

2.0 Description of the Proposed Action

2.1 Project Description

Phillips 66 seeks authorization to remove the existing non-operational MOT wharf located near Port Costa (Port Costa Wharf), in the Carquinez Strait (see Figure 1-1) in accordance with the terms and conditions of its existing CSLC lease (PRC 2869.1).

The Port Costa Wharf was first built around 1908. Its function was as an MOT that was utilized for storage and shipment of various petroleum products, including heavy fuel oil, residual fuel oil, gas oil, and catalytic cracker charge stock. Operations at the terminal stopped in 1968. In 1970, a fire destroyed more than half of the wharf, rendering it unusable. Following removal of timbers and other material that had been destroyed during the fire, the boundaries of the 1.16-acre CSLC lease were revised to 0.48 acres on November 15, 1994.

Underlying goals of the Project are the safe removal of wood, steel, and concrete structures associated with the wharf that remain within the bounds of the historical and current CSLC leases while maintaining embankment stability to ensure the safety of existing rail operations. The remaining structures (see Figure 1-2) include:

- One approximately 34-foot by 103-foot remnant main wharf structure running parallel to the western shoreline of the Carquinez Strait;
- Three deteriorated timber-pile-supported wood-beam/deck platforms/piers of approximately 24-foot by 30-foot, 18-foot by 36-foot, and 18-foot by 36-foot size, respectively, each perpendicular to the shoreline, which were formerly connected to the larger wharf structure;
- Two steel pipe pile and concrete deck mooring dolphins of approximately 9-foot by 15-foot size, located northwest and southeast of the main wharf structure;
- Two concrete pile supported wood deck mooring platforms of 30-foot by 18-foot and 21-foot by 18-foot size respectively, located on the shoreline south of the main wharf structure; and
- Two wood pile dolphins consisting of a total of 10 to 13 piles, located in the northernmost section of the action area.

Miscellaneous concrete, metal, and timber debris was observed along the shoreline. The concrete debris is generally functioning as rip rap shore protection. It is not clear where this concrete debris came from, but it may be intentional rip rap placed on the embankment over a number of years. Phillips 66 proposes to keep the concrete debris in place to minimize the potential for destabilizing the rail bed embankment.

2.2 Deconstruction Procedures

The deconstruction work breakdown structure includes the following distinct work activities:

- Lead-based paint (LBP), asbestos-containing materials (ACM), and hazardous materials surveys, and as needed, abatement and/or appropriate disposal or reuse;
- Deconstruction of marine structures;
- Diamond wire saw cutting of concrete structures; and
- Processing, transport, and recycling/disposal of resulting deconstruction debris.

2.2.1 Pre-Deconstruction Surveys, Abatement, Disposal or Reuse

Phillips 66 completed LBP and ACM surveys of the wharf structures in February 2013. Samples were collected and analyzed by a certified technician. Results of the survey indicate that LBP is present on some wharf structures, but no ACM was detected. Since LBP is present on the wharf, Phillips 66 will retain a licensed LBP abatement contractor to address LBP prior to the general deconstruction of the wharf. An LBP Management Plan including health and safety procedures will be prepared and included as part of the Project's Deconstruction Work Plan.

Although little, if any, is anticipated, potentially hazardous materials may also be present in the action area, including remnants of mercury switches, petroleum product residues, and hydraulic fluids. Prior to commencement of activities to abate these materials at the wharf, a site specific Health and Safety Plan for these activities will be prepared by Phillips 66 or its contractor that will, at a minimum, comply with applicable State and Federal regulations. If any such equipment is identified, procedures will be implemented to flush, drain, or remove the materials so that the hazardous waste can be safely removed without risking releases. A Water Quality/Storm Water Pollution Prevention Plan will be prepared to include procedures to prevent a potential release of hazardous materials to the Carquinez Strait, protect water quality, and ensure appropriate handling and disposal of hazardous waste. Equipment such as switches and gauges that contain mercury will be tagged prior to removal for special handling to prevent an inadvertent discharge of mercury on the deck surfaces or in Carquinez Strait waters.

2.2.2 Deconstruction Materials and Equipment

Anticipated materials and equipment required to complete the work are listed below. The materials required for the Project are limited, as the primary activity is deconstruction and removal of wharf remnants.

Materials

The following materials may be required to execute the deconstruction Project:

- Diesel fuel;
- Gasoline to power small portable equipment;
- Compressed gases for metal cutting;
- Penetrating oil to lubricate corroded fittings;
- Marking paint;
- Diamond wire cable;
- Lumber for debris catchment scaffolding;
- Oil spill booms and sorbent material (on-hand as contingency); and
- Miscellaneous materials to be identified at the time specifications for deconstruction are developed.

Equipment

The following equipment may be required to execute the deconstruction project:

- Crane (200 ton);
- Crane (20 ton);
- Derrick crane;
- Barge (approximately 50 feet by 130 feet);
- Barge (approximately 40 feet by 80 feet);
- Excavator with shear;
- Concrete drill;
- Portable electrical generator(s);
- Diamond wire saw;
- Pulverizer;
- Hydraulic pile cutter;
- Vibratory pile extractor;
- Tug boat (1,000 horsepower);
- Tug boat (500 horsepower);
- Anchor boat;
- Loader;
- Compactor;
- Dump truck;
- Roll-off bins;
- Diver support equipment;
- Hand tools; and
- Miscellaneous equipment to be identified at the time specifications for deconstruction are developed.

Work activities at the Project site will be conducted entirely from vessels anchored offshore, adjacent to the wharf structures. One construction derrick barge, approximately 130 feet by 50 feet, will be required. The crane will be mounted on this barge. A second support barge, approximately 80 feet by 40 feet, will also be on site to collect and transport the demolition debris. Proper first-aid and safety stations, portable sanitary stations, an office and break areas will also be located on these barges. Both barges will be brought to the site daily by a tugboat, which will stay in the Project area during deconstruction activities should the barges need to be moved. Each barge will be anchored with about two to four standard marine anchors.

An approximately 18-foot aluminum or steel personnel work boat will also be used during deconstruction activities; it will be launched from the construction barge to transport workers to the Project area. This vessel will also be utilized during the day to allow workers to mobilize within the Project area.

2.2.3 Temporary Facilities

Temporary facilities will be required during the Project to support the safe and efficient execution of the work. Temporary facilities may include:

- Barge-mounted first-aid and safety stations;
- Barge-mounted portable sanitary stations;
- Barge-mounted office and break areas;
- Barge-mounted secured storage facilities;
- Utilities as required to execute the work; and
- Marker buoys delineating the construction work area.

To facilitate completing the deconstruction work, the selected contractor's existing shore base and associated facilities may include secured storage facilities, shore-side staging areas, and landings/dock facilities. These facilities already exist, and, should they be needed, are located away from the Project site and will not require any construction.

There also may be a need to provide other incidental temporary facilities such as parking, storage, and sanitary stations located on shore near the site. This will allow for access from onshore locations for the Applicant, its contractors, site monitors, agency representatives or others wishing to observe the operations. A temporary construction easement will be needed within the adjacent uplands to accommodate these incidental temporary facilities. The proposed locations are approximately 700 feet southwest and upland of the Project area on the adjacent former TXI property (see Figure 1-3).

This property contains existing developed roads and parking areas that can accommodate upland access and the aforementioned incidental temporary facilities. Phillips 66 and its contractors will work with the property owner prior to the start of deconstruction activities to secure temporary easements to the property. There is existing parking at the site so there will be no need to construct any new facilities, and agreements will be made with the property owner to use the property for these temporary purposes. To provide some flexibility in planning, we have assumed that incidental parking, sanitary, and storage facilities will likely not exceed 1.5 acres total. Once parked, individuals will access the Project site on foot, making sure to notify Union Pacific Railroad in advance and taking appropriate precautionary and railroad safety measures.

A specific list of temporary facilities that will be used to execute the work will be prepared following selection of the construction contractor; however, the analysis considered in this document assumes that all likely temporary facilities, identified herein, will be used and represents the worst case.

2.2.4 Deconstruction

Wharf deconstruction will be initiated using a CSLC-approved, Project-specific Marine Safety Plan. Key wharf deconstruction work activities will include:

- Wharf fixtures removal/deconstruction;
- Concrete and wood deck and mooring dolphin deconstruction;
- Wood, concrete, and steel pile deconstruction; and
- Removal of debris and marker buoys.

Removal of the wharf remnants will involve several types of work activities including the use of cutting torches (hot-work), air- or electric-powered tools, rigging equipment, and barge-mounted cranes. Large pieces of structures to be removed will have tag lines attached to facilitate recovery from the Carquinez Strait in the event of an accident. Deconstruction materials that cannot be salvaged will be disposed of through sale as components for scrap or disposed in a permitted landfill.

Fixtures Removal/Deconstruction

Deck fixtures and remnants of equipment will be removed and deconstructed. Deck fixtures include metal fenders, mooring bits, mooring cleats, nails, coils, wiring, chain-link fencing, and mooring posts. Fixture removal and deconstruction may proceed concurrently with deck deconstruction.

Concrete Deck Deconstruction

The MOT includes two mooring dolphin decks made of concrete. Each mooring dolphin deck measures approximately 9 feet by 15 feet. The average deck thickness is about 2 feet. It is anticipated that each mooring dolphin will be cut into multiple pieces for removal. The actual size of the concrete pieces will depend on the availability of equipment at the time deconstruction services are procured, and will be detailed in a project-specific Rigging and Lifting Plan that will be prepared for review and approval by the CSLC prior to implementing the deconstruction work.

It is anticipated that each concrete structure will be cut into smaller pieces, if necessary, using a diamond-wire saw. Rigging will be secured to each piece prior to it being cut free from the pile caps. Alternatively, the top slab may be removed by cutting piles with cutting torches. Prior to implementing the concrete deconstruction process, provisions will be made to contain debris and cutting fluids associated with the concrete deconstruction process. If cutting fluids are used during the drilling or concrete sawing process, the process will be conducted in accordance with federal and state environmental protection regulations. Debris and cutting fluid containment details will be provided by the selected contractor in a Deconstruction Work Plan.

Wooden Deck Deconstruction

The MOT facility includes a central predominantly wood landing platform measuring approximately 103 feet by 34 feet, and three smaller pier platforms approximately 24 feet by 30 feet, 18 feet by 36 feet, and 18 feet by 36 feet, respectively. In addition, there are two mooring platforms with wood decking on concrete piles; one is approximately 30 feet by 18 feet and the other is approximately 21 feet by 18 feet. The timber decking is likely creosote-treated, and will be removed and disposed of at facilities licensed to take creosote.

Wood, Concrete, and Steel Pile Deconstruction and Removal

Removal of Timber Piles

Phillips 66 proposes pile removal to approximately 2 feet below the mud line. The MOT facility has approximately 117 timber piles that are likely creosote-treated. Associated with the main wharf structure are approximately 63 timber piles. There are approximately 28 piles lying on the Carquinez Strait bottom. The three smaller piers/platforms running perpendicular to the shore are supported by approximately 13 timber piles total. Last, the two wood pile dolphins in the northern section of the Project area are supported by approximately 13 timber piles total: 6 for the southern dolphin and 7 for the northern dolphin.

The MOT is located in the central area of the Carquinez Strait, adjacent to the southern edge of the shipping channel, which is approximately 0.5 mile wide in this area. The location of the MOT is a high energy environment where water moves through the Carquinez Strait between Suisun Bay upstream and San Pablo Bay downstream. Predictions for several water years indicate that Suisun Bay exports

sediment during the wet season, and imports sediment from San Pablo Bay during the dry season (Ganju and Schoellhamer, 2006). There is little net deposition within the Project area. A May 2012 bathymetric survey conducted by eTrac Engineering, Inc. (eTrac) indicated that the general water depth under the MOT structures is currently approximately -20 feet referenced to mean lower low water (MLLW). The federal channel is maintained to -30 feet MLLW. The water level in this area of the strait increases to depths of -90 feet MLLW within approximately 500 feet of the wharf.

Phillips 66 proposes that creosote-treated timber pile removal will occur using a barge-mounted crane consistent with a CSLC-approved Marine Safety Plan. Because of the embedded depth (likely 40 feet below mud line) and age (well over 50 years) of the timber piles, it is likely not feasible to completely remove the timber piles, which have a high probability of breaking during the removal procedure. In addition, extraction of piles near the shoreline has the potential to destabilize the embankment that supports the rail line. Finally, there are many battered piles that are difficult if not impossible to extract. Phillips 66's proposed method will utilize a barge-mounted crane to grab the timber piles and break them off. After pile removal, a diver will inspect the area and provide further direction on how to remove any timber remnants to a depth 2 feet below the existing mud line.

The following best management practices (BMPs) will be used to minimize creosote release, sediment disturbance, and total suspended solids generation: (a) install a floating surface boom to capture floating surface debris; (b) keep all equipment (e.g., bucket, steel cable) out of the water and grip piles above the waterline; (c) slowly lift the pile from the sediment and through the water column; and (d) dispose of all removed piles, floating surface debris, sediment spilled on work surfaces, and all containment supplies at a permitted upland disposal site that accepts creosote treated wood and materials contaminated with creosote.

Removal of Concrete Piles

The various structures associated with the MOT include an estimated total of eleven 20-inch square concrete piles. The two wood deck mooring platforms to the south of the wharf are supported by eight and three concrete piles each. Neither the main wharf structure nor the three wood-deck platforms running perpendicular to the shoreline and formerly connecting to the wharf are supported by concrete piles.

Concrete piles will be removed after the timber decking is removed. Given their proximity to the embankment that supports the active rail line, these piles, if attempted to be completely removed, could destabilize the rail bed embankment. Therefore the piles will be cut off to no lower than the MHWL using a hydraulic shear or another suitable device.

The proposed Project will attempt to process and recycle the concrete as aggregate rather than dispose of it at a local landfill. An alternative may be to use it as riprap on site to shore up the existing embankment. If this alternative is not approved, the concrete remnants will be loaded onto a barge and transported back to the selected contractor's onshore staging area where the concrete will be reduced and recycled or disposed of as appropriate at a permitted facility.

Removal of Steel Piles

Each mooring dolphin is supported by approximately 12 steel piles for a total of up to 24 steel piles. Once the concrete decking and fixtures have been removed, the steel piles will be extracted using a vibratory hammer or cut off just below the mud line if extraction proves too difficult. The steel pile remains will be loaded onto a barge, transported to the chosen deconstruction contractor's staging area, and transported to a recycling center if the waste material is acceptable for recycling.

Removal of Debris

There are a number of concrete slabs that serve as riprap along the shoreline. These slabs should stay in place to reduce the potential for destabilizing the embankment supporting the rail bed.

A pre-construction bathymetric survey, conducted in May 2012, identified pile remnants and other debris on the seafloor. A follow-up underwater inspection was conducted on March 19-21, 2013, by trained divers aided by a scanning sonar head. Results of the survey are summarized below.

The underwater inspection identified two steel pipe sections lying within a few feet of each other near the south end of the main wharf structure. One pipe section is 8 inches in diameter and 228 feet long pipe, and the other is 12 inches in diameter and 275 feet long. These pipe sections will be recovered and disposed of during deconstruction activities. The 8-inch diameter pipe has two timber piles lying on top of it that are in generally good condition and can be easily recovered. The 8-inch pipe terminates in a "tee" fitting; one side of the tee is open, with the opposite side blind flanged. The northern end of the pipe is flanged and blanked. The diver reported that there may be some support members attached at a few points along the 8-inch pipe that are presently buried. Excavation would be required to determine if this is the case, however these miscellaneous supports, if they exist, will not likely present a significant impediment to removal of the piping.

The 12-inch diameter pipe trails down-slope at its northern extremity to a depth of approximately 66 feet of water. It has a flanged valve in place on the south end of the pipe, and northern end of the pipe is blind flanged. Three flanged couplings were reported along the length of pipe, and appeared to be secure and tight.

Due to the extreme currents experienced in the area, there is some scour occurring on the offshore sides of the two pipes, with mud cover accumulated on the inshore sides of the piping. This scour is relatively minor and will lessen the difficulty of establishing recovery rigging.

The underwater inspection also detected a number of piles and a large truck tire on the seafloor. These objects appeared to be in satisfactory condition to allow for easy rigging and intact recovery to the surface. The submerged piles and truck tire will be removed and disposed of during deconstruction activities.

Following completion of the deconstruction, final confirmation of the removal of all timber pile stubs or debris on or above the mud line will be made during a post-deconstruction survey. Any remaining timber pile stubs or debris will be removed and disposed of using the same method used during the deconstruction phase.

2.2.5 Post-Deconstruction Surveys and Sea Floor Debris Removal

A pre-construction survey was conducted for the action area in May 2012 by eTrac. Per requirements of the CSLC lease, after removal of the MOT is completed, another survey of the lease area will be conducted, including the MOT work area. The survey will document the condition of the Strait's floor and identify debris from previous MOT operations and/or from the deconstruction activities. Identified debris will be removed from the Strait's floor and disposed of or recycled as appropriate in accordance with a Sea Floor Debris Removal Plan. Following are key details for sea floor debris removal:

1. The post-deconstruction survey will use the same methods employed in the pre-deconstruction survey to verify debris is removed. Debris determined not to be associated with the MOT or deconstruction process will not be recovered.
2. After the post-deconstruction survey has been completed, the deconstruction contractor will attempt recovery of submerged debris, if detected, from the surface using appropriate equipment. If a diver is required to recover debris, the debris will be rigged and raised to the deck of a barge or support vessel. Rigging methods will depend on the sizes, weight, and type of debris. Heavy debris will be choked with wire rope slings and raised to the surface using a crane. Heavy lifts, if required, will be subject to a Rigging and Lifting Plan, which will be approved by the CSLC prior to deconstruction activities. Lighter pieces of debris may be fastened to soft-line and raised to the surface by hand.

As described above, the objects located by the dive team consist of piping timber pilings, and a large tire. These objects, as far as could be determined by touch, are in generally good condition, although encrusted with marine growth, and should hold together during recovery to the surface. The timber pilings and truck tire can be easily rigged and recovered to the surface in single crane picks. Recovery of the two steel pipes will likely require lifting one end up to the barge deck, and cutting the piping into lengths required for handling and transport.

3. Recovered debris, if any, will be transported to the deconstruction contractor's shore base and disposed of or recycled on shore at local landfill facilities.
4. The following personnel and equipment may be used to identify and recover debris:
 - Personnel: Construction Manager, Contractor Project Manager, Foreman, Crane Operator, Riggers, Tugboat Operator, Crew Boat Operator, Crew Boat Deckhand, Divers, and Diver Tenders.
 - Equipment: Barge with 100-ton crane and 4-point anchor spread, support tugboat, crew boat, industrial air compressor, jet pump (150 horsepower), diver's air compressor, electrical generators; and airlift.

2.2.6 Contractor's Shore Base

At the present time, Phillips 66 has not selected a deconstruction contractor to perform this deconstruction project. Once a Request for Quotes has been issued, Phillips 66 will provide a list of companies that have expressed interest in bidding on the project. For the purposes of this document, it is assumed that the contractor's shore base and the facilities for equipment, barges, materials, and waste handling will be at the commercial/industrial facility selected by the contractor to perform this task.

Because of the distances from the work site to the shore facilities, daily work crews will likely be picked up at commercial marina facilities closer to the MOT. Docks to be used for picking up work crews on a daily basis are available at Vallejo Municipal Marina on Harbor Way, Vallejo, and at the Martinez Marina, in Martinez. Due to the proximity of a very active rail line on shore, access to the site will be by water with no staging conducted at the site.

2.3 Proposed Avoidance and Minimization Measures

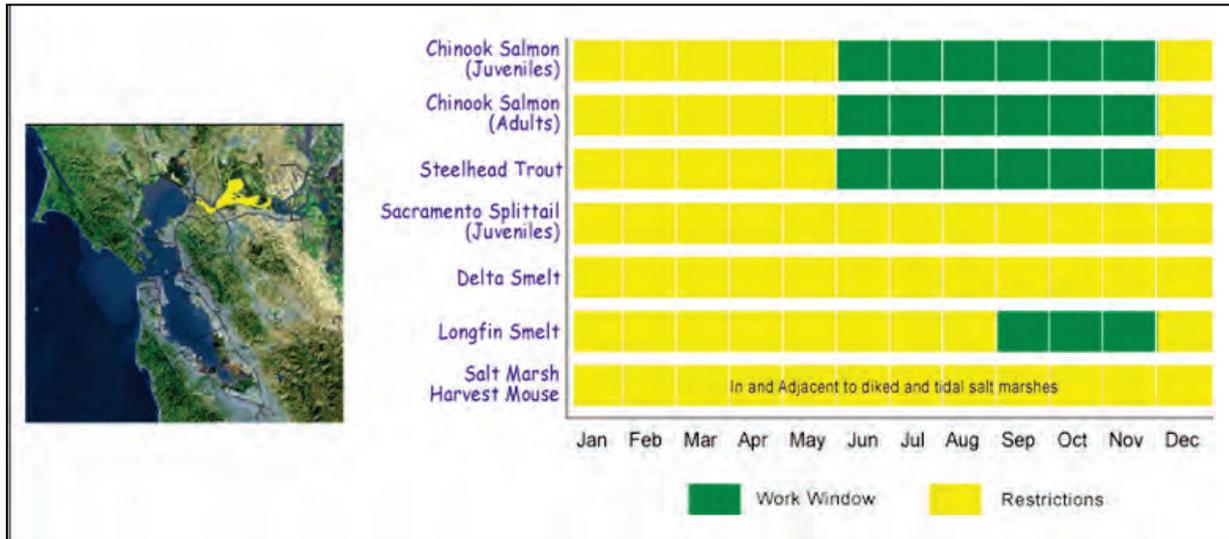
Phillips 66 will incorporate BMPs to avoid and minimize potential adverse impacts to biological resources in and adjacent to the Project area. There is potential for the release of pollutants into the Carquinez Strait. This would negatively affect designated critical habitat within the Strait as well as the fish species that rely on it for survival. BMPs will be used to minimize impacts should an accidental spill occur.

Additionally, the Project may affect special-status bird species by temporarily displacing them from nesting or foraging habitat if deconstruction activities occur during nesting bird season (February 1st through August 15th). The nests and eggs of most bird species are protected under California Fish and Wildlife Code 3503 and the Federal Migratory Bird Treaty Act (MBTA). Measures will be taken to protect nesting birds in or near the Project area until the young have successfully fledged and the nests are abandoned.

The following BMPs shall be implemented:

- The Project disturbance area shall be limited to the minimum required to complete the Project.
- Phillips 66 shall adhere to the NMFS work windows for species that occur in the Carquinez Strait and Suisun Bay when feasible (see Figure 2-1).

Figure 2-1 NMFS In-Water Work Window for Carquinez Strait and Suisun Bay



Source: http://swr.nmfs.noaa.gov/overview/sroffice/2dredge_restriction_Suisun_carquinez.html, accessed online on May 24, 2012.

- Phillips 66 completed LBP and ACM surveys of the wharf structures in February 2013. Samples were collected and analyzed by a certified technician. Results of the survey indicate that LBP is present on some wharf structures, but no ACM was detected. Since LBP is present on the wharf, Phillips 66 shall retain a licensed LBP abatement contractor to address LBP prior to the general deconstruction of the wharf. An LBP Management Plan including health and safety procedures shall be prepared and included as part of the Project’s Deconstruction Work Plan.
- Other hazardous materials may also be present, including remnants of such equipment as mercury switches, petroleum product residues, and hydraulic fluids. Prior to commencement of activities to abate these materials at the MOT, site specific health and safety plans for these activities would be prepared by Phillips 66 that, at a minimum, comply with applicable State and Federal regulations. If any such equipment is identified, procedures shall be implemented to flush or drain the materials, so that the hazardous waste can be safely removed without risking petroleum or other hydrocarbon releases.
- Equipment such as switches and gauges that contain mercury would be tagged prior to removal for special handling to prevent an inadvertent discharge of mercury on the deck surfaces or in Strait waters.
- In consultation with the regional agencies, the Applicant shall prepare a Water Quality/Storm Water Pollution Prevention Plan to prevent adverse impacts to nearby waterways and riparian areas associated with deconstruction. The plan shall include, but not necessarily be limited to, a description of BMPs for handling creosote-containing materials, spill prevention and containment, erosion and sedimentation prevention, and monitoring requirements.
- Petroleum, oil, and lubricant spill prevention and control measures shall be implemented through the Water Quality/Storm Water Pollution Prevention Plan, and if a spill occurs, it shall be contained and cleaned up immediately to the extent work can be accomplished safely.
- A floating boom and skirt suitable for conditions in the Carquinez Strait shall be deployed around the action area to prevent the escape of any floating debris, such as creosote-treated wood pieces, or sheen-producing liquids. Boom inspections shall be conducted daily and any waste shall be removed.

- A supply of absorbent booms and pads shall be available on vessels on site during deconstruction activities to contain any spilled liquids containing hazardous substances.
- Waste material from the site shall be transported off site and disposed of in accordance with California and Federal regulations.
- Piles shall be gripped above the waterline and slowly lifted from the sediment through the water column to minimize creosote release and sediment disturbance.
- Within upland areas, stormwater BMPs shall include implementation of silt fences, straw waddles and other measures determined appropriate for erosion and sediment control.
- Vessel fueling shall be required at the staging area or at an approved docking facility. No cross-vessel fueling shall be allowed.
- Marine vessels generally shall contain petroleum products within tankage that is internal to the hulls of the vessels. All deck equipment shall be equipped with drip pans to contain leaks and spills. All fuels and lubricants aboard the work vessels shall have a double containment system. Chemicals used on the MOT and marine vessels shall be stored using secondary containment.
- The Applicant shall not store fuel or oil at the proposed Project's parking and staging area upland of the work site. Fuel containment at the contractor's existing shore base may store quantities of oil and fuel.
- Vessel traffic and movements shall be minimized to reduce potential physical displacement of fish.
- Deconstruction activity shall be conducted during daytime hours only; the use of bright lights during the night could affect the normal behavior of special-status fish species and migratory birds and could potentially increase predation on these species.
- A Sea Floor Debris Removal Plan shall be prepared and implemented should any equipment, tools, pilings, or other materials or debris accidentally drop into the Strait during deconstruction activities. For example, large pieces of structures to be removed would have tag lines attached to facilitate recovery from the Strait in the event of an accident.
- Deconstruction materials that cannot be salvaged would be disposed of through sale as components for scrap, or disposed in a permitted landfill.
- Waste storage areas shall be kept clean, well-organized, and equipped with ample clean-up supplies as appropriate for the materials being stored.
- A Worker Environmental Awareness Program (WEAP) shall be mandated for all personnel involved in deconstruction activities. Training shall include the importance of the marine environment to special-status species and the environmental protection measures that are being implemented to avoid and/or minimize negative impacts to designated critical habitats and the species that depend on them. The WEAP shall also cover other important biological resources with potential to occur in the Project area, including Alameda whipsnake, nesting birds, and the potential wetland in the former TXI property.
- Construction crew members shall keep the work area well-maintained and free from trash or litter to reduce attracting predators.

- If the only feasible time for deconstruction activity coincides with nesting bird season, Phillips 66 shall implement deterrence measures to prevent nesting birds from utilizing any of the wharf structure slated for removal. Measures shall include, but not be limited to the following:
 - Old nests or nests under construction shall be washed down with water or knocked down using a pole.
 - Netting with mesh size 0.5 to 0.75 inch shall be installed to provide a physical barrier between the birds and the nest site.
- Should deconstruction activities occur during nesting bird season, a nesting bird survey shall be performed by a qualified biologist within 14 days prior to the commencement of deconstruction activities. Survey areas shall include a 100-foot buffer for passerines and a 300-foot buffer for raptors. If nests are discovered, vegetation with active nests shall be flagged (making sure not to flag the nest itself, as that could attract predators) and an appropriate non-disturbance buffer zone shall be established around the nesting site. A qualified biologist shall monitor active nests to determine when the young have fledged and are feeding on their own. The Project biologist and CDFW shall be consulted for clearance before deconstruction activities may resume in the vicinity.
- Potentially suitable habitat for Alameda whipsnake was identified in the southern portion of the former TXI property. To reduce the potential for Alameda whipsnake take to a less-than-significant level, only the roadway along the northern edge of the former TXI property shall be used for ingress/egress so that Project vehicles are routed away from the potential habitat to the south. In addition, a speed limit of 10 mph shall be implemented within the former TXI property, and workers who will be accessing the temporary staging areas shall be trained to recognize and avoid harm to Alameda whipsnake.
- Potential Waters of the US and State were identified in the eastern portion of the former TXI property (see Section 3.3.2, Jurisdictional Waters, below). In order to avoid impacts to these sensitive areas, only the roadway along the northern edge of the former TXI property shall be used for ingress/egress so that Project vehicles are routed away from the potential jurisdictional waters. In addition, stormwater BMPs, such as straw waddles or silt fence around drainage basins and inlets, shall be implemented as necessary.

3.0 Existing Conditions and Description of the Specific Area Affected by the Project

This chapter describes the existing environmental conditions within the Project area, focusing on features relevant to the determination of special-status species occurrences. AECOM biologists conducted a reconnaissance-level site survey of the action area on May 1 (offshore) and May 3 (onshore), 2012, and additional site reconnaissance of the former TXI property on February 21, 2013. The site reconnaissance was intended to serve as an initial evaluation of on-site habitat and the potential for occurrence of special-status species and jurisdictional aquatic resources on site. Prior to conducting the site reconnaissance, AECOM conducted a search of the CDFW's CNDDDB in order to obtain information on recorded occurrences of special-status plant and wildlife species in the Project vicinity (see Section 1.3). The information below is a combination of a literature review, CNDDDB reports, and data obtained from the site reconnaissance.

3.1 Aquatic Habitats

The Project Site is located in the Carquinez Strait, which is within the San Francisco Estuary. The Carquinez Strait is a deep, narrow passage that joins San Pablo Bay in the west to Suisun Bay and upstream watersheds in the east. A bathymetric survey conducted by eTrac using sonar technology revealed that depths close to the shore and within the action area are 20 to 90 feet. Aquatic habitat consists of pelagic, soft sediment and hard bottom areas. Sediment types include sand, silt, and clay (Monroe and Kelly 1992).

Carquinez Strait and Suisun Bay are unique because of their varying salinities among seasons and years, and this creates a dynamic fish assemblage within them. During normal hydrologic years, Carquinez Strait and Suisun Bay generally support a mesohaline community (NMFS 2007). Species typical of mesohaline/oligohaline waters with soft sediment substrate in the San Francisco Bay include white sturgeon (*Acipenser transmontanus*), green sturgeon, Sacramento splittail (*Pogonichthys macrolepidotus*), longfin smelt (*Spirinchus thaleichthys*), and the starry flounder (*Platichthys stellatus*). Mesohaline/oligohaline hard bottom taxa include prickly sculpin (*Cottus asper*).

Carquinez Strait is an important migration corridor for many fish species including striped bass (*Morone saxatilis*), Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout, and northern anchovy (*Engraulis mordax*). During wet years, when salinities are lower, distributions of freshwater, estuarine, and anadromous species can extend downstream into San Pablo Bay (Armor and Herrgesell 1985), although it is unclear whether marine species are found more upstream during dry years when salinities are higher.

During the site reconnaissance, no eelgrass (*Zostera marina*) was observed in or around the action area. This is likely due to the high sediment content of the water and the steep slope of the shoreline making the action area unsuitable for eelgrass to survive or flourish; eelgrass needs shallow, muddy-bottom habitats with ample light availability to grow.

3.2 Shoreline and Upland Habitats

3.2.1 Action Area Shoreline

Terrestrial habitat in the action area includes ruderal and barren/developed areas. AECOM biologists identified several plant species during the site reconnaissance. Vegetation was dominated by non-native annual grasses (e.g., *Avena* spp. and *Bromus* spp.) and sweet fennel (*Foeniculum vulgare*) with several patches of California poppy (*Eschscholzia californica*), coyote brush (*Baccharis pilularis*), and Eucalyptus

trees (*Eucalyptus spp.*). See Appendix C for photographs. In addition, a small patch of pickleweed (*Salicornia sp.*) was identified among the concrete rip rap between Anchor 1 and the south end of the remaining wharf (see Appendix C).

3.2.2 Upland Staging Areas

During a preliminary habitat assessment of the former TXI property, AECOM biologists identified three main vegetation types in or near the proposed staging areas: Non-Native Grassland, Ruderal/Disturbed, and Northern Coastal Scrub. These vegetation types and their location at the former TXI property are described further below.

Non-Native Grassland

Non-Native Grassland was observed in the hills to the north and west of the former TXI property and in some of the less disturbed areas within the property as well. This vegetation type is characterized by non-native Eurasian annual grasses such as wild oats (*Avena spp.*), annual brome grasses (*Bromus spp.*), ryegrass (*Lolium spp.*) and annual fescues (*Festuca spp.*). These grasses are interspersed with non-native forbs such as black mustard (*Brassica nigra*), cardoon (*Cynara cardunculus*), and filaree (*Erodium spp.*). Native wildflowers, such as California poppy (*Eschscholzia californica*) may also be present, particularly in years of higher rainfall. The species in the community are predominantly annual and so active plant growth and flowering typically occur in the rainy season; during the summer dry season, the plants set seed and die.

Ruderal/Disturbed

The majority of the former TXI property can be classified as Ruderal/Disturbed. The ruderal (weedy) vegetation observed included some of the same non-native annual species as in the Non-Native Grassland, but typically at lower density. Additional weedy species commonly observed in this area include yellow star-thistle (*Centaurea solstitialis*), Russian knapweed (*Acroptilon repens*), horseweed (*Conyza bonariensis*), and smilo grass (*Piptatherum miliaceum*). There are also some remnants of ornamental plantings including several groups of beach sheoak trees (*Casuarina equisetifolia*). Much of the property has been heavily disturbed in the past and is barren or paved over; this includes the two parking areas that are proposed as temporary use areas for the Project.

Northern Coastal Scrub

Northern Coastal Scrub primarily occurs on the north facing slope just to the south of the former TXI property, though small patches of it also occur on the slopes to at the west end of the property as well. This community is characterized by native shrubs and sub-shrubs including coyote brush (*Baccharis pilularis*), California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and bush monkeyflower (*Mimulus aurantiacus*). Native perennial forbs, such as California bee plant (*Scrophularia californica*) and California soap root (*Chlorogalum pomeridianum*) were also observed.

In addition to the three vegetation types described above, a small area of wetland/riparian-type vegetation was observed in a small ditch on the eastern end of the former TXI property. Vegetation in this area included cattail (*Typha latifolia*), cocklebur (*Xanthium strumarium*), tall nutsedge (*Cyperus eragrostis*), and willow (*Salix spp.*). Further discussion if this area is provided below under Section 3.3.2, Jurisdictional Waters.

No special-status species were observed in the areas potentially affected by the Project. A list of plant species observed during the site visit is provided in Appendix D.

3.3 Protected Areas

3.3.1 Federally Protected Areas

The action area is located within the Carquinez Strait, which is aquatic designated critical habitat for delta smelt, green sturgeon and steelhead trout (see Figure 1-6). These species are Federal Threatened, and the delta smelt and green sturgeon are also State Threatened. Details about these species can be found in Table 1-1.

3.3.2 Jurisdictional Waters

This section discusses the potential presence of wetlands and other waters of the U.S. on the former TXI property and the potential for Project impacts to jurisdictional waters.

Methodology

AECOM conducted a preliminary delineation of wetlands and other waters of the U.S. on the former TXI property on February 28, 2013. The delineation was conducted in accordance with the procedures outlined in the USACE Wetlands Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008). AECOM determined the location and extent of potential wetlands and other waters of the U.S. based on topography and the presence or absence of field indicators including hydrophytic vegetation, wetland hydrology, hydric soils, and an Ordinary High Water Mark (OHWM).

Wetlands were delineated based on the presence of hydrophytic vegetation, wetland hydrology indicators, and hydric soils. Together, these three indicators provide readily observable evidence that episodes of inundation or soil saturation lasting more than a few days during the growing season have occurred repeatedly over a period of years and that the timing, duration, and frequency of wet conditions have been sufficient to produce a characteristic wetland plant community and hydric soil morphology. All three indicators must be present for an area to be considered a wetland.

Other waters of the U.S. are delineated based on the presence of an OHWM. The OHWM is the line on the bank of a channel or stream that represents the approximate location of the level of flow. The OHWM is established by fluctuations of water and typically indicated by physical characteristics such as shelving, presence of litter or debris, or changes in the character of soil or vegetation.

To determine the extent of location of potential wetlands and other waters of the U.S. at the former TXI property, AECOM collected data on vegetation, soils, and hydrology at four sample points. At each sample point, the ecologists recorded plant species observed, looked for evidence of wetland hydrology, and excavated a soil pit to examine the soil for indicators of hydric soils. The information collected was recorded on wetland determination data forms that are included in Appendix E. Representative photos are also included in Appendix E.

Results

A small vegetated ditch was observed in the eastern portion of the former TXI property. Further investigation into the history of the site indicates that TXI constructed the ditch for use as a sediment basin in 2001 to comply with Clean Water Act (CWA) stormwater regulations (RWQCB 2001). The basin receives stormwater flows via two storm drains located at the downstream ends of two concrete v-ditches that run along the north and south edges of the TXI property. There is an overflow drain on a riser at the northern end of the basin that may connect the basin to Little Bull Valley Creek and the Carquinez Strait.

According to the definition of waters of the U.S. from 40 CFR 230.3(s), “waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA...are not waters of the United States.” If the sediment basin on site is considered a treatment measure constructed to meet CWA requirements, it would not be considered a jurisdictional water of the U.S. However, it appears that the basin has not been maintained for several years, since TXI ceased operations, and hydrophytic vegetation has grown up in the basin. Because of these factors, there is a possibility that the USACE could exert jurisdiction over the sediment basin as a water of the U.S. If the USACE does not exert jurisdiction over the channel, it would likely qualify as a water of the State subject to regulation by the RWQCB and CDFW.

The preliminary jurisdictional delineation conducted by AECOM also found indicators of an OHWM within the channel of the sediment basin. The area below the OHWM was approximately 1,915 square feet in area and 135 linear feet in length. The lowest lying portions of the channel also displayed field indicators of hydrophytic vegetation, hydric soils, and hydrology, which indicate that those portions of the basin could be considered a wetland. Approximately 1,250 square feet of the basin meets the three wetland criteria.

AECOM also observed a concrete basin located between the eastern proposed temporary Project parking area and the Union Pacific tracks. Based on RWQCB records, this basin receives flows from Little Bull Valley Creek, which was diverted into a culvert underneath the TXI property in 1965 (RWQCB 2001). (The concrete basin also currently receives flows from an adjacent pump-and-treat system for the former Tosco Port Costa site and likely receives overflow from the sediment basin described above.) The concrete basin is approximately 10 feet by 10 feet in area. Since the concrete basin receives flows from Little Bull Valley Creek, it could be considered a water of the U.S. and the State.

The jurisdictional status of the two areas discussed above should be considered preliminary until verified by the USACE (if necessary).

Potential for Impacts to Jurisdictional Waters

Project activities will not directly impact either of the potential jurisdictional water described above. Project activities in the vicinity of the potential jurisdictional waters will be limited to vehicle parking and staging of non-hazardous materials and equipment in an area approximately 60 feet from the concrete basin and 100 feet from the sediment basin. The Project will not involve dredge, fill, or other discharge to either area, and there will be no ground disturbing activities that would substantially increase erosion or sedimentation. In order to avoid the potential for accidental releases (e.g., of motor oil or fuel from Project vehicles), Project ingress/egress has been routed so that it will not pass adjacent to the sediment basin, and stormwater BMPs will be implemented as necessary to avoid discharges into the basins and associated storm drains. These BMPs may include vehicle inspection and maintenance and installation of silt fences and drainage inlet protection.

3.3.3 Other Special-Status Areas

The action area is approximately 150 feet east of Carquinez Strait Regional Shoreline, a 1,415-acre park that consists of annual grassland, oak woodland and coastal scrub vegetation.

The CNDDDB identifies occurrences of rare natural community types recorded prior to the mid 1990's and those occurrences are maintained in the data searches because of their significance for conservation. Identifying certain natural communities allows for a broad-based ecosystem approach to facilitate the conservation and protection of biological diversity.

Two rare natural communities have been recorded within 5 miles of the action area: Coastal Brackish Marsh and Northern Coastal Salt Marsh (see Figure 1-5). According to the CNDDDB records, the closest occurrence of Northern Coastal Salt Marsh was approximately 2 miles southeast of the action area, while the closest occurrence of Coastal Brackish Marsh was over three miles southeast of the action area. Neither of these communities was observed in the action area during the 2012 site reconnaissance.

3.4 Wildlife and Plants

The following sections provide a general discussion of the wildlife and plants found or potentially found in or adjacent to the action area. Species discussed were either observed in or near the action area during the May 2012 site reconnaissance conducted by AECOM; observed in or near the proposed upland staging areas during the February 2013 site reconnaissance; documented by CNDDDB, NMFS, and CDFW; or found during a literature review.

3.4.1 Mammals

Several special-status mammal species were considered during the preparation of this report because the study area falls within or in the vicinity of the historical range of these species. The CNDDDB search identified three mammal species recorded within a five mile radius of the action area: the salt-marsh harvest mouse (*Reithrodontomys raviventris*; Federal and State Endangered), Suisun shrew (*Sorex ornatus sinuosus*; SSC) and big free-tailed bat (*Nyctinomops macrotis*; SSC). Based on the absence of suitable habitat or distance from the nearest known occurrence, none of these mammal species is expected to occur in the action area or temporary upland staging areas at the former TXI property.

Marine mammals are protected under the Marine Mammal Protection Act (MMPA), enacted in 1972 and amended in 1994. The MMPA places a moratorium on the “taking” of marine mammals in U.S. waters; it is not permitted to hunt, harass, capture or kill marine mammals in U.S. waters. Although various marine mammals inhabit the waters of San Francisco Bay, it is uncommon for them to enter the Carquinez Strait. However, there have been instances in which errant humpback whales (*Megaptera novaeangliae*) have been seen passing through the Carquinez Strait; ultimately they were coaxed back out into the ocean after several days. Also, several California sea lions (*Zalophus californianus*) have been seen in Suisun Bay, likely there as a result of following the salmon run. Because of the low frequency of occurrences and the likelihood that if they were to swim through the Carquinez Strait they would avoid the action area, these species are not expected to occur in the action area and they will not be considered in the BA.

Federally Listed or Proposed Species

Salt-marsh harvest mouse (*Reithrodontomys raviventris*), Federal and State Endangered, CDFW-Fully Protected

Figure 1-4 shows that the action area is approximately four miles northwest of a CNDDDB record for an occurrence of salt-marsh harvest mouse; however, this species is not expected to occur in the action area. The CNDDDB record was for an occurrence of the species last observed in 1958 and covers a non-specific area described as “2 miles northeast of Martinez, between Benicia-Martinez Bridge and Pacheco Creek-Avon Refinery” (now the Tesoro Golden Eagle Refinery).

The salt-marsh harvest mouse requires thick cover of native halophytic species such as pickleweed, fat hen (*Atriplex patula*), and alkali heath (*Frankenia grandifolia*). Although a small patch of pickleweed was observed near the south end of the action area (see Appendix C), it is not of adequate size to support this species, and no other suitable habitat is present in or near the action area.

Other Special-Status Species

The other species identified to have been recorded within the five mile radius of the action area are the following (Table 1-1):

- Suisun shrew (*Sorex ornatus sinuosus*), SSC
- big free-tailed bat (*Nyctinomops macrotis*), SSC

These species are not expected to occur in the action area. The Suisun shrew's range is in the tidal marshes along the northern shore of the Carquinez Strait and Suisun Bay, across the water over 2 miles away from the action area. Additionally, no suitable habitat is present for the big free-tailed bat, which was recorded approximately 2 miles from the action area. Bats generally need a wide variety of habitats for their different behaviors (roosting, foraging, drinking, hibernating, etc.), and the degraded, ruderal habitat of the action area is inadequate for these species. Recorded individuals within the 5 mile radius were likely passing by during their migration between their summer and winter ranges.

3.4.2 Birds

Aside from listed and proposed species being protected under the ESA, there are other regulations that protect various bird species. For example, the MBTA of 1918 makes it unlawful to pursue, hunt, capture, take, kill, or sell birds listed as "migratory" species. In addition, CDFW Code 3503 protects the nests and eggs of most birds and CDFW Code 3503.5 specifically protects birds of prey (Order Falconiformes or Strigiformes).

According to a CNDDDB search and reconnaissance-level site surveys conducted by AECOM in May 2012 and February 2013, several special-status bird species occur or have the potential to occur in or near the Project area.

Federally Listed or Proposed Species

California Clapper Rail (*Rallus longirostris obsoletus*), Federal and State Endangered, CDFW-Fully Protected

This species is not expected to occur in or near the action area because the degraded, ruderal habitat is not suitable for this species. The California clapper rail has historically occurred in salt water and brackish marshes in the vicinity of the San Francisco Bay. It is associated with dense growths of pickleweed where they nest and seek refuge. Foraging occurs in mud-bottomed sloughs for invertebrates. Only a small patch of pickleweed was observed in the Project vicinity during the 2012 site reconnaissance (see Appendix C), which is insufficient to support this species. The nearest recorded occurrence of California clapper rail is more than 4 miles east of the action area. This species is more likely to occur in higher quality habitat away from the action area.

Other Special-Status Species

Other bird species identified in the CNDDDB search within a 5-mile radius of the action area and/or observed during site reconnaissance include the following:

- California black rail (*Laterallus jamaicensis coturniculus*), State Threatened, CDFW-Fully Protected
- northern harrier (*Circus cyaneus*), SSC
- San Pablo song sparrow (*Melospiza melodia samuelis*), SSC
- Suisun song sparrow (*Melospiza melodia maxillaris*), SSC

- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*), SSC
- tricolored blackbird (*Agelaius tricolor*), SSC
- American peregrine falcon (*Falco peregrines anatum*), De-listed, CDFW-Fully Protected
- golden eagle (*Aquila chrysaetos*), CDFW Watch List, CDFW Fully Protected, and federally protected under The Bald and Golden Eagle Protection Act and the Lacey Act.
- Cooper's Hawk (*Accipiter cooperii*), CDFW Watch List
- osprey (*Pandion haliaetus*), CDFW Watch List
- great blue heron (*Ardea Herodias*), tracked by the CNDDDB
- merlin (*Falco columbarius*), CDFW Watch List

All of these bird species are not expected to occur within the action area or the proposed staging areas with the exception of the osprey, Suisun song sparrow, and merlin. A potential osprey breeding pair was observed during the 2012 site reconnaissance; they were seen foraging over the action area. Additionally, during the 2013 site reconnaissance of the former TXI property, several song sparrows that are likely the Suisun subspecies were flushed from coyote brush along the east side of the property, and one merlin was seen foraging over the property.

No suitable habitat occurs in the vicinity of the action area or the proposed staging areas for the other species, as most cover is ruderal/disturbed. These species are sensitive to degraded habitats; many require thick vegetation characteristic of undisturbed brackish marshes. Although a small patch of pickleweed was found along the shore near the wharf (see Appendix C), it is not expansive enough to support species that depend on its dense cover, such as the California clapper rail or the California black rail. These species are more likely to occur in higher quality habitat away from the Project area.

Nesting Birds

According to CDFW Code 3503 and the MBTA, the nests and eggs of most birds are fully protected; therefore, it is important to consider potential nesting bird species in this analysis. Nesting season is February 1st through August 15th.

Although the action area consists of only man-made structures with adjacent ruderal habitat, there are potential nesting and foraging habitats in the Project vicinity, including near the former TXI property. During the May 2012 and February 2013 site reconnaissances, several bird species were observed in the Project vicinity, including multiple potential breeding pairs. Appendix F provides bird species observed during the surveys; however, it is not a complete list of potential bird species that could utilize the Project area for nesting and/or foraging.

Multiple cliff swallow (*Petrochelidon pyrrhonota*) nests were observed throughout the action area; many were located on the two stand alone dolphins and the mooring platforms (see Appendix G). There are also several Eucalyptus trees and coyote brush in the vicinity that could serve as potential nesting habitat for a variety of bird species; however, the active rail lines in close proximity to the site make birds nesting in the nearby vegetation unlikely. It is more probable that the action area is used for foraging habitat than for nesting habitat for species other than the cliff swallow. Cliff swallows are adaptable and more tolerant to disturbances. Also, their nests on the water have some distance from the rail lines that provides a buffer from the noise of trains passing by.

It is unlikely that bird nesting will occur within the proposed upland staging areas. These areas consist of existing parking areas and roads surrounded by ruderal/disturbed vegetation. However, there are adjacent habitats that may be conducive to bird nesting, such as the Northern Coastal Scrub on a north-facing slope just south of the former TXI property. These areas will be avoided to minimize potential impacts to nesting birds.

The cliff swallows that utilize the action area as a nesting site could be negatively affected by the Proposed Action. Nesting season for this species is generally April through July, which falls within the NMFS in-water work window for some of the fish species that occur in the area (see Figure 2-1). Should there be a need to start deconstruction prior to the end of nesting bird season, Phillips 66 will take action to prevent the colony from nesting there. As described in Section 2.2, prior to nesting season, Phillips 66 will remove the abandoned nests and implement netting to deter the establishment of new nests, and the dolphin structures and decks will be prioritized for removal. Although this would displace the colony, as they often return to the same nesting sites year after year, this species is highly adaptable and tolerant to human activities and they would easily procure another suitable nesting site.

3.4.3 Reptiles

Federally Listed or Proposed Species

Alameda whipsnake (*Masticophis lateralis euryxanthus*), Federal and State Threatened

This species is not expected to occur in the vicinity of the action area because no suitable habitat is available. However, it may occur in or near the proposed upland staging areas. The Alameda whipsnake prefers scrublands adjacent to patches of grasslands, oak savanna, oak bay, and open woodlands. They also use rock outcrops as foraging areas for prey (mainly lizards). Figure 1-3 shows that the site is within an area mapped by CNDDDB for the Alameda whipsnake. The CNDDDB record indicates that an individual was observed on a northeast facing slope with scrub community dominated by coyote brush. Northern Coastal Scrub, which includes coyote brush, was identified on the north facing slope just to the south of the former TXI property and is potentially suitable habitat for this species. Thus, the presence of potentially suitable Alameda whipsnake habitat in the vicinity of the site indicates a potential for Alameda whipsnake to occur in or near the temporary staging areas. However, the suitable habitat extends south away from the former TXI property, and it is more likely for the Alameda whipsnake to utilize that area rather than the degraded, ruderal area associated with the proposed staging areas. As described above in Section 2.3, Avoidance and Minimization Measures, only the roadway along the northern edge of the former TXI property will be used for ingress/egress to the temporary staging areas so that Project vehicles are routed away from the potential habitat to the south. In addition, a speed limit of 10 mph will be implemented within the TXI property, and workers who will be accessing the temporary staging areas will be trained to recognize and avoid harm to Alameda whipsnake.

Other Special-Status Species

The western pond turtle (*Emys marmorata*), an SSC, has been recorded within the 5-mile radius of the action area. However, this species is not expected to occur in or near the action area because no suitable habitat is available for it. It is found in ponds, marshes, rivers, streams, and irrigation ditches, often with aquatic vegetation. Optimal habitats have adequate basking sites and undisturbed upland habitat (sandy banks or grassy fields) for egg-laying. Because the action area is near brackish water with little vegetation and surrounded by ruderal, low-quality habitat, this species is not likely to occur in the vicinity.

3.4.4 Amphibians

Federally Listed or Proposed Species

California Red-Legged Frog (*Rana draytonii*), Federal Threatened, SSC

This species is not expected to occur in the Project vicinity because no suitable habitat is available. The California red-legged frog is a highly aquatic species. Its habitat is generally in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. The presence of brackish water and low-quality, ruderal habitat in the action area makes it unlikely to occur there. Designated critical habitat for the California red-legged frog is over three miles south of the action area.

Other Special-Status Species

No other special-status amphibian species are expected to occur within the Project area.

3.4.5 Fish

The action area is located within the Carquinez Strait, which is designated critical habitat for several fish species (see Figure 1-6); therefore, it is important to consider protected fish species in this analysis. Information on these species is provided in Table 1-1.

Federally Listed or Proposed Species

The following protected species are known to occur in the Carquinez Strait and Suisun Bay and have federally designated critical habitat in these waters.

Delta Smelt (*Hypomesus transpacificus*), Federal and State Threatened

The Delta smelt has low potential to occur in the action area. Although the Carquinez Strait is designated critical habitat for it, this species prefers water with salinities below 10 parts per thousand (ppt), and often below 2 ppt. Thus, it is more likely to occur further upstream where the salinities are lower. However, a wet year that produces more outflow from the Sacramento Delta could increase its occurrence further downstream, which could extend into the Carquinez Strait and therefore the Project area.

Green Sturgeon (*Acipenser medirostris*; southern DPS), Federal Threatened, SSC

The green sturgeon has high potential to occur in the action area. It spends much of its life in nearshore oceanic waters, bays, and estuaries as it forages on benthic invertebrates and small fish. Once spawning occurs in freshwater streams, juveniles spend one to four years in fresh or estuarine waters before dispersing to saltwater (Beamesderfer and Web 2002). Spawning habitat does not occur in the action area; however, it is likely that adults will migrate through as they head upstream to spawn and non-breeding adults and juveniles may utilize the action area for foraging.

Steelhead Trout (*Oncorhynchus mykiss irideus*; California Central Valley and Central California Coast ESUs), Federal Threatened

The steelhead trout ESUs are present in the action area. An individual was observed near the mooring platforms during the 2013 site reconnaissance. Breeding adults likely migrate from the marine environment through the Project area to freshwater spawning habitat upstream. Juveniles may remain in freshwater habitats for up to seven years, after which they migrate to estuaries as smolts before returning to the ocean. Therefore, juveniles, smolts, or adults may utilize the action area for foraging and migration.

Other Special-Status Species

There are three other special-status fish species that have potential to occur in the Project area, and they are the following:

- longfin smelt (*Spirinchus thaleichthys*), State Threatened, SSC
- river lamprey (*Lampetra ayresii*), SSC
- Sacramento splittail (*Pogonichthys macrolepidotus*), SSC

The longfin smelt has high potential to occur in the action area. Adults inhabit bays, estuaries and nearshore coastal areas. This species has concentrated populations in the Suisun, San Pablo, and North San Francisco Bays, and these populations move down the estuary during the summer. This indicates that the longfin smelt is likely to occur in the open waters of the Carquinez Strait in or near the action area as they shift with the changing salinities of the water and to spawn in nearby freshwater streams.

The river lamprey has a high likelihood of occurring in or around the action area. Although there is inadequate habitat available for spawning and larvae in the action area, it is possible that individuals will pass through the Project vicinity during migration; adults migrate from the ocean upstream to spawn presumably in permanent streams with sandy backwaters or stream edges and juveniles migrate through the Carquinez Strait once they mature and head out to the ocean.

The Sacramento splittail was recorded within a 5-mile radius of the action area; however, it is not expected to occur within the action area. It is a benthic forager that primarily utilizes freshwater, though they've been known to tolerate water with salinities of 10-18 ppt (CDFW 1995). They generally occur in shallow areas with flooded vegetation. There is no flooded vegetation in or near the action area and the embankment is steep; therefore, no adequate habitat is available in the Project vicinity. Additionally, the CNDDDB record is over 4 miles northeast of the action area. This species is more likely to occur in higher quality habitat upstream.

3.4.6 Invertebrates

Federally Listed or Proposed Species

No invertebrate species with Federal status are expected to occur in the Project vicinity.

Other Special-Status Species

No invertebrate species with special-status are expected to occur in the action area; however, the monarch butterfly (*Danaus plexippus*) is tracked by the CNDDDB and has been recorded within the 5-mile radius of the action area. This species is not expected to occur in or around the action area because there is no suitable habitat available. It roosts in wind-protected tree groves near sources of nectar and water during the winter and it is more likely to occur in better suited habitat east of the action area in the Carquinez Strait Regional Shoreline Park.

3.4.7 Plants

Federally Listed or Proposed Species

Contra Costa goldfields (*Lasthenia conjugens*), Federal Endangered, CNPS Rank 1B.1

This species is not expected to occur in the action area. The CNDDDB occurrence for Contra Costa goldfields is approximately 4 miles southwest of the action area. There is no suitable habitat for this species in or near the action area, as it tends to occur in valley and foothill grassland, vernal pools, and cismontane woodlands. Also, this species was not observed during the 2012 or 2013 site reconnaissance.

Soft bird's beak (*Chloropyron molle* ssp. *molle*), State Rare, CNPS Rank 1B.1

This species is not expected to occur in the action area. The CNDDDB occurrence for soft bird's beak is over 2 miles southeast of the action area and it is for a population last observed in 1881 and presumed to be no longer extant due to the elimination of suitable habitat. This species was not observed during the 2012 or 2013 site reconnaissance.

Other Special-Status Species

As shown in Figure 1-5, other special-status plant species have been recorded to occur within a 5-mile radius of the action area. These species include the following (see Table 1-1 for ranking descriptions):

- big tarplant (*Blepharizonia plumose*), CNPS Rank 1B.1'
- Bolander's water-hemlock (*Cicuta maculata* var. *bolanderi*), CNPS Rank 2.1'
- Carquinez goldenbush (*Isocoma arguta*), CNPS Rank 1B.1'
- chaparral ragwort (*Senecio aphanactis*), CNPS Rank 2.2
- Congdon's tarplant (*Centromadia parryi* ssp. *Congdonii*), CNPS Rank 1B.2'
- Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), CNPS Rank 1B.2'
- Diablo helianthella (*Helianthella castanea*), CNPS Rank 1B.2'
- Mason's lilaeopsis (*Lilaeopsis masonii*), State Rare, CNPS Rank 1B.1'
- Mt. Diablo fairy-lantern (*Calochortus pulchellus*), CNPS Rank 1B.2'
- saline clover (*Trifolium hydrophilum*), CNPS Rank 1B.2'
- Suisun Marsh aster (*Symphyotrichum lentum*), CNPS Rank 1B.2'
- western leatherwood (*Dirca occidentalis*), CNPS Rank 1B.2'

These species are not expected to occur in the Project vicinity due to lack of suitable habitat. It is unlikely they would be present in the low-quality, ruderal/degraded habitat adjacent to the action area. The species listed above were not observed at the site during the 2012 or 2013 site reconnaissance.

4.0 Special-Status Species and Critical Habitat that May Be Affected by the Project

There are several federally listed fish species expected to occur in the Project area that may be affected as a result of the Proposed Action. These species have designated critical habitat in the Project area. The following species may be affected by the Project:

- delta smelt, Federal and State Threatened
- green sturgeon, Federal and State Threatened
- steelhead trout, Federal Threatened

There are other special-status species that have potential to occur in or adjacent to the Project area and may therefore be affected by the Project. Potentially occurring species are listed below.

- longfin smelt, State Threatened, SSC
- river lamprey, SSC
- Suisun song sparrow, SSC
- osprey, CDFW Watch List
- double-crested cormorant, CDFW Watch List
- merlin, CDFW Watch List
- nesting birds

The following sections provide descriptions for these species. The information below is from literature reviews, NMFS and CDFW. Species not expected to occur in the Project area will not be discussed further in this assessment.

4.1 Delta Smelt

The Delta smelt was listed as threatened by USFWS and CDFW in 1993. It is a euryhaline species that tends to occur in waters with salinities below 2 ppt and it is the only smelt endemic to California. Its historical range is from the Suisun Bay upstream to Sacramento on the Sacramento River and Mossdale on the San Joaquin River (Moyle et al. 1992). During high river outflows this species may be found as far downstream as San Pablo Bay; however, the higher salinities prevent populations from becoming established there (Federal Register 1993).

Spawning can occur between December and August, depending on the magnitude of a given year's rainy season; a wet year allows for a longer breeding window while a dry year tends to have a shorter breeding season (Federal Register 1994). Spawning occurs in shallow, fresh or slightly brackish water located upstream from the mixing zone (Wang 1991). Juveniles may disperse to San Pablo Bay or the Carquinez Strait (Ganssle 1966) prior to returning for the breeding season.

Threats to the Delta smelt include drought, reduced outflows, pollutants, non-native aquatic species, and reduction of key food organisms (Federal Register 1993). This species is particularly sensitive because of its short life span (one year or less), low fecundity, limited diet and habitat requirements, and it is easily stressed (CDFW 2000c).

4.2 Green Sturgeon

The green sturgeon is a widely-distributed marine-oriented species found in nearshore waters from Baja California to Canada. The southern DPS consists of coastal and Central Valley populations south of the Eel River, with only one known spawning population, in the Sacramento River (Adams et al. 2002). The southern DPS of green sturgeon was listed as threatened under the ESA in 2006. NMFS designated critical habitat for the southern DPS in 2009. The Project action area is within the designated critical habitat for the southern DPS.

Green sturgeons congregate in coastal waters and estuaries. Spawning is believed to occur every two to five years (Moyle 2002) from March to July. They begin entering freshwater in late February and likely broadcast their eggs over large cobble substrates, sand or bedrock in deep pools in large, turbulent freshwater mainstems (Moyle et al. 1992). When not spawning, adults live in oceanic waters, bays and estuaries, while juveniles often spend multiple years in freshwater and estuaries.

The principal factor in the decline of the Southern DPS is the reduction of the spawning habitat to a limited section of the Sacramento River (NMFS 2006). The potential for catastrophic events to affect such a limited spawning area increases the risk of the green sturgeon's extirpation. Insufficient freshwater flow rates in spawning areas, contaminants, by-catch of green sturgeon in fisheries, potential poaching (e.g., for caviar), entrainment of juveniles by water projects, influence of exotic species, small population size, impassable migration barriers, and elevated water temperatures in the spawning and rearing habitat likely also pose threats to this species (NMFS 2006).

4.3 Steelhead Trout

Steelhead trout range along the entire Pacific Coast of the United States. There are 12 ESUs, including the Federal Threatened Central California Coast ESU and California Central Valley ESU, both of which have designated critical habitat in the Carquinez Strait. The Central California Coast and California Central Valley ESUs were federally listed as Threatened in 1997 and 1998 respectively, both of which were reaffirmed in 2006.

Individuals develop differently depending on their environment; some stay in freshwater all their lives (rainbow trout) while others migrate to the ocean. Spawning occurs in freshwater streams and rivers and there are two reproductive types based on the individual's sexual maturity at the time they arrive at the river. The stream-maturing type enters freshwater in a sexually immature condition between May and October, and they require several months to mature and spawn. The ocean-maturing type enters freshwater in a sexually mature condition between November and April and spawn shortly thereafter. It is more likely that the steelhead trout near the Project area are the ocean-maturing type.

Threats to this species include reduced access to historical habitat; habitat modification; entrainment; modifications to natural flow regimes that increase water temperatures, change fish community structures, deplete flows necessary for migration, spawning, rearing, flushing of sediments from spawning gravels, gravel recruitment, and transportation of large woody debris; and man-made structures such as dam turbines and sluiceways that increase mortality of juveniles and adults (NMFS 2012c).

4.4 Longfin Smelt

In 2009 the longfin smelt was listed as threatened under the CESA. It occurs in California's bay, estuary, and nearshore coastal environments from San Francisco Bay north to the Oregon border.

Adults inhabit bays and estuaries and can be found in the middle or at the bottom of the water column, although at night they may migrate up and down the water column as they follow their prey. They migrate upstream to low salinity or freshwater reaches to spawn generally from January to March. The life span is relatively short; they reach sexual maturity at two to three years and die after spawning. Once larvae hatch, they are swept downstream into brackish water and stay in areas where fresh and saltwater mix.

Threats to this species include reduced outflows, entrainment, climatic variation, toxic substances, predation, and introduced species. Existing threats may be exacerbated by climate change (CDFW 2009).

4.5 River Lamprey

This species occurs in coastal streams from San Francisco Bay/Lower Sacramento River to southeast Alaska. Throughout their range, their populations are widely scattered and isolated. River lampreys have been recorded in the Sacramento, San Joaquin, and Russian Rivers as well as the Sonoma and Cache Creeks.

Little is known about the California populations; life history studies were conducted in British Columbia and timing of events in California may differ. Ocean-dwelling adults migrate back into fresh water in the fall and spawn during the winter or spring in clean, gravelly riffles. Larvae require sandy backwaters or stream edges, good water quality and temperatures less than 25°C.

A major threat to river lamprey is likely stream alteration.

4.6 Suisun Song Sparrow

Suisun song sparrow habitat includes brushy areas and marshes across most of Canada and the United States. They generally inhabit salt marsh. In southern locations, they are permanent residents. Northern birds migrate to the southern United States or Mexico, where there is also a local population resident all year round. These birds forage on the ground, in shrubs or in very shallow water. They mainly eat insects and seeds. Birds in salt marshes may also eat small crustaceans. They nest either in a sheltered location on the ground or in trees or shrubs.

Threats to this species include habitat loss, fragmentation, and degradation.

4.7 Osprey

Ospreys are on the CDFW Watch List and are protected under the MBTA and CDFW Code 3503.5 This bird of prey was once distributed throughout most of California, but its numbers are now reduced.

Osprey generally nest in forested areas near water bodies, although they have been known to travel over six miles to foraging areas when no nesting sites closer to water are available (Garber 1972, Hagan 1986). Ospreys have been known to be year-round residents in Baja California, but those in northern California migrate south during the winter. Ospreys often rebuild and reuse old nests from year to year. Their diet consists mainly of fish, though they will also prey on mammals, birds, reptiles, amphibians and invertebrates.

The primary threats to this species are pesticides and contaminants, particularly dichlorodiphenyltrichloroethane (DDT), which caused reproductive failure in the mid 1900s (Garber 1972, Wiemeyer et al. 1988).

4.8 Double-crested Cormorant

The double-crested cormorant is on the CDFW Watch List, and although it is a year-long resident of the California coast, it is a migratory bird protected under the MBTA. This species migrates throughout much of North America.

The double-crested cormorant nests in colonies, creating large, flat nests either on the ground, in trees, or on cliffs. Nesting sites are often within five to ten miles of a dependable source of food, mainly fish. This species inhabits various aquatic habitats, such as ponds, lakes, estuaries and open coastline. Colony size can range from a few hundreds of pairs to thousands.

Major threats to this species include pesticides, human disturbance and habitat destruction.

4.9 Merlin

Merlins are on the CDFW Watch List and are protected under the MBTA and CDFW Code 3503.5. Merlins inhabit fairly open country, such as willow or birch scrub, shrubland, but also taiga forest, parks, grassland such as steppe and prairies, or moorland. They are not very habitat-specific and can be found from sea level to the treeline. In general, they prefer a mix of low and medium-height vegetation with some trees, and avoid dense forests as well as treeless arid regions. During migration however, they will utilize almost any habitat. Most of its populations are migratory, wintering in warmer regions. The most serious long-term threat to these birds is [habitat destruction](#), especially in their breeding areas.

4.10 Nesting Birds

There is potential for a variety of bird species to utilize the action area and/or upland potential staging areas as nesting or foraging habitat. According to CDFW Code 3503 and the MBTA, the nests and eggs of most birds are fully protected; therefore, it is important to consider potential nesting bird species in this analysis and implement appropriate avoidance measures. Nesting season is February 1st through August 15th.

As mentioned in Section 3.4.2.3, multiple cliff swallow nests were observed on the dolphins and anchors during the 2012 site reconnaissance, and several other potential breeding pairs were seen utilizing the area, including pairs of ospreys and mallards. It is unlikely that birds will nest in vegetation between the wharf and the rail lines; noise disturbance from passing trains likely cause birds to avoid nesting there. However, birds nesting in the general vicinity may forage in and near the action area.

5.0 Effects of the Project on Special-Status Species

Project effects are evaluated based on an understanding of Project site configuration and components, pile removal methods, equipment that would be used, and how the site would be used after the Project is completed.

A significant adverse effect to a listed or proposed species would occur if the Proposed Action directly or indirectly jeopardizes the continued existence of the species or results in the destruction or adverse modification of critical habitat. As discussed below, the Proposed Action may affect listed species, but it is not likely to adversely affect the listed species because the effects are insignificant, discountable, or beneficial, and do not jeopardize the continued existence of species, or destroy or adversely modify critical habitat.

5.1 Fish Species

Several special-status fish species are known or have the potential to occur in or near the Project area: delta smelt, green sturgeon, steelhead trout, longfin smelt, and river lamprey. Although the action area does not contain suitable breeding habitat, special-status species may pass through the Project area during migration to and/or from breeding habitat or they may forage there. These species may be minimally affected during deconstruction activities, but will not be adversely affected because the impacts will be discountable, insignificant, or beneficial. Coordination of deconstruction activities with in-water work windows provided by NMFS (see Figure 2-1) will avoid or minimize effects to fish during the times when the highest numbers will be present in the action area.

Deconstruction activities associated with the Project could result in temporary impacts to special-status species within the Project area, but these impacts would be minimized by implementation of BMPs and scheduling work for the NMFS-approved in-water work window. General activity may cause disturbance and displacement of fish species. Fish will likely avoid the area during activity. There will also be a temporary loss of foraging habitat and prey species, particularly when the piles are removed to a depth of at least 2 feet below the sediment level. This sediment disturbance will increase turbidity, displace benthic prey species, and may injure slow or non-moving organisms. Once activity is complete the sediment will resettle and benthic organisms may re-colonize, which should facilitate fish species to return to forage.

The pilings likely contain the wood preservative creosote, a toxic substance made up of harmful chemicals such as polycyclic aromatic hydrocarbons, phenols, and creosols. Removal of the pilings may release creosote into the water, which could have negative impacts on fish species that utilize the Project area during migration or for foraging. However, creosote could be leaching out of the pilings as they exist; therefore, removal of the pilings could potentially reduce creosote exposure over the long-term.

Other parts of the structures may also contain other hazardous materials such as LBP, mercury switches, petroleum product residues, and hydraulic fluids. If detected, these substances will be abated in accordance with Federal, State and local regulations. Removal of the wharf remnants, if they contain these contaminants, would have a beneficial, long-term effect.

Other temporary impacts may occur from the use of equipment for the Project. There may be injury or disturbance to special-status species from noise or physical injury caused by the equipment. There is also potential for the release of oil or fuel into the Carquinez Strait from equipment operation, which could smother organisms or expose them to harmful petroleum hydrocarbons. Other debris such as pilings or concrete could be accidentally dropped into the Carquinez Strait, which could impair habitat or release

toxic materials into the water. However, these potential impacts will be avoided or minimized by scheduling the work within the NMFS-approved in-water work window and implementing the other BMPs described in Section 2.2.

There is minimal potential for long-term effects that could result from deconstruction activity. Exposure to contaminants either re-suspended from beneath the sediment or Bay muds surface during pile removal, from oil or fuel released during equipment operation, or released from the wood pilings could have negative impacts on special-status species. Also, if the embankment is not properly stabilized, potential erosion over time could lead to increased turbidity and increased exposure to contaminants that may have accumulated in the soil during MOT operations. These chemicals can bioaccumulate within individuals and biomagnify up the food chain. Impacts could include reproduction impairment, suppressed immune function, liver lesions, fin abnormalities, and issues with embryonic development. However, long-term negative effects are unlikely with implementation of BMPs and scheduling work within the NMFS-approved in-water work window. Creosote-treated wood pilings will be removed from the environment, spill prevention and control measures will be taken to minimize such effects, and Phillips 66 will not jeopardize the stability of the embankment.

The Project may affect but is not likely to adversely affect listed fish species with the implementation of BMPs. Phillips 66 will implement the BMPs and minimization measures described in Section 2.2 to avoid adverse impacts to fish species that may utilize the habitat in the Project area. Additionally, a potential beneficial long-term impact is that the removal of the creosote-treated pilings could reduce the amount of creosote that would leach out of them over time.

5.2 Bird Species

No listed or proposed species are expected to occur in or adjacent to the action area; therefore, no effects on species protected under the ESA or CESA are expected. However, there are several State-protected special-status bird species that are either known or have potential to occur in the Project vicinity. These species may be affected by the Project: Suisun song sparrow, osprey, double-crested cormorant, and merlin.

Effects on these special-status bird species resulting from the Project would be short-term and insignificant. Deconstruction activities would likely disturb bird species utilizing the area for nesting and/or foraging habitat. Birds would likely avoid the area during deconstruction activities and these activities would likely displace potential prey species for fish-eating birds. If nesting birds are present within 14 days prior to the commencement of construction activities, avoidance measures will be taken to minimize impacts.

Noise disturbance and air pollution from deconstruction activities will be short-term and insignificant. Deconstruction activities will occur on the water from barges; noise levels exceeding those of the existing ambient noise from active rail lines will be minimal.

In summary, the Proposed Action may affect but is not likely to adversely affect special-status bird species because the effects would be discountable, insignificant, or beneficial.

6.0 Essential Fish Habitat

6.1 Designation of EFH

According to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), EFH for species regulated under a Federal fisheries management plan (FMP) must be identified, conserved, and enhanced. The Magnuson-Stevens Act also requires Federal agencies to consult with the NMFS on all actions or Projects permitted, funded, or undertaken by the agency that may adversely affect EFH.

The Carquinez Strait and Suisun Bay are designated as EFH for the following FMP species known to occur there (NMFS 2012a):

- English sole (*Parophrys vetulus*)
- starry flounder (*Platichthys stellatus*)
- brown rockfish (*Sebastes auriculatus*)
- northern anchovy (*Engraulis mordax*)
- Chinook salmon (*Oncorhynchus tshawytscha*)
 - Central Valley Spring-Run ESU, Federal Threatened
 - Sacramento River Winter-Run ESU, Federal and State Endangered
- Coho salmon (*Oncorhynchus kisutch*, Central California Coast ESU), Federal and State Endangered

Detailed descriptions of FMP species that occur in the Carquinez Strait and Suisun Bay can be found in the EFH Assessment for the Project (AECOM 2012, see Appendix H).

6.2 Effects of the Project on EFH

An “adverse effect” to EFH is defined in 50 CFR Part 600.810 as any impact that reduces the quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate, and loss of or injury to benthic organisms, prey species and their habitat, and other ecosystem components. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH, and may include site-specific or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions.

Deconstruction activities associated with the Project could result in impacts to the surrounding EFH and the federally-managed fish species that rely on it. These effects are similar to the impacts on special-status fish species. Temporary, insignificant negative impacts may include disturbance and displacement of fish species; degraded local water quality due to increased turbidity; release of hazardous contaminants such as creosote, hydrocarbons, LBP, ACM, or mercury; reduced habitat quality due to noise pollution, and displaced prey species.

Potential long-term effects include bioaccumulation of hydrocarbons or other harmful chemicals due to exposure to contaminants re-suspended from beneath the sediment surface during pile removal, or released from Wharf remnants or equipment operation. However, a potential positive long-term effect is the removal of creosote-treated wood and potentially other remnants containing hazardous materials from the area. Lastly, if the embankment is not properly stabilized, potential erosion over time will lead to increased turbidity and increased exposure to contaminants that may have accumulated in the soil during MOT operations.

6.2.1 Avoidance and Minimization Measures

Phillips 66 plans to implement the avoidance and minimization measures described in Section 2.3. Many of these measures will help to avoid and/or minimize adverse effects on EFH due to the Project.

Deconstruction activities will be kept to specific in-water work windows (see Figure 2-1) when feasible to avoid or minimize impacts to EFH and its species in or adjacent to the action area.

7.0 Conclusions

Based on the analysis of effects presented in Section 5, the following conclusions have been made regarding the Project's potential effects to special-status species potentially occurring in the Project Area (Table 7-1). These conclusions are based on the known range, life history, and ecology of the species. The possibility of harm to special-status species discussed in this BA will be reduced by implementation of the avoidance and minimization measures described in Section 2.2.

Table 7-1 Determinations for Special-Status Species with Potential to Occur in the Project Area

Species	Status	Effects Determination
Federally-Listed Species		
delta smelt (<i>Hypomesus transpacificus</i>)	FT, ST	May Affect, Not Likely to Adversely Affect
delta smelt critical habitat	-	May Affect, Not Likely to Adversely Modify
green sturgeon (<i>Acipenser medirostris</i> , Southern DPS)	FT, ST	May Affect, Not Likely to Adversely Affect
green sturgeon critical habitat	-	May Affect, Not Likely to Adversely Modify
steelhead trout (<i>Oncorhynchus mykiss</i> , Central California Coast and California Central Valley ESUs)	FT	May Affect, Not Likely to Adversely Affect
steelhead trout critical habitat	-	May Affect, Not Likely to Adversely Modify
Alameda whipsnake (<i>Masticophis lateralis euryxanthus</i>)	FT, ST	May Affect, Not Likely to Adversely Affect
Other Special-Status Species		
longfin smelt (<i>Spirinchus thaleichthys</i>)	ST, SSC	May Affect, Not Likely to Adversely Affect
river lamprey (<i>Lampetra ayresii</i>)	SSC	May Affect, Not Likely to Adversely Affect
Suisun song sparrow (<i>Melospiza melodia maxillaris</i>)	SSC	May Affect, Not Likely to Adversely Affect
osprey (<i>Pandion haliaetus</i>)	WL	May Affect, Not Likely to Adversely Affect
double-crested cormorant (<i>Phalacrocorax auritus</i>)	WL	May Affect, Not Likely to Adversely Affect
merlin (<i>Falco columbarius</i>)	WL	May Affect, Not Likely to Adversely Affect
<u>ESA and CSA Standing:</u> FT = Federal Threatened SSC = Species of Special Concern ST = State Threatened		
<u>Other Special-Status Standing:</u> WL = Watch List (CDFW 2011)		

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