrial lots and a roadway, and the northeastern parts of Site 5 where large stockpiles of dirt have been left fallow and are covered in mustard, pepperweed, and fennel.

**Add to Environmental Baseline, <u>Habitats within the SCPL ROW,</u> Seasonal Wetland Habitat:**

Areas within the study area containing this habitat include Site 5, and adjacent to the CCCFC&WCD Walnut Creek levee. Wetlands on Site 4 are considered seasonal wetlands as they have no direct hydrological connection to Walnut Creek or the marshes along its banks due to the levees surrounding this site.

**Add to Environmental Baseline, <u>Habitats within the SCPL ROW,</u> Coastal Brackish Marsh Habitat:**

The marsh within the Study Area for Phase 3 is hydrologically connected to Walnut Creek and is approximately 2.25 miles south of where the Walnut Creek enters Suisun Bay at the upstream

end of the Carquinez Straight. In the winter when primary hydrologic inputs to the marsh are rainfall and stormwater runoff, the salinity in the marsh is likely to be very low. This community is typically regulated by the Corps, Regional Water Quality Control Board (RWQCB), San Francisco Bay Conservation and Development Commission, and sometimes CDFW (depending on the nature of the activity). Areas within the Study Area containing this habitat include small portions of Site 5 on CCCFC&WCD property.

**Add to Environmental Baseline, Habitats within the SCPL ROW, Salt Panne Habitat:**

Panne habitat occurs at Site 4 and on the CCCFC&WCD parcel between Sites 4 and 5. This area is typically devoid of water and, aside from the layer of died-back widgeon grass, nearly devoid of vegetation. During the most recent visit (April 17, 2023), this area was flooded due to recent heavy rains. Sparse vegetation was observed to the south of this habitat due to the high salinity content of the area; however, the northern portion of this habitat contained dense marsh habitat suitable to support halophyte species such as salt grass (*Distichlis spicata*), pickleweed, and alkali heath. Walnut Creek flows to the east of this habitat opposite the CCCFC&WCD levee.

Undeveloped habitats that occur along the Action Area consist mainly of disturbed, ruderal grassland habitat within seasonal wetlands and tidal marsh.

Site 4 lies to the west of Walnut Creek and contains salt panne habitat that is isolated from Walnut Creek by a levee. This is the only portion of the action area containing this habitat type. This habitat contains a moderate amount of vegetation suited to its high salinity content. The transition to wetland habitat to the north of this habitat was evident during the surveys. Large patches of pickleweed were observed along the edges of Site 4. This habitat will pond brackish water during high tides, as evidenced by the salt, biotic crust, and wigeon grass observed during surveys, but is dry throughout most of the year.

Site 5 lies to the east of Walnut Creek and is not separated by levee. The portion of Site 5 on the CCCFC&WCD parcel is tidal marsh along the eastern bank of Walnut Creek. Site 5 also contains seasonal wetland habitat, annual grasslands with pickleweed stands along the marsh/grassland fringes, and ruderal habitat north of the CCWD ROW.

**Add to the Effects of the Proposed Action:**

Habitat Disturbance for Phase 3

Construction associated with Phase 3 will result in the creation of improved access roads that are currently open space areas near or within seasonal wetland, tidal marsh, and upland grassland habitats. These areas provide suitable foraging, breeding, nesting, and refuge habitat to a variety of local wildlife species, including the salt marsh harvest mouse.

As shown in Table 8 below, a total of 1.77 acres of permanent loss of habitat would occur and a total of 5.79 acres of temporary impacts (restored within one year) would occur due to road improvement and maintenance pad construction as well as temporary construction staging in Phase 3.

**Table 8. Acres of Permanent Loss and Temporary Disturbance of Salt Marsh Harvest Mouse Habitat in the SCPL Phase 3 Proposed Project**

| Habitats | Acres Impacted | Compensation Ratio | Compensation (Acres) |
|---|---|---|---|
| **Permanent Loss** | | | |
| Grassland | 0.40 | 3:1 | 1.20 |
| Wetland | 1.37 | 3:1 | 4.11 |
| **Total Permanent Loss** | 1.77 | 3:1 | 5.31 |
| **Temporary Disturbance** | | | |
| Grassland | 4.29 | 1:1 | 4.29 |
| Wetland | 1.50 | 1:1 | 1.50 |
| **Total Temporary Disturbance** | 5.79 | 1:1 | 5.79 |
| **Total All Effects** | 7.56 | | 11.1 |

In addition to habitat restoration to temporarily disturbed habitat, compensatory mitigation is proposed. The compensatory habitat proposed for Phase 3 will be in the form of funding the preservation in perpetuity and long-term management of 11.1 acres of suitable salt marsh harvest mouse habitat at the Service-approved Cordelia Slough Preserve within the Suisun Bay Area Recovery Unit (or other location approved by the Service within the Suisun Bay Area Recovery Unit). This is in addition to the 13.5 acres of suitable salt marsh harvest mouse habitat previously provided for Phase 2 construction at the Cordelia Slough Preserve. This component of the action will have the effect of protecting and managing lands for the species' conservation in perpetuity. The compensatory lands will provide suitable habitat for breeding, feeding, or sheltering commensurate with or better than habitat lost as a result of the proposed project. Providing this compensatory habitat as part of a relatively large, contiguous block of conserved land may contribute to other recovery efforts for the species.

Direct Effects to Individuals for Phase 3

The addition of nighttime work increases the disturbance to individuals as construction noise, vibration, traffic, lighting, etc. could occur day and night exacerbating the effects previously described.

**Add to the Effects of the Proposed Action, Invasive Plant Species:**

Conversely, more recent studies have shown salt marsh harvest mice utilize both native and non-native species for habitat and diet including invasive pepperweed (Aylward *et al.* 2022; Smith and Kelt 2019; Shellhammer *et al*. 2010). Depending on how mice utilize the proposed treated areas they could be adversely affected by removal of habitat and food source, and exposure to herbicide and adjuvants.

The project includes the use of glyphosate (AquaMaster™) and three adjuvants (Competitor®, Agridex®, and Cygnet Plus). Glyphosate is a broad-spectrum, non-selective, systemic herbicide. The physical properties of glyphosate indicate that is has a low potential for bioaccumulation and has been shown to have low toxicity to rodent. For example, in a report by Bautista (2007), rats exposed to glyphosate levels of 175 milligrams/kilogram had no observed adverse effects. This suggests that if a salt marsh harvest mouse were to consume 1.4 milligrams (about the mass of a

pinch of salt), no adverse effects from the herbicide exposure would be observed. As a result of its low toxicity to vertebrates, including Norway rats (as a proxy for other mammals) when applied correctly, and the lack of potential to bioaccumulate, the use of AquaMaster™ is not expected to result in death or injury from exposure. Due to the targeted application of the herbicide, and its low tendency to leach into the water, non-target plants have low risk of being affected.

Reclamation and CCWD minimized exposure risk by removing a more toxic adjuvant from the project and adding three less toxic adjuvants. Agri-Dex® is a crop oil surfactant and the active ingredients are a mix of light and heavy paraffin-based petroleum oils, along with polyol fatty acid esters and polyoxyethylated polyol fatty acid esters. The acute oral LD50 (median lethal dose) for mammals is >5.01 grams/kilogram (g/kg) (practically non-toxic), and the acute dermal LD50 for mammals is >2.02 g/kg (slightly toxic) (Bakke 2007). Competitor® is an oil-based surfactant, composed of ethyl oleate, polyoxyethylene dialkylester, and sorbitan alkylethoxylate ester. The acute oral LD50 for mammals is >5 g/kg (practically non-toxic), the acute dermal LD50 for mammals is >5 g/kg (slightly toxic), and the acute inhalation LD50 for mammals is 5.79ml/L (slightly toxic) (Bakke 2007). Cygnet Plus is another oil-based surfactant, and the main ingredient is d-limonene. Cygnet Plus also contains a terpene hydrocarbon. Bakke (2007) reported that no data was available for Cygnet Plus on acute toxicity to mammals, but as it is an oil-based surfactant, it may have a similar toxicity level as the other surfactants discussed here. Agri-Dex®, Competitor®, and Cygnet Plus contain ethoxylates, which are likely human carcinogens (Bakke 2007), and the nonylphenol polyethoxylated found in Cygnet Plus has been found to have estrogenic effects in some wildlife species (Bakke 2007). Proper spill prevention and containment are expected to reduce the chance of salt marsh harvest mice being exposed to higher concentrations of the applied herbicide or surfactant. Effects on non-target plant species will be minimized by targeted application of the spray. Relatively high doses would be needed for these surfactants to affect invertebrates that might be prey for salt marsh harvest mice, and these effects would not be expected to occur at a population level, but rather would affect individual aquatic or terrestrial invertebrates (Bakke 2007 and references therein).

There is the potential for the mouse to ingest the herbicide or adjuvants via the contaminated plant material or drink contaminated water. Exposure concentrations are expected to be very low for all chemicals proposed for use by the project and, due to their physical properties bioavailability, any exposure should be of short duration.

**Change the Effects of the Proposed Action, Altered Hydrology Paragraphs:**

**From:**

Site 4 is a ponded area containing salt panne habitat with no connectivity to other water bodies. The planned height of the gravel access road at Site 4 is only 6 inches, and thus would create a minimal change to the topography at this location. Therefore, the installation of the new gravel access road at Site 4 is anticipated to have negligible effects on the hydrology of suitable salt marsh harvest mouse habitat at Site 4 (M. Seedall, CCWD, *in litt*. 2015).

**To:**

Site 4 is a ponded area containing salt panne habitat with no connectivity to other water bodies. The planned height of the gravel access roads/pads at Site 4 is expected to be 6 to 12 inches. The hydrological effect to the habitat from increase of up to 12 inches of road/pad height was not analyzed. The increase in height may change hydrology which may change suitable habitat.

**Add:**

Water drained from the SCPL associated with Phase 3 construction is not expected to affect salt marsh harvest mouse habitat. The water would be pumped to Baker tanks or to the Marathon Refinery or Contra Costa County Sanitation District for treatment and disposal. Water drained from the SCPL Phase 3 work area will be tested and treated (if required) prior to disposal.

**Remove Reference to Phase 3 in <u>Ongoing O&M Activities</u>:**

Ongoing O&M activities will typically occur once or twice per year for one or two days per site. Ongoing O&M activities will be confined to the "permanent impact areas" within the SCPL ROW (including the areas labeled in Table 4 as "temporarily disturbed but not restored") and along the permanent gravel access roads where suitable salt marsh harvest mouse cover was removed during Phase 2 and Phase 3 of the proposed project (with the exception of the temporary disturbance of up to 0.243 acre of salt marsh harvest mouse habitat outside of the "permanent impact areas" during O&M activities within the SCPL ROW). Therefore, ongoing O&M activities are not expected to result in any additional effects to salt marsh harvest mice (beyond the additional 0.243 acre of habitat temporarily disturbed outside of the "permanent impact areas"). However, it is possible that areas cleared of vegetation within the "permanent impact areas" during initial proposed project implementation could revegetate with suitable salt marsh harvest mouse cover. Additionally, any salt marsh harvest mice occurring within the SCPL ROW during annual mowing could be injured or killed; however, the most likely affect would be salt marsh harvest mice fleeing the SCPL ROW during annual mowing events. Any O&M activity that involves vegetation removal, grading/excavation, and/or maintenance work will require a pre-event survey and biological monitoring during implementation for protection of the salt marsh harvest mouse and its habitats as appropriate. CCWD and its contractors will minimize the potential for injury and mortality of the salt marsh harvest mouse during O&M activities by requiring that O&M personnel receive training in the identification of the salt marsh harvest mouse and its habitats and the implementation of the avoidance and minimization measures. Also a Service-approved biologist will supervise the work to ensure no salt marsh harvest mice are injured or killed. If a salt marsh harvest mouse is observed, then work will not commence or will cease and the Service will be consulted. Reclamation will consult with the Service if any O&M activities are proposed within salt marsh harvest mouse habitat beyond the "permanent impact areas." O&M activities that involve controlling invasive plant species will benefit the salt marsh harvest mouse by minimizing the spread of invasive plant species into the adjacent marsh habitat for the salt marsh harvest mouse.

**Add to <u>Ongoing O&M Activities</u>:**

Ongoing O&M activities will be confined to the "permanent impact areas" within the SCPL ROW and along the permanent gravel access roads where suitable salt marsh harvest mouse cover was removed during Phase 3 of the proposed project (with the exception of the temporary

disturbance of up to 5.79 acres acre of salt marsh harvest mouse habitat outside of the "permanent impact areas" during O&M activities within the SCPL ROW). Therefore, ongoing O&M activities are not expected to result in any additional effects to salt marsh harvest mice (beyond the additional 5.79 acres of habitat temporarily disturbed outside of the "permanent impact areas").

**Change (3) of the Conclusion:**

**From:**

(3) the preservation and management in perpetuity of 13.5 acres of salt marsh harvest mouse habitat within the Suisun Bay Area Recovery Unit under a Service-approved long-term management plan at the proposed Cordelia Slough Preserve or other Service-approved location.

**To:**

(3) the preservation and management in perpetuity of 24.6 acres of salt marsh harvest mouse habitat within the Suisun Bay Area Recovery Unit under a Service-approved long-term management plan at the proposed Cordelia Slough Preserve or other Service-approved location.

**Add to Amount or Extent of Take:**

4. For Phase 3, harm of all salt marsh harvest mice within the 0.4 acre of suitable grassland habitat and 1.37 acres of suitable wetland habitat permanently lost and 4.29 acres of suitable grassland habitat and 1.48 acres of suitable wetland habitat temporarily lost adjacent to the SCPL ROW used for construction staging.

**Change Term and Condition:**

**From:**

b. For those components of the action that may result in direct encounters between listed species and project workers and their equipment whereby incidental take in the form of harassment, harm, injury, or death is anticipated, USBR shall immediately contact the Service's Sacramento Fish and Wildlife Office (SFWO) at (916) 414-6623 to report the encounter. If encounter occurs after normal working hours, USBR shall contact the SFWO at the earliest possible opportunity the next working day. When injured or killed individuals of the listed species are found, Reclamation shall follow the steps outlined in the Salvage and Disposition of Individuals section below.

**To:**

b. For those components of the action that may result in direct encounters between listed species and project workers and their equipment whereby incidental take is anticipated, USBR shall immediately contact the Service's San Francisco-Bay Delta Fish and Wildlife Office (BDFWO) to report the encounter. If encounter occurs after normal working hours, USBR shall contact the BDFWO at the earliest possible opportunity the

next working day. When injured or killed individuals of the listed species are found, USBR shall follow the steps outlined in the Salvage and Disposition of Individuals section below. The Service contact person is Jana Affonso, Assistant Field Supervisor of the Endangered Species Division at (916) 930-2664.

**Change Disposition of Individuals Taken:**

**From:**

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is the Coast/Bay Division Chief of the Endangered Species Program at the SFWO at (916) 414-6623.

**To:**

Injured listed species must be cared for by a licensed veterinarian or other qualified person(s), such as the Service-approved biologist. Dead individuals must be sealed in a resealable plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it, and the bag containing the specimen frozen in a freezer located in a secure site, until instructions are received from the Service regarding the disposition of the dead specimen. The Service contact person is Jana Affonso, Assistant Field Supervisor of the Endangered Species Division at (916) 930-2664.

All other portions of the 2016 reinitiation remain unchanged.

## REINITIATION - CLOSING STATEMENT

This concludes reinitiation formal consultation on the CCWD SCPL Improvement Project. As provided in 50 CFR 402.16,

(a) Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and:

(1) If the amount or extent of taking specified in the incidental take statement is exceeded;

(2) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered;

(3) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion or written concurrence; or

(4) If a new species is listed or critical habitat designated that may be affected by the identified action.

(b) An agency shall not be required to reinitiate consultation after the approval of a land management plan prepared pursuant to 43 U.S.C. 1712 or 16 U.S.C. 1604 upon listing of a new species or designation of new critical habitat if the land management plan has been adopted by the agency as of the date of listing or designation, provided that any authorized actions that may affect the newly listed species or designated critical habitat will be addressed through a separate action-specific consultation. This exception to reinitiation of consultation shall not apply to those land management plans prepared pursuant to 16 U.S.C. 1604 if:

(1) Fifteen years have passed since the date the agency adopted the land management plan prepared pursuant to 16 U.S.C. 1604; and

(2) Five years have passed since the enactment of Public Law 115-141 [March 23, 2018] or the date of the listing of a species or the designation of critical habitat, whichever is later.

Please address any questions or concerns regarding this response to Kim Squires, Section 7 Division Manager, at Kim_Squires@fws.gov. Please refer to Service file numbers 2022-0047506-S7-001, in any future correspondence.

**Literature Cited**

Aylward, C. M., Statham, M. J., Barthman-Thompson, L., Kelt, D. A., & Sacks, B. N. 2022. Dietary characterization of the endangered salt marsh harvest mouse and sympatric rodents using DNA metabarcoding. *Ecology and Evolution*, *12*, e9121. https://doi.org/10.1002/ece3.9121

Bakke, D. 2007. Analysis of Issues Surrounding the Use of Spray Adjuvants with Herbicides. U.S. Forest Service, Pacific Southwest Region. December 2002, Revised, January 2007. 61 pp. https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_045552.pdf

Bautista, S. L. 2007. A summary of acute risk of four common herbicides to birds and mammals. In Meeting the challenge: invasive plants in Pacific Northwest 30 ecosystems. Reichard, T. B. and S.H. Reichard, eds. General Technical Report PNW-GTR-694. June 2007. United States Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, Oregon. https://www.fs.usda.gov/pnw/olympia/silv/publications/opt/563_HarringtontReichard2007.pdf

California Invasive Plant Council. 2006. Invasive Plant Inventory. Regularly updates list published by California Invasive Plant Council. http://www.cal-ipc.org/ip/inventory/. Accessed on June 22, 2015.

Olberding Environmental, Inc. 2015. Responses to October 2014 U.S. Fish and Wildlife Service Information Request for the Contra Costa Water District Shortcut Pipeline Improvement Project Onsite Habitat Mitigation and Monitoring Plan for Temporary Construction Impact Areas, Contra Costa County, California. June. Prepared by Olberding Environmental, Inc., San Ramon, California, for Contra Costa Water District, Concord, California. 33 pp. plus appendices.

Shellhammer H, Duke R, Orland MC. 2010. Use of brackish marshes in the South San Francisco Bay by salt marsh harvest mice. California Department of Fish Game California Fish and Game 96(4): 256-259. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=47300.

Smith, K.R., and D.A. Kelt. 2019. Waterfowl Management and Diet of the Salt Marsh Harvest Mouse. The Journal of Wildlife Management 1-13; 2019; DOI: 10.1002/jwmg.21752.

U.S. Bureau of Reclamation (USBR). 2010. Bureau of Reclamation. U.S. Department of the Interior. Reclamation: Managing Water in the West. Draft Environmental Assessment/Initial Study for the Shortcut Pipeline Improvement Project. October.

U.S. Fish and Wildlife Service (Service). 2010. Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. 49 pp. http://ecos.fws.gov/docs/five_year_review/doc3221.pdf. Accessed on June 17, 2015.

_____. 2013. Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California. Sacramento Fish and Wildlife Office, Sacramento, California. xviii + 605 pp. http://ecos.fws.gov/docs/recovery_plan/TMRP_Final.pdf. Accessed on June 17, 2015.

_____. 2021. 5-Year Review: Salt marsh harvest mouse (*Reithrodontomys raviventris*). San Francisco Bay-Delta Fish and Wildlife Office, Sacramento, California. 29 pp. https://ecos.fws.gov/docs/tess/species_nonpublish/3643.pdf

Wildlands. 2015. Final Cordelia Slough Preserve for Salt Marsh Harvest Mouse and Wetland Enhancement Long-Term Management Plan. January. Wildlands, Rocklin, California.

***In Litt.***

Seedall, Mark. 2015. Electronic mail message from Principal Planner, Contra Costa Water District, Concord, California, to Joseph Terry, Senior Biologist, U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California, dated June 10, 2015. Subject: Contra Costa Water District, Shortcut Pipeline Improvement Project Draft Responses to Service's October 2014 information request.