APPENDIX B1

AMPORTS Antioch Vehicle Processing Facility Project

Biological Constraints Analysis

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Prepared for:

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Planning Division
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1.0 INTRODUCTION

This Biological Constraints Analysis (BCA) has been prepared to evaluate the potential effects on sensitive biological resources associated with the proposed AMPORTS Antioch Vehicle Processing Facility Project (Project). The Project includes the proposed development of an automotive logistics and processing facility in the City of Antioch, California on property located at 2301 Wilbur Avenue. The approximate center of the Project is located at GPS coordinate; 38° 0'50.10"N, 121°46'33.67"W.

This BCA is based on information gathered from a review of desktop resources including existing literature, data, and maps; and from a reconnaissance-level field survey of the Project area performed by Stantec Consulting Services Inc. (Stantec) biologists. The survey area for this BCA encompasses approximately 38.9 acres and consists of all proposed Project components.

The overall purpose of this BCA is to:

- Characterize the habitats and vegetation communities present;
- Evaluate the potential for special-status plant and animal species to occur;
- Provide recommended mitigation measures for inclusion into the California Environmental Quality Act (CEQA) initial study.
- Determine potential permits required for impacts to biological resources within the Project area.

2.0 PROJECT DESCRIPTION

The proposed Project involves the development of an automotive logistics and processing facility on 38.9 acres in Antioch, California. The site will be used for delivery and storage of vehicles and limited processing prior to distributions to dealerships. The improved site will include conversion and upgrade of the existing wharf to support roll-on/roll-off (RORO) operations, a one-story vehicle processing building with offices, as well as grading, fencing, paving, and striping for car storage and loading prior to distribution. The Project also includes select demolition of existing raised slabs and out of service utilities, new utility connections and on-site stormwater improvements.

3.0 METHODS

The analysis presented in this BCA includes a review of existing information about sensitive biological resources known to occur in the vicinity of the proposed Project as well as the reconnaissance-level field survey conducted to determine whether the biological resources are absent, present, and/or are likely to be present.

3.1 DEFINITIONS

3.1.1 Special-Status Species and Sensitive Communities

For the purpose of this evaluation, "special-status" plant species include plants that are: 1) listed as threatened or endangered under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA); 2) proposed for federal listing as threatened or endangered; 3) State or federal candidate species; 4) designated as rare by the California Department of Fish and Wildlife (CDFW); or 5) California Rare Plant Rank (CRPR) 1A, 1B, 2A or 2B species. Special-status animal species include species that are: 1) listed as threatened or endangered under the CESA and/or FESA; 2) proposed for federal listing as threatened or endangered; 3) State and/or federal candidate species; or 4) identified by the CDFW as species of special concern or fully protected species.

Sensitive natural communities are those communities that are of highly limited in distribution, and may or may not contain rare, threatened, or endangered species. The California Natural Diversity Database (CNDDB) ranks natural communities according to their rarity and endangerment in California. Habitats are considered "sensitive" if they are identified on the CDFW List of Vegetation Alliances and Associations as being highly imperiled – Ranks S1 to S3 or classified by CDFW in the CNDDB as rare natural communities.

3.1.2 Potential to Occur

The potential for special-status species to occur within the Project area, was classified under one of five categories as described below. Only those special-status species with an occurrence potential of "Moderate" or greater are evaluated in detail.

- **Present:** The species is known to be present or has been recently observed in the survey area.
- **High:** The species has been observed and documented within five miles of the survey area within the last five years and suitable habitat for the species is present.
- **Moderate:** The proposed Project is located within the range of the species, there are documented occurrences within five miles of the survey area, and/or suitable habitat for the species exists in the survey area.
- **Low:** The proposed Project is located within the range of the species and low-quality (e.g., disturbed, agricultural) habitat is present.
- **Absent:** The proposed Project area is located outside of the species range and/or potential habitat to support the species is not present in the survey area.

3.2 LITERATURE AND DATABASE REVIEW

Information about habitat types and special-status species that could occur in the Project area was obtained from the following sources:

- CDFW CNDDB plant and animal records (CDFW 2021a) (Appendix B);
- California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants* (CNPS 2021a) (Appendix B);
- Calflora (2021);
- United States Fish and Wildlife Service (USFWS) list of endangered and threatened species that may occur in the survey area (USFWS 2021a) (Appendix B);
- USFWS Designated Critical Habitat within the survey area (USFWS 2021a); and
- National Marine Fisheries Service (NMFS) – West Coast Region Endangered Species Act Species List (NMFS 2016) (Appendix B).

The Project area is within the *Antioch North* U.S. Geological Survey (USGS) 7.5-minute quadrangle. A CNDDB and CNPS database search for special-status species included the USGS 7.5-minute quadrangles within a 5-mile radius of the Project site. In this case, the *Antioch North*, *Antioch South*, *Jersey Island*, and *Brentwood* topographic quadrangles were queried. A 5-mile radius quadrangle search was conducted based on habitat types and migration distances for potential special-status species that could occur within the Project area. The USFWS and NMFS databases of endangered species was also utilized to query all federally endangered, threatened, candidate, and proposed animal and plant species, as well as designated critical habitat with known occurrences in this and adjacent quadrangles. Calfora and CNPS' Online Inventory databases were used to obtain more information on the habitat requirements of rare plants.

Other information sources consulted to determine which special-status species could potentially occur in the Project area included:

- USGS California 7.5-minute topographic quadrangles for *Antioch North*, *Antioch South*, *Jersey Island*, and *Brentwood*;
- Aerial photographs of the survey area and surrounding vicinity (Google Earth 2021);
- USFWS National Wetlands Inventory (USFWS 2021b);
- *Special Animals List* (CDFW 2021b);
- *State and Federally Listed Endangered and Threatened Animals of California* (CDFW 2021c);
- *State and Federally Listed Endangered, Threatened and Rare Plants of California* (CDFW 2021d);
- *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2021e);
- California Wildlife Habitat Relationships System (WHRS) (CDFW 2014);

- University of California Agriculture and Natural Resources (UC ANR) California Fish Website (UC ANR 2021); and
- Other pertinent databases and literature, including *The Jepson Manual: Vascular Plants of California*, *Second Edition* (Baldwin et. al. 2012).

Based on this background research, a list of special-status species that have the potential to occur or are known to occur in the Project area and vicinity was developed. The list was refined based on a reconnaissance-level biological field survey to determine the potential for those species to occur in the Project area.

3.3 FIELD SURVEYS CONDUCTED

A reconnaissance-level biological survey was conducted by Stantec Biologists Jared Elia and Scott Elder on March 23, 2021. The reconnaissance-level survey was performed by walking meandering transects throughout the entire Project area to characterize habitats, identify aquatic resources that may be subject to regulatory agency jurisdiction (e.g., United States Army Corps of Engineers [USACE], Regional Water Quality Control Board (RWQCB) and CDFW), assess potential for special-status species to occur, and to record observed species. To better focus the field survey efforts on those plant and animal special-status species that may occur in the project area, a target list of potentially occurring species was developed during the literature and database review process. Plant taxonomy for the botanical survey was determined using the Jepson Manual (Baldwin et al. 2012).

4.0 ENVIRONMENTAL SETTING

4.1 SITE CONDITIONS AND LAND USE

4.1.1 Local Setting and Existing Land Use

The Project site is on a vacant parcel located in the City of Antioch. The site was the previous location of the Gaylord Paper Mill and is located on APN 051-020-006 and APN 051-020-012. The Project site is surrounded by AMPORTS vehicle storage lot to the east, industrial property to the west, San Joaquin River to the north, and Wilbur Avenue to the south. See Appendix A, Figure 1 and 2 for the Project regional overview and Project location.

4.1.2 Physical Conditions

The Project is primarily covered by a large concrete pad where the existing paper mill was located. On the west side of the Project area, a small strip of grassland occurs with minimal trees. There are no natural drainages on the property. The topography of the Project area is mostly flat with a moderate rise from the lower concrete pad adjacent to the San Joaquin River to the southern, larger concrete pad. Elevations on the Project site range from 0 feet above sea level at the north end along the San Joaquin River to 31 feet above sea level at the southern end, adjacent to Wilbur Avenue. Regionally, the Project area has a Mediterranean climate characterized by hot, dry summers and moderate winters, with average temperatures ranging seasonally from 73.3 to 48.0 degrees Fahrenheit (°F). Historical data used to describe the climate was collected at the Antioch Pump Plant 3, California (ID 040232) National Oceanic and Atmospheric Administration (NOAA) Coop Station, approximately 2.6 miles southeast of the Project area (Western Regional Climate Center 2021). Precipitation in the Project area occurs as rain. Average annual rainfall is 13.22 inches and occurs primarily from October through May. The growing season (i.e., 50 percent probability of air temperature 32ºF or higher) in the survey area is around 289 days and occurs between early February and November (Natural Resources Conservation Service. 2021).

4.2 BIOTIC HABITATS

4.2.1 Vegetation Communities

Vegetation types in the Project area were classified based on descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988), as well as the *California Natural Community List* (CDFW 2021f), which is adapted from the technical approach and vegetation alliance classification system described in *A Manual of California Vegetation* (Sawyer et al. 2009). The vegetation communities present in the Project area are primarily urban, with minor areas consisting of annual grassland. Aquatic vegetation communities within the Project area consist of Estuarine. Descriptions of the vegetation communities within the Project area are provided below.

Upland Habitat Types

Annual Grassland

Annual grassland habitat occurs primarily along the western limits of the Project area, with minor sections of annual grassland located on the east and west ends of the slope between the two concrete pads. This habitat is characterized as a moderate herbaceous layer and a limited overstory canopy. Dominant plant species within the

annual grassland habitat includes California man-root (*Marah fabacea*), soft chess (*Bromus hordeaceus*), and ripgut brome (*Bromus diandrus*). No small mammal burrows were observed within the grassland habitat.

Urban

This land use type does not describe any specific vegetation type under Sawyer et al. (2009) but encompasses land that has been anthropogenically modified with structures and facilities, including roads and buildings. Ornamental plantings and ruderal vegetation may be present within and/or on the margins of developed areas. A majority of the Project area is urban habitat consisting of two large concrete pads with ruderal vegetation growing sporadically throughout including sweet fennel (*Foeniculum vulgare*) and telegraph weed (*Heterotheca grandiflora*). In the northwest corner of the Project area there is an old concrete stormwater detention basin that is hydraulically connected to the San Joaquin River. During the reconnaissance survey, water was observed within this basin along with minimal vegetation and algae.

Aquatic Habitat Types

Estuarine

Estuarine habitats are diverse coastal waterbodies containing a mixture of seawater and freshwater. Estuarine habitat occurs within the San Joaquin River that flows through the northern portion of the Project area. The USFWS National Wetlands Inventory mapped this section of the San Joaquin River as estuarine due to tidal influence from Suisun bay and saltwater intrusion during the summer and fall months when freshwater influx is low. The shoreline is lined with rock slope protection (RSP) with minimal vegetation growing on top, including a patch of Himalayan blackberry (*Rubus armeniacus*). During the reconnaissance survey, no vegetation was observed on the water surface.

4.2.2 Habitat Connectivity

Habitat corridors are segments of land that provide linkages for wildlife movement between different habitats while also providing cover. Corridors also function as avenues along which plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and populations can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. The Project area is not located within a defined essential connectivity area as identified in the California Essential Habitat Connectivity Project (Spencer et al. 2010). However, the portion of the San Joaquin River that occurs within the Project area serves as one of two primary migratory wildlife corridors for special-status anadromous fish species that migrate from the Pacific Ocean to tributaries of the Sacramento and San Joaquin Rivers and vice versa.

4.2.3 Invasive Plants

Invasive plants (i.e., noxious weeds) are undesirable, non-native plants that commonly invade disturbed sites. Most species were introduced from Europe and Asia and many are known to negatively affect native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, invasive plants may colonize the site and spread, often out-competing native species. Once established, they are very difficult to eradicate.

All pertinent non-native plant species were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC) (Cal-IPC

2006, 2021). Cal-IPC categorizes non-native invasive plants into three categories of overall negative ecological impact in California as “high”, “moderate”, and “limited”. Invasive species with a Cal-IPC rating of “high” that were observed in the Project area include Himalayan blackberry.

4.2.4 Sensitive Natural Communities

The CDFW maintains a list of California sensitive natural communities. Sensitive natural communities are classified following the technical approach described in A Manual of California Vegetation, Second Edition (MCV) (Sawyer et al. 2009) and the CNPS web-based version of the manual, A Manual of California Vegetation Online (CNPS 2021b). The MCV describes common to rare vegetation types in California and is the authority on vegetation classification for large- to fine-scale vegetation mapping efforts in the state. The current list of California Sensitive Natural Communities (CDFW 2021f) was reviewed to determine if any sensitive natural communities occur in the survey area. No sensitive natural communities are present in the Project area.

The CNDDB also identifies locations of rare natural communities. Rare natural communities are those communities that are of highly limited distribution, and may or may not contain rare, threatened, or endangered species. The CNDDB ranks natural communities according to their rarity and endangerment in California. The CNDDB was reviewed for rare natural communities. No rare natural communities were reported to occur in the Project area; however, Stabilized Interior Dunes (rank S1.1) occurs just west (approximately 0.12 miles) of the Project area, within the Antioch Dunes National Wildlife Refuge.

4.2.5 Special-Status Plant Species

Regionally occurring special-status plant species were identified based on a review of pertinent literature, the USFWS species list, CNDDB, and CNPS database records, and the reconnaissance-level biological field survey results. CNNDB special-status plant species occurrences within five miles of the Project area are illustrated in Appendix A, Figure 3. For each species, habitat requirements were assessed and compared to the habitats in the survey area and immediate vicinity to determine if potential habitat occurs in the Project area. For the purposes of this review, all regionally occurring plant species listed under the FESA, CESA and CNPS are included in Table 1, regardless of whether the Project area provides potential habitat. Based on database records 40 special-status plants were evaluated for their potential to occur within the Project area. Of these 40 species, none were found to have any moderate or high potential to occur within the Project area due to the urban and disturbed annual grassland habitats.

Table 1. Special-Status Plant Species with Potential to Occur in the Project Area

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Large-flowered fiddleneck *Amsinckia grandiflora*	FE/SE/1B.1	Cismontane woodland and valley and foothill grassland. Elev. 885-1805 ft.	Apr-May	**Low**. The Project area does not contain woodland habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Mt. Diablo manzanita *Arctostaphylos auriculata*	-/-/1B.3	Chaparral in sandstone soil or cismontane woodland. Elev. 440-2135 ft.	Jan-Mar	**Absent**. The Project area does not contain chaparral or woodland habitat and this species was not observed during the reconnaissance survey.
Contra Costa manzanita *Arctostaphylos manzanita* ssp. *laevigata*	-/-/1B.2	Rocky soils in chaparral. Elev. 1410-3610 ft.	Jan-Mar	**Absent**. The Project area does not contain chaparral habitat and this species was not observed during the reconnaissance survey.
Alkali milk-vetch *Astragalus tener* var. *tener*	-/-/1B.2	Valley and foothill grassland in adobe clay soil; playas and vernal pools with alkaline soil. Elev. 0-200 ft.	Mar-Jun	**Absent**. The Project area does not contain adobe clay soils, playas or vernal pools with alkaline soils and this species was not observed during the reconnaissance survey.
Heartscale *Atriplex cordulata* var. *cordulata*	-/-/1B.2	Saline or alkaline soils in chenopod scrub, meadows and seeps, and valley and foothill grassland. Elev. 0-1835 ft.	Apr-Oct	**Low**. The Project area does not contain chenopod scrub or meadows and seeps. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Brittlescale *Atriplex depressa*	-/-/1B.2	Alkaline and clay soils in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. Elev. 0-1050 ft.	Apr-Oct	**Low**. The Project area does not contain chenopod scrub, meadows and seeps, playas, or vernal pools. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Big tarplant *Blepharizonia plumosa*	-/-/1B.1	Usually clay soils in valley and foothill grassland. Elev. 100-1660 ft.	July-Oct	**Low**. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Mt. Diablo fairy-lantern *Calochortus pulchellus*	-/-/1B.2	Chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. Elev. 100-2755 ft.	Apr-Jun	**Low**. The Project area does not contain chaparral or woodland. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	-/-/1B.1	Valley and foothill grassland in alkaline soils. Elev. 0-755 ft.	May-Oct	**Low.** The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Soft salty bird's-beak *Chloropyron molle* ssp. *molle*	FE/SR/1B.2	Coastal salt marshes and swamps. Elev. 0-10 ft.	Jun-Nov	**Absent.** The Project area does not contain coastal salt marshes or swamps (salt grass/pickleweed marshes) and this species was not observed during the reconnaissance survey.
Bolander's water-hemlock *Cicuta maculata* var. *bolanderi*	-/-/2B.1	Coastal fresh or brackish water marshes and swamps. Elev. 0-660 ft.	Jul-Sep	**Absent.** Project area does not contain coastal fresh or brackish marshes or swamps and this species was not observed during the reconnaissance survey.
Hoover's cryptantha *Cryptantha hooveri*	-/-/1A	Inland dunes and valley and foothill grassland in sandy soils. Elev. 30-490 ft.	Apr-May	**Low**. The Project area does not contain inland dune habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Dwarf downingia *Downingia pusilla*	-/-/2B.2	Valley and foothill grassland in mesic habitats and vernal pools. Elev. 5-1460 ft.	Mar-May	**Low.** The Project area does not contain vernal pool habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Antioch Dunes buckwheat *Eriogonum nudum* var. *psychicola*	-/-/1B.1	Inland dunes. Elev. 0-65 ft.	Jul-Oct	**Absent.** Project area does not contain inland dunes and this species was not observed during the reconnaissance survey.
Mt. Diablo buckwheat *Eriogonum truncatum*	-/-/1B.1	Sandy soils in chaparral, coastal scrub, and valley and foothill grassland. Elev. 10-1150 ft.	Apr-Sep	**Low.** The Project area does not contain chaparral or coastal scrub habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Jepson's coyote Thistle *Eryngium jepsonii*	-/-/1B.2	Valley and foothill grassland, vernal pools in clay soil. Elev. 10-985 ft.	Apr-Aug	**Absent.** The Project area does not contain vernal pool habitat and this species was not observed during the reconnaissance survey.
Contra Costa wallflower *Erysimum capitatum* var. *angustatum*	FE/SE/1B.1	Inland dunes. Elev. 10-70 ft.	Mar-Jul	**Absent.** Project area does not contain inland dunes and this species was not observed during the reconnaissance survey.
Diamond-petaled California poppy *Eschscholzia rhombipetala*	-/-/1B.1	Valley and foothill grassland in alkaline and clay soils. Elev. 0-3200 ft.	Mar-Apr	**Low.** The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
San Joaquin spearscale *Extriplex joaquinana*	-/-/1B.2	Chenopod scrub, meadows and seeps, playas, and valley and foothill grassland in alkaline soil. Elev. 0-2740 ft.	Apr-Oct	**Low.** The Project area does not contain chenopod scrub or meadows and seeps. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Fragrant fritillary *Fritillaria liliacea*	-/-/1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland often in serpentinite soil. Elev. 10-1345 ft.	Feb-Apr	**Low.** The Project area does not contain woodland, coastal prairie, or coastal scrub habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Diablo helianthella *Helianthella castanea*	-/-/1B.2	Usually rocky, axonal soils, often in partial shade in broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Elev. 195-4265 ft.	Mar-Jun	**Low.** The Project area does not contain forest, woodland, chaparral, or coastal scrub habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Brewer's western flax *Hesperolinon breweri*	-/-/1B.2	Usually serpentinite soils in chaparral, cismontane woodland, valley and foothill grassland. Elev. 100-3100 ft.	May-Jul	**Low.** The Project area does not contain woodland or chaparral habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Woolly rose-mallow *Hibiscus lasiocarpos* var. *occidentalis*	-/-/1B.2	Freshwater marshes and swamps, often in riprap on sides of levees. Elev. 0-395 ft.	Jun-Sep	**Absent.** The Project area does not contain freshwater marshes and swamps and this species was not observed during the reconnaissance survey.
Carquinez goldenbush *Isocoma arguta*	-/-/1B.1	Valley and foothill grassland in alkaline soil. Elev. 0-70 ft.	Aug-Dec	**Low.** The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Contra Costa goldfields *Lasthenia conjugens*	FE/-/1B.1	Cismontane woodland, playas in alkaline soil, mesic valley and foothill grassland, and vernal pools in mesic areas. Elev. 0-1545 ft.	Mar-Jun	**Low.** The Project area does not contain woodland or playas. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Delta tule pea *Lathyrus jepsonii* var. *jepsonii*	-/-/1B.2	Freshwater and brackish marshes and swamps. Elev. 0-20 ft.	May-Sep	**Absent.** The Project area does not contain freshwater or brackish marshes and swamps and this species was not observed during the reconnaissance survey.
Mason's lilaeopsis *Lilaeopsis masonii*	-/SR/1B.1	Wetlands, riparian, freshwater marsh, brackish marsh, and wetland riparian. Elev. 0-32 ft.	Apr-Nov	**Absent.** The Project area does not contain freshwater or brackish marshes, wetlands, or riparian wetlands and this species was not observed during the reconnaissance survey.
Delta mudwort *Limosella australis*	-/-/2B.1	Riparian scrub, freshwater or brackish marshes and swamps, usually on mud banks. Elev. 0-10 ft.	May-Aug	**Absent.** The Project area does not contain freshwater or brackish marshes or riparian scrub habitat and this species was not observed during the reconnaissance survey.
Showy golden madia *Madia radiata*	-/-/1B.1	Cismontane woodland and valley and foothill grassland. Elev. 80-3985 ft.	Mar-May	**Low.** The Project area does not contain woodland habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Hall's bush-mallow *Malacothamnus hallii*	-/-/1B.2	Chaparral and coastal scrub. Elev. 30-2500 ft.	May-Oct	**Absent.** The Project area does not contain chaparral or coastal scrub habitat and this species was not observed during the reconnaissance survey.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Shining navarretia *Navarretia nigelliformis* ssp. *radians*	-/-/1B.2	Sometimes clay soils in cismontane woodland, valley and foothill grassland, and vernal pools. Elev. 210-3280 ft.	Apr-Jul	**Low.** The Project area does not contain woodland or vernal pools. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Colusa grass *Neostapfia colusana*	FT/CE/1B.1	Large vernal pools with adobe soils. Elev. 15-655 ft.	May-Aug	**Absent.** The Project area does not contain vernal pools and this species was not observed during the reconnaissance survey.
Antioch Dunes evening-primrose *Oenothera deltoides* ssp. *howellii*	FE/SE/1B.1	Inland dunes. Elev. 0-100 ft.	Mar-Sep	**Absent.** The Project area does not contain inland dunes and this species was not observed during the reconnaissance survey.
Bearded popcornflower *Plagiobothrys hystriculus*	-/-/1B.1	Often in vernal swales in mesic valley and foothill grassland and vernal pool margins. Elev. 0-900 ft.	Apr-May	**Absent.** The Project area does not contain vernal pools or grasslands with vernal swales and this species was not observed during the reconnaissance survey.
Eel-grass pondweed *Potamogeton zosteriformis*	-/-/2B.2	Freshwater marshes and swamps. Elev. 0-6100 ft.	Jun-Jul	**Absent.** The Project area does not contain freshwater marshes and swamps and this species was not observed during the reconnaissance survey.
Chaparral ragwort *Senecio aphanactis*	-/-/2B.2	Sometimes in alkaline soils in chaparral, cismontane woodland, and coastal scrub. Elev. 45-2625 ft.	Jan-May	**Absent.** The Project area does not contain chaparral, woodland, or coastal scrub habitat and this species was not observed during the reconnaissance survey.
Keck's checkerbloom *Sidalcea keckii*	FE/-/1B.1	Serpentinite and clay soils in cismontane woodland and valley and foothill grassland. Elev. 245-2130 ft.	Apr-May	**Low.** The Project area does not contain woodland habitat. The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.

Common Name Scientific Name	Listing Status[1] (Fed/State/CRPR)	Known Habitat and Elevation Range (Feet)	Blooming Period	Potential for Occurrence
Suisun Marsh aster *Symphyotrichum lentum*	-/-/1B.2	Brackish and freshwater marshes and swamps. Elev. 0-10 ft.	Apr-Nov	**Absent.** The Project area does not contain freshwater or brackish marshes or swamps and this species was not observed during the reconnaissance survey.
Caper-fruited tropidocarpum *Tropidocarpum capparideum*	-/-/1B.1	Valley and foothill grassland (alkaline hills) Elev. 0-1495 ft.	Mar-Apr	**Low.** The Project area does contain annual grassland; however, the grassland is highly disturbed and provides only marginal habitat for this species.
Oval-leaved viburnum *Viburnum ellipticum*	-/-/2B.3	Chaparral, cismontane woodland, and lower montane coniferous forest. Elev. 705-4595 ft.	May-Jun	**Absent.** The Project area does not contain chaparral, woodland, or forest habitat and this species was not observed during the reconnaissance survey.

[1]Federal and State Status Codes
- = No status, or not applicable
FE = Listed as endangered under the Federal Endangered Species Act (FESA)
FT = Listed as threatened under FESA
SE = Listed as endangered under the California Endangered Species Act (CESA)
SR = Listed as rare under CESA
ST = Listed as threatened under CESA
CE = Listed as candidate endangered CESA

CNPS Ranking
1A = Presumed extinct in California and either rare or extinct elsewhere.
1B = Rare, threatened, or endangered in California and elsewhere.
2A = Presumed extinct in California but common elsewhere.
2B = Rare, threatened, or endangered in California but more common elsewhere.

Threat Ranks
0.1 = Seriously threatened in California (more than 80% of occurrences threatened/high degree and immediacy of threat).
0.2 = Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat).
0.3 = Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

4.2.6 Special-Status Animal Species

Regionally occurring special-status animal species were identified based on a review of pertinent literature, the USFWS species list, CNDDB database records, a query of the California WHRS (CDFW 2014), and the reconnaissance-level biological field survey results. CNNDB special-status animal species occurrences within five miles of the Project area are illustrated in Appendix A, Figure 2. For each species, habitat requirements were assessed and compared to the habitats in the Project area and immediate vicinity to determine the species' potential to occur in or near the Project area. For the purposes of this review, all regionally occurring wildlife species listed under the FESA or CESA are included in Table 2, regardless of whether the Project area provides potential habitat. The literature and database review identified 50 special-status wildlife species with suitable habitat or known to occur in or near the Project area. Based on initial assessment of wildlife habitats conducted during the reconnaissance-level field survey, 16 of these species were determined to have a moderate to high potential to occur.

Table 2. Special-Status Animal Species within Potential to Occur in the Survey Area

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Invertebrates			
Conservancy fairy shrimp *Branchinecta conservatio*	FE/-	Endemic to the grasslands of the northern two-thirds of the Central Valley. Inhabits astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	**Absent** No astatic pool habitat occurs within the Project area.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT/-	Vernal pools, swales, ephemeral freshwater habitats, often grass or mud-bottomed swales, earth slump or basalt-flow depression pools in grasslands.	**Absent** No vernal pool habitat occurs within the Project area.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE/-	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands.	**Absent** No vernal pool habitat occurs within the Project area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT/-	Occurs in riparian scrub only in the Central Valley. Requires blue elderberry (*Sambucus mexicana*) for breeding. Lays eggs in elderberries 2 to 8 inches in diameter. Often prefers “stressed” elderberries.	**Absent**. No elderberry shrubs are present in the Project area.
Delta Green Ground Beetle *Elaphrus viridis*	FT/-	Restricted to the margins of vernal pools in the grassland area between Jepson Prairie and Travis AFB. Prefers the sandy mud substrate where it slopes gently into the water, with low-growing vegetation, 25-100% cover.	**Absent.** Project area is outside the range of this species.
Lange's metalmark butterfly *Apodemia mormo langei*	FE/-	Inhabits stabilized dunes along the San Joaquin River. Endemic to Antioch Dunes, Contra Costa County. Primary host plant is *Eriogonum nudum* var *auriculatum*; feeds on nectar of other wildflowers, as well as host plant.	**Low.** The Project area does contain potential foraging habitat and there is a CNDDB occurrence record (1) from 2008 located in the adjacent Antioch Dunes National Wildlife Refuge. However, the Project area lacks this species host plants and the annual grassland contains minimal wildflowers.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
San Bruno elfin butterfly *Callophrys mossii bayensis*	FE/-	Found in coastal, mountainous areas with grassy ground cover, mainly in the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on steep, north-facing slopes. Larval host plant is *Sedum spathulifolium*.	**Absent.** Project area is outside the range of this species.
Crotch bumble bee *Bombus crotchii*	-/CE	Coastal California east to the Sierra-Cascade crest and south into Mexico. Found in open grassland and scrub habitats. Food plant genera include *Antirrhinum* spp., *Phacelia* spp., *Clarkia* spp., *Dendromecon* spp., *Eschscholzia* spp., and *Eriogonum* spp.	**Low.** The Project area does contain potential foraging habitat and there is a historic CNDDB occurrence record (14) from 1926 located approximately 0.71 miles southwest of the Project area.
Western bumble bee *Bombus occidentalis*	-/CE	Meadows and grasslands with abundant floral resources throughout the mountains and northern coast of California. Nests in underground cavities including old rodent burrows in open west-southwest slopes bordered by trees.	**Low.** The Project area does contain potential foraging habitat and there is a historic CNDDB occurrence record (215) from 1979 located in the adjacent Antioch Dunes National Wildlife Refuge. Currently this species is found mostly in high meadows or coastal environments.
Fish			
Pacific lamprey *Entosphenus tridentatus*	-/SSC	Found in Pacific Coast streams north of San Luis Obispo County, however regular runs in Santa Clara River. Size of runs is declining. Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.
Western river lamprey *Lampetra ayresii*	-/SSC	Cool streams that reach the ocean and that have shallow, partly shaded pools and clear-water depression pools. In the Central Valley, their upstream range appears to be limited by impassable dams that exist on all large rivers.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are no CNDDB records within 5 miles of the Project Area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Green sturgeon – southern DPS *Acipenser medirostris*	FT/SSC	These are the most marine species of sturgeon. Abundance increases northward of Point Conception. Spawns in the Sacramento, Klamath, and Trinity Rivers at temperatures between 8 and 14 degrees Celsius. Preferred spawning substrate is large cobble but can range from clean sand to bedrock.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.
White sturgeon *Acipenser transmontanus*	-/SSC	White sturgeon primarily live in estuaries of large rivers but migrate to spawn in fresh water and often make long ocean movements between river systems. White sturgeon primarily occur in the Sacramento River, Feather, and San Joaquin Rivers.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.
Steelhead – Central Valley DPS *Oncorhynchus mykiss irideus*	FT/-	Populations in the Sacramento and San Joaquin rivers and their tributaries.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There is a CNDDB occurrence record (27) from 2012 located within the San Joaquin River, just north of the Project area.
Chinook salmon – Central Valley Spring run ESU *Oncorhynchus tshawytscha*	FT/ST	Populations occur in the Sacramento and San Joaquin rivers and their tributaries. Spring run Chinook migrate far upstream in the spring, shelter in deep, cool pools, waiting to spawn until fall when temperatures decrease. After hatching, juveniles spend at least one summer in freshwater rearing areas, so the stream must have either perennial flow or cool intermittent pools with subsurface flow during the dry season.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Chinook salmon - Central Valley fall/ late fall-run ESU *Oncorhynchus tshawytscha*	-/SSC	Spawn and rear in main-stem Sacramento River. Require cool year-round water temperatures, since spawning occurs during the summer. Requires deep pools and riffles, and clean gravel and cobble substrate to spawn.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.
Chinook salmon - Sacramento River winter-run ESU *Oncorhynchus tshawytscha*	FE/SE	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams. Requires clean, cold water over gravel beds with water temperatures between 6 and 14 C for spawning.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat during migration to natal spawning rivers. There are no CNDDB records within 5 miles of the Project Area.
Delta Smelt *Hypomesus transpacificus*	FT/SE	Sacramento-San Joaquin Delta. Seasonally in Suisun Bay, Carquinez Strait & San Pablo Bay. Seldom found at salinities > 10 parts per thousand (ppt). Most often at salinities < 2ppt.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There is a CNDDB occurrence record (4) from 2004 located approximately 3 miles northwest of the Project area.
Longfin smelt *Spirinchus thaleichthys*	C/ST	Euryhaline, nektonic & anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater.	**High.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There is a CNDDB occurrence record (33) from 2012 located within the Project area.
Sacramento splittail *Pogonichthys macrolepidotus*	-/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging for young.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are no CNDDB records within 5 miles of the Project Area.
Sacramento hitch *Lavinia exilicauda exilicauda*	-/SSC	Inhabit warm, lowland, waters including clear streams, turbid sloughs, lakes and reservoirs.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are no CNDDB records within 5 miles of the Project Area.
Hardhead *Mylopharodon conocephalus*	-/SSC	Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are no CNDDB records within 5 miles of the Project Area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Sacramento perch *Archoplites interruptus*	-/SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Aquatic vegetation essential for young.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There is a CNDDB occurrence record (3) from 1980 located approximately 0.47 miles northeast of the Project area.
Amphibians			
California tiger salamander *Ambystoma californiense*	FE,FT/ST	Central Valley DPS federally listed as threatened. Santa Barbara County and Sonoma County DPS federally listed as endangered. Needs underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**Absent.** No suitable aquatic or upland habitat is present in the Project area.
California red-legged frog *Rana draytonii*	FT/SSC	Requires perennial or near-perennial aquatic habitats, especially for breeding; often slow-moving streams, freshwater pools and ponds over 1-foot deep, often with overhanging vegetation; adjacent upland habitats are often used for temporary refuges or dispersal movements	**Absent.** No suitable aquatic or upland habitat is present in the Project area.
Foothill yellow-legged frog *Rana boylii*	-/SE, SSC	Inhabits partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs cobble-sized substrate for egg-laying and at least 15 weeks of water to attain metamorphosis. Listing status for this species has been determined by the California Fish and Game Commission as the following: Southwest/South Coast, West/Central Coast, and East/Southern Sierra clades are now endangered; Northeast/Northern Sierra and Feather River clades are now threatened; and Northwest/North Coast clade is a SSC.	**Absent.** No suitable aquatic or upland habitat is present in the Project area.
Reptiles			
Northern California legless lizard *Anniella pulchra*	-/SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	**Absent.** No suitable habitat is present in the Project area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT/ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	**Absent.** Project area is outside the range of this species.
California glossy snake *Arizona elegans occidentalis*	-/SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	**Absent.** No suitable habitat is present in the Project area.
Giant gartersnake *Thamnophis gigas*	FT/ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the gartersnakes in California.	**Absent.** No suitable aquatic habitat is present in the Project area.
Western pond turtle *Emys marmorata*	-/SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Require an upland oviposition site near the aquatic site.	**Absent.** No suitable aquatic habitat is present in the Project area.
Birds			
White-tailed kite *Elanus leucurus*	-/FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	**Absent.** No suitable nesting or foraging habitat is present in the Project area.
Swainson's hawk *Buteo swainsoni*	-/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranchlands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Absent.** No suitable nesting or foraging habitat is present in the Project area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
California Ridgway's rail *Rallus obsoletus*	FE/SE, FP	Found in salt and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	**Absent**. No suitable nesting or foraging habitat is present in the survey area.
California black rail *Laterallus jamaicensis coturniculus*	-/ST	Freshwater marshes, wet meadows and shallow margins of saltwater marshes boarding larger bays. Requires dense vegetation for nesting habitat.	**Absent.** No suitable nesting or foraging habitat within the Project area.
California least tern *Sternula antillarum browni*	FE/SE, FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	**Absent**. Project area is outside the range of this species.
Burrowing owl *Athene cunicularia*	-/SSC	Grasslands and ruderal habitats. Uses mammal burrows or other suitable underground cavities.	**Absent.** No suitable nesting or foraging habitat is present in the Project area due to lack of rodent burrows within the annual grassland.
Loggerhead shrike *Lanius ludovicianus*	-/SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub & washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	**Absent.** No suitable nesting or foraging habitat within the Project area.
Bank swallow *Riparia riparia*	-/ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	**Absent.** No suitable nesting or foraging habitat is present in the Project area.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	-/SSC	Resides in fresh and saltwater marshes and creeks of the San Francisco Bay region. Requires thick, continuous cover down to water surface for foraging; tall grasses, tule patches, willows for nesting.	**Absent.** No suitable nesting or foraging habitat is present in the Project area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
Song sparrow ("Modesto" population) *Melospiza melodia*	-/SSC	Endemic to California, where it resides only in the north-central portion of the Central Valley. Occurs in emergent freshwater marshes dominated by tules and cattails, riparian willow thickets, riparian forests of valley oak with sufficient understory of blackberry, and vegetated irrigation canals and levees. Prefers moderately dense vegetation for nesting and exposed ground or leaf litter for foraging.	**Absent**. Project area is outside the range of this species.
Suisun song sparrow *Melospiza melodia maxillaris*	-/SSC	Resides in brackish-water marshes surrounding Suisun Bay. Inhabits cattails, tules, and other sedges, and Salicornia; also known to frequent tangles bordering sloughs.	**Absent**. No suitable nesting or foraging habitat is present in the Project area.
Tricolored blackbird *Agelaius tricolor*	-/CE, SSC	Breeds near fresh water in dense emergent vegetation. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Absent**. No suitable nesting or foraging habitat is present in the Project area.
Mammals			
Pallid bat *Antrozous pallidus*	-/SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting.	**Absent**. No suitable roosting or foraging habitat is present in the Project area.
Western red bat *Lasiurus blossevillii*	-/SSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	**Low.** Large trees adjacent to the Project area my provide marginal roosting habitat for this species.
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	Found in annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base.	**Absent.** No suitable habitat is present in the Project area.

Common Name Scientific Name	Listing Status[1] (Fed/State)	Known Habitat Requirements	Potential for Occurrence
California sea lion *Zalophus californianus*	MMPA/-	This species prefers sandy beaches or rocky coves for breeding and haul-out sites. Along the West Coast, they also haul out on marina docks as well as jetties and buoys. California sea lions range from southeast Alaska to the Pacific coast of central Mexico. Their primary breeding range is from the Channel Islands in southern California to central Mexico.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are documented occurrences within the lower reaches of the San Joaquin River.
Pacific harbor seal *Phoca vitulina*	MMPA/-	Harbor seals are found all along the West Coast of North America, from Baja California, Mexico to the Bering Sea. They are found resting on rocks and beaches along the coast and on floating ice in glacial fjords.	**Moderate.** The portion of the San Joaquin River within the Project area provides suitable aquatic habitat. There are documented occurrences within the lower reaches of the San Joaquin River.
American badger *Taxidea taxus*	-/SSC	Most abundant in drier, open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	**Absent.** No suitable habitat is present in the Project area.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	FE/SE, FP	Occurs only in the saline emergent wetlands of San Francisco Bay and its tributaries. Primary habitat is pickleweed.	**Absent.** No suitable habitat is present in the Project area.

[1]Federal and State Status Codes

- = No status, or not applicable

FE = Listed as endangered under the Federal Endangered Species Act (FESA)

FT = Listed as threatened under FESA

MMPA = Listed under the Marine Mammal Protection Act

SE = Listed as endangered under the California Endangered Species Act (CESA)

ST = Listed as threatened under CESA

SSC = Designated as a Species of Special Concern by CDFW under the California Environmental Quality Act (CEQA)

FP = Fully Protected under the California Fish and Game Code (F.G.C.)

C = Candidate for listing as either endangered or threatened under FESA

CE = Candidate for listing as endangered under CESA

CT = Candidate for listing as threatened under CESA

5.0 RESULTS: BIOLOGICAL RESOURCES

5.1 HABITATS AND NATURAL COMMUNITIES OF CONCERN

Within the Project area, potential waters of the U.S. and USFWS and NMFS designated critical habitat and essential fish habitat occur.

5.1.1 Potential Waters of the U.S. and State

The portion of the San Joaquin River that occurs within the Project area associated with wharf improvements is considered potential waters of the U.S. and State, therefore subject to the USACE and RWQCB jurisdiction under Sections 404 and 401 of the Clean Water Act, and subject to CDFW jurisdiction under Section 1600 of the California Fish and Game Code (FGC). The San Joaquin River is also a navigable water of the U.S. under Section 10 of the Rivers and Harbors Act of 1899. No other potential waters of the U.S. or State were observed within the Project area during the reconnaissance-level biological field survey.

Construction activities and in-water work associated with the proposed wharf improvements would impact approximately 0.005 acres of potential waters of the U.S and approximately 0.2 acres for the over-water improvements. In addition, the Project will build approximately 11,918 square feet (sq ft) of permanent over-water structure. This is a net increase of 9, 286 sq ft of over-water structure from the original wharf, the majority of which will be solid cover that will shade the habitat. Recommended mitigation measures for impacts to potential waters of the U.S. are listed in Section 6.2 below. The Project will require a USACE Section 404 Nationwide Permit, RWQCB Section 401 Water Quality Certification, and CDFW Section 1602 Lake or Streambed Alteration Agreement.

5.1.2 Critical Habitat

Within the Project area (associated with wharf improvements), USFWS and NMFS designated critical habitat occurs for five special-status fish species including delta smelt (*Hypomesus transpacificus*), Central Valley Spring Run chinook salmon Evolutionarily Significant Unit (ESU) (*Oncorhynchus tshawytscha*), Sacramento River Winter Run chinook salmon ESU (*Oncorhynchus tshawytscha*), California Central Valley steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss irideus*), and southern DPS green sturgeon (*Acipenser medirostris*). The Project will require Section 7 Consultation with USFWS and NMFS, including the preparation of a Biological Assessment to evaluate impacts, AMMs, and compensatory mitigation for federally endangered and threatened fish species and their critical habitats.

5.1.3 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) was passed in 1976 for the conservation and management of the fishery resources of the U.S. to prevent overfishing, to rebuild overfished stocks, to ensure conservation, and to facilitate long-term protection of Essential Fish Habitat (EFH). EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The MSA is implemented by regional Fishery Management Councils that work with NMFS to develop and implement fishery management plans (FMP). The plans must identify the EFH for each fishery within their jurisdiction. When a project is proposed that could adversely affect EFH, federal agencies must consult with NMFS in order to obtain avoidance and minimization consultation as well as conservation and enhancement recommendations.

Within the Project area, EFH for species managed under the Pacific Coast Salmon Fishery Management Plan (FMP) (Chinook salmon) and also for species managed under the Coastal Pelagic Species FMP and Pacific Coast Groundfish FMP occur. The Project will require EFH Consultation with NMFS, including the preparation of an EFH Assessment to analyze the potential adverse effects of the Project activities associated with wharf improvements on EFH and the managed species and proposed compensatory mitigation.

5.2 SPECIAL-STATUS ANIMAL SPECIES

The portion of the San Joaquin River within the Project area provides potentially suitable habitat for 16 special-status species, including 14 special-status fish species and 2 marine mammals protected by the MMPA. These species have a moderate or high potential to occur within the Project area. These species are listed below:

- Southern DPS Green Sturgeon (*Acipenser medirostris*), Federally threatened (FT)/species of special concern (SSC);
- White sturgeon (*Acipenser transmontanus*), SSC;
- Pacific lamprey (*Entosphenus tridentatus*), SSC;
- Delta smelt (*Hypomesus transpacificus*), FT/State endangered (SE);
- Western river lamprey (*Lampetra ayresii*), SSC;
- Sacramento hitch (*Lavinia exilicauda exilicauda*), SSC;
- Hardhead (*Mylopharodon conocephalus*), SSC;
- California Central Valley steelhead DPS (*Oncorhynchus mykiss irideus*), FT;
- Central Valley Spring Run Chinook Salmon ESU (*Oncorhynchus tshawytscha*), FT/State threatened (ST);
- Central Valley fall/ late fall-run Chinook Salmon ESU (*Oncorhynchus tshawytscha*), SSC;
- Sacramento River Winter Run Chinook Salmon ESU (*Oncorhynchus tshawytscha*), Federally endangered (FE)/SE;
- Sacramento splittail (*Pogonichthys macrolepidotus*), SSC;
- Sacramento perch (*Archoplites interruptus*), SSC;
- Longfin smelt (*Spirinchus thaleichthys*), Federal candidate (FC)/ST.
- Pacific harbor seal (*Phoca vitulina*), Marine Mammal Protection Act (MMPA); and
- California sea lion (*Zalophus californianus*), MMPA

Recommended mitigation measures for impacts special-status species and migratory birds are listed in Section 6.2 below.

5.2.1 Special-Status Fish

Southern DPS Green Sturgeon

The southernmost spawning population of green sturgeon is in the Sacramento River, with the principal spawning area located in the lower Feather River (Moyle 2002). Spawning populations of green sturgeon in the San Joaquin River are presumed to have been lost in the past 25-30 years. Green sturgeon are primarily marine species, entering into freshwater rivers mainly to spawn, although early life stages may reside in freshwater for up to two years (Moyle 2002). Adults typically migrate into fresh water from late February through late July. The spawning period occurs from March to July, with peak spawning occurring from mid-April to mid-June (Emmett et al. 1991). Green sturgeon prefer deep pools in large, turbulent, freshwater river mainstreams to spawn (Moyle et al. 1992). Juvenile green sturgeon emigrate out to sea primarily during the summer and fall before the end of their second year (Emmett et al. 1991). Green sturgeon adults, subadults, and juveniles are widely distributed throughout the Delta and estuary. Adults typically migrate upstream on the western edge of the Delta, returning to the ocean when river temperatures decrease and flows increase during the fall and early winter. They may hold in low gradient or off-channel sloughs or coves where temperatures are within acceptable thresholds. Larvae prefer open aquatic habitats for foraging, but utilize structure habitat during the day. Juvenile rearing habitats for green sturgeon include spawning areas and migration corridors. Rearing habitat utilization varies dependent on seasonal flows and temperatures. Juvenile green sturgeon are found year round in the Delta and use the region as a migration corridor, feeding area, and juvenile rearing area. Juvenile green sturgeon are strong swimmers and thus have the ability to select or avoid habitats. Green sturgeon are salvaged at the Central Valley Pumps and State Water Project pumping plants on an irregular basis throughout the year, verifying their presence in the south Delta (EPIC et al. 2001).

Once leaving spawning grounds in the Feather and Sacramento Rivers, juveniles of this species distribute into the delta and San Pablo Bay before moving out to the Pacific Ocean (Emmett et al. 1991). During this time, individuals may pass through, or forage within waters of the Project area. Because this species may forage in the Project area at any time of year as adults, or juveniles, this species has a high potential to occur within waters of the Project area.

White Sturgeon

This sturgeon is found in most estuaries along the Pacific coast, and are known to the San Francisco Bay Estuary. Adults in the San Francisco Bay Estuary system spawn in the Sacramento River and are not known to enter freshwater or non-tidal reaches of Estuary streams. White sturgeon typically spawn in May through June. The diet consists of crustaceans, mollusks, and some fish.

This species is known to spawn within both the Sacramento and San Joaquin Rivers (Pisces 2021). Both juveniles and adults of the species live a majority of their lives in brackish estuarine waters of bays and as such are likely to be found as both juveniles and adults foraging within waters of the Project area. Therefore, because the species is likely to migrate through, and forage within waters of the Project area, this species has a high potential to occur.

Pacific Lamprey

This anadromous lamprey is found along the entire California coast with regularity until becoming disjunct south of San Luis Obispo County, with the exception of regular runs to the Santa Clara River (Pisces 2021). With the exception of land-locked populations, this species spends the predatory phase of its life in the ocean, feeding off the bodily fluids of a variety of fish. This species is usually concentrated near the mouths of their spawning streams because its prey is most abundant in coastal areas (Moyle 2002). Adults move up into spawning streams between

early March and late June. After hatching, ammocetes are washed downstream, where they burrow into soft substrates and filter feed. Five to seven years later, ammocetes undergo metamorphosis into the predatory phase of their life cycle, and out-migrate to the ocean as adults.

This species is known to spawn in the headwater streams of the San Joaquin River (Pisces 2021). Because the Project area is located along the migratory path for this species, the species has a high potential to occur within waters of the Project area.

Delta Smelt

Delta Smelt are a pelagic (live in the open water column away from the bottom) and euryhaline species (tolerant of a wide salinity range) found in brackish water. They are found only in the Sacramento- San Joaquin Estuary and as far upstream as the mouth of the American River on the Sacramento River and Mossdale on the San Joaquin River. They extend downstream as far as San Pablo Bay. During the late winter to early summer, delta smelt migrate to freshwater to spawn. Larvae hatch between 10-14 days, are planktonic (float with the water currents), and are washed downstream until they reach areas near the entrapment zone where salt and freshwater mix. Delta smelt are fast growing and short-lived with the majority of growth within the first 7 to 9 months of life. Most smelt die after spawning in the early spring although a few survive to a second year. Delta smelt feed entirely on small crustaceans (zooplankton).

CDFW monitors various life stages for this species with sampling locations in waters surrounding the Project area (CDFW 2021g). This species has been detected at sampling locations upstream and downstream of the Project area (Sommer and Mejia 2013). Because this species is regularly detected at sites surrounding the Project area, it has a high potential to occur within waters of the Project area.

Western River Lamprey

River lampreys prey upon a variety of fishes in the 10-30 centimeter (cm) total length size range, but the most common prey seem to be herring and salmon. Unlike other species of lamprey in California, river lampreys typically attach to the back of the host fish, above the lateral line, where they feed on muscle tissue. Little is known about habitat requirements in California, but presumably, the adults need clean, gravelly riffles in permanent streams for spawning, while the ammocetes require sandy backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 77°F. Adults migrate back into fresh water in the fall and spawn during the winter or spring months in small tributary streams.

This species is known to spawn in the headwater streams of the San Joaquin River drainage (Pisces 2021). Because the Project area is located along the migratory path for this species, the species has a high potential to occur within waters of the Project area.

Sacramento Hitch

Sacramento hitch is omnivorous and feeds upon zooplankton and insects, usually in open waters or at the surface of streams (Moyle 2002). This species can reach a maximum size of 35 to 40 cm and can live an average of 4 to 6 years. They inhabit warm, lowland, waters including clear streams, turbid sloughs, lakes, and reservoirs. In creeks and streams, they are generally found in pools or runs among aquatic vegetation with the exception of some individuals occurring in riffles (Moyle et al 2015).

In rivers, they tend to stay in fairly limited areas and have considerable capacity to find velocity refuge in side pools (Jeffres et al. 2006). Spawning occurs mainly in riffles of stream tributaries to lakes, rivers, and sloughs after flow increases due to spring rains. Males fertilize the eggs as soon as the female releases them. Once fertilized, they sink to the bottom and become lodged within the gravel substrate. Hatching takes places approximately 3 to 7 days and larvae become free-swimming in about 3 to 4 days (Moyle et al 2015).

This species historically ranged throughout the Sacramento and San Joaquin valleys in low elevation streams and rivers. Today, most populations are absent from the San Joaquin River and its tributaries, but still occurs within most of its native range in the Sacramento River (Moyle et al 2015). The Project area is located near the confluence of the Sacramento and San Joaquin Rivers and multiple waterways connect the Sacramento and San Joaquin both upstream and downstream of the Project area. Therefore, this species could potentially forage within the Project Area and has a moderate potential to occur within open waters of the Project area.

Hardhead

Hardhead typically inhabit undisturbed areas of larger low- to mid-elevation streams. Most streams achieve summer temperatures in excess of 68°F. They prefer clear, deep pools and runs with sand-gravel-boulder substrates and slow velocities (Moyle 2002). Larval and post-larval fish probably remain along stream edges in dense cover of flooded vegetation or fallen tree branches (Moyle 2002).

This species is common through the mid elevation streams of the San Joaquin drainage but is rarely observed in the lower sections of the river in the Central Valley or the Delta. However, several small populations of this species have been documented in the lower San Joaquin River both upstream and downstream of the Project area (Pisces 2021). Therefore, while not as common as they are in upstream areas, this species may forage through waters of the Project area and has a moderate potential to occur.

California Central Valley steelhead DPS

The Central Valley DPS includes all naturally spawned populations (and their progeny) in the Sacramento and San Joaquin Rivers and their tributaries, excluding San Francisco and San Pablo bays and their tributaries. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels and fast flowing water. During the winter or early spring the spawning fish reach suitable gravel riffles (shallow areas with gravel or cobble substrate) in the upper sections of streams and dig their redds. Abundant riffle areas for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding. When steelhead spawn they nearly always return to the stream in which they were hatched. At that time they may weigh from two to twelve pounds or more.

This DPS is known to spawn within the headwaters of the San Joaquin River drainage (Moyle 2002). Because this species uses habitats within the San Joaquin River upstream of the Project area, juveniles and adults must migrate through waters of the Project area when migrating to or from natal streams. Given the location of the Project area along the migration route, this species has a high potential to occur during those migratory periods.

Central Valley Spring Run Chinook Salmon ESU

The Central Valley Spring-run ESU includes all naturally spawned spring-run populations from the Sacramento-San Joaquin River mainstem and its tributaries. Chinook salmon are anadromous (adults migrate from a marine environment into the freshwater streams and rivers of their birth) and semelparous (spawn only once and then die). Spring-run chinook salmon enter the Sacramento River between February and June. They move upstream and enter

tributary streams from February through July, peaking in May-June. These fish migrate into the headwaters, hold in pools until they spawn, starting as early as mid-August and ending in mid-October, peaking in September. They are fairly faithful to the home streams in which they were spawned, using visual and chemical cues to locate these streams. While migrating and holding in the river, spring chinook do not feed, relying instead on stored body fat reserves for maintenance and gonadal maturation. Eggs are laid in large depressions (redds) hollowed out in gravel beds. Some fish remain in the stream until the following October and emigrate as "yearlings", usually with the onset of storms starting in October through the following March, peaking in November-December. Large pools with cold water are essential over-summering habitat for this species.

Populations of this species are extant only in the Sacramento River (Moyle 2002). However, the Project area is located near the confluence of the Sacramento and San Joaquin Rivers and multiple waterways connect the Sacramento and San Joaquin both upstream and downstream of the Project area. As such, the species is likely to migrate through waters of the Project area when migrating downstream as juveniles or upstream as adults. Therefore, while no spawning habitat is present, the species is likely to be present seasonally during migration periods and has a high potential to occur.

Central Valley fall/ late fall-run Chinook Salmon ESU

The Central Valley Fall/late fall-run ESU includes all naturally spawned spring-run populations from the Sacramento San Joaquin River mainstem and its tributaries. Late-fall run Chinook salmon are morphologically similar to spring-run chinook. They are large salmonids, reaching 75-100 cm standard length (SL) and weighing up to 9-10 kilograms (kg) or more. The great majority of late-fall Chinook salmon appear to spawn in the mainstem of the Sacramento River, which they enter from October through February. Spawning occurs in January, February and March, although it may extend into April in some years. Eggs are laid in large depressions (redds) hollowed out in gravel beds. The embryos hatch following a 3-4 month incubation period and the alevins (sac-fry) remain in the gravel for another 2-3 weeks. Once their yolk sac is absorbed, the fry emerge and begin feeding on aquatic insects. All fry emerge by early June. The juveniles hold in the river for nearly a year before moving out to sea the following December through March. Once in the ocean, salmon are largely piscivorous and grow rapidly. The specific habitat requirements of late-fall chinook have not been determined, but they are presumably similar to other Chinook salmon runs and fall within the range of the physical and chemical characteristics of the Sacramento River above Red Bluff.

Fall-run Chinook salmon are the sole species of salmon still found in the San Joaquin River drainage (Moyle 2002). Because this species uses habitats within the San Joaquin River upstream of the Project area, juveniles and adults must migrate through waters of the Project area when migrating to or from natal streams. Given the location of the Project area along the migration route, this species has a high potential to occur during those migratory times.

Sacramento River Winter Run Chinook Salmon ESU

The winter-run Chinook salmon ESU includes winter-run Chinook salmon spawning naturally in the Sacramento River and its tributaries, as well as winter-run Chinook salmon that are part of the conservation hatchery program at the Livingston Stone National Fish Hatchery (70 FR 37160) (NMFS 2014). As with other species of Chinook salmon, habitat requirements are similar for each life stage and a primary ecological difference between winter-run Chinook and other ESUs is the timing of migration. Winter-run Chinook enter the Sacramento River as sexually mature fishes between November and June. Spawning occurs shortly afterwards, generally between late-April and mid- August, with the majority of activity occurring between May and June (Myers et al 1998). As a result of spawning during the hot summer months, these salmon are limited in available habitat and require stream reaches with cold water sources

that will protect embryos and juveniles from the warm conditions (NMFS 2014). Once hatched, juveniles rear in freshwater for five to nine months before migrating to sea (Myers et. al. 1998).

Historically, winter-run populations existed in the Upper Sacramento, Pit, McCloud, and Calaveras Rivers (Myers et. al. 1998). Following the construction of a series of dams on the San Joaquin River, as well as Shasta Dam, most of the species historical spawning habitat was lost. Construction of these dams resulted in the extirpation of this species from the San Joaquin River and limited the Sacramento population to areas below Shasta Dam (Myers et. al. 1998). Currently winter-run Chinook salmon are primarily restricted to spawning within the mainstem Sacramento River below Shasta Dam (NMFS 2014).

Populations of this species are extant only in the Sacramento River (Myers et al 1998). However, the Project area is located near the confluence of the Sacramento and San Joaquin Rivers and multiple waterways connect the Sacramento and San Joaquin upstream and downstream of the Project area. As such, the species is likely to migrate through waters of the Project area when migrating downstream as juveniles or upstream as adults. Therefore, while no spawning habitat is present, the species is likely to be present seasonally during migration periods and has a high potential to occur.

Sacramento Splittail

Splittail are primarily freshwater fish that have been found mostly in slow-moving sections of rivers and sloughs, and in the Delta and Suisun Marsh they seemed to congregate in dead-end sloughs (Moyle et. al. 1982, Daniels and Moyle 1983). Splittail are benthic foragers that feed extensively on opossum shrimp (*Neomysis mercedis*). However, detrital material typically makes up a high percentage of their stomach contents. They will feed opportunistically on earthworms, clams, insect larvae, and other invertebrates. They are preyed upon by striped bass and other predatory fishes. Splittail apparently require flooded vegetation for spawning and as foraging areas for young, hence they are found in habitat subject to periodic flooding during the breeding season (Caywood 1974).

This species has been observed in habitats upstream and downstream of the Project area (Pisces 2021). While typical slough habitat is not present within the Project area, the species is likely to migrate through the surrounding waters as it travels between populations at various times of the year. Because the species has been observed upstream and downstream of the Project area, but typical slough habitat is not present, this species only has a moderate potential to occur, as it is only likely to occur as a migrant.

Sacramento Perch

Sacramento perch is endemic to California, known from 28 localities in the Central Valley, the Pajaro and Salinas rivers, tributaries to the San Francisco Estuary, and Clear Lake at mostly low elevations (Moyle 2002). It is most likely extirpated from its native range but has been extensively translocated (Crain and Moyle 2011). It is the only native member of the Centrarchidae family found within the Sacramento-San Joaquin River system (Crain and Moyle 2011). Once one of the dominant piscivorous fish in the Sacramento and San Joaquin rivers, it occupied sloughs, slow moving rivers, large lakes and floodplains (Moyle 2002). It prefers warm water and cover in the form of submerged aquatic vegetation, woody debris, and boulders for protection and ambushing prey. Although tolerant of both high alkalinity and salinity, Sacramento perch are not dependent on estuarine habitat as are Sacramento splittail and Delta smelt. Sacramento perch reproduce at two to three years of age, spawning among aquatic plants and in shallow depressions. Spawning occurs from March through early August. Adults reach 61 cm in length and may weigh up to 3.6 kg.

A single record of the species was documented in CNDDB from the 1980's approximately 0.7 mile east of the Project area (CDFW 2021a). Current literature and records indicate that this species has been extirpated throughout most of its historic range, and is now rare within the waters of the Sacramento or San Joaquin Rivers (UC ANR 2021). While this species has been almost entirely extirpated from its native range, the species still has potential to be found in the vicinity, and therefore has a moderate potential to occur.

Longfin Smelt

Longfin Smelt is a pelagic, estuarine fish that ranges from Monterey Bay northward to Hinchinbrook Island, Prince William Sound Alaska. As this species matures in the fall, adults found throughout the San Francisco Bay migrate to brackish or freshwater in Suisun Bay, Montezuma Slough, and the lower reaches of the Sacramento and San Joaquin Rivers. Spawning is believed to take place in freshwater. In April and May, juveniles are believed to migrate downstream to San Pablo Bay. Juveniles tend to inhabit the middle and lower portions of the water column. This species tends to be abundant near freshwater outflow, where higher-quality nursery habitat occurs and potential feeding opportunities are greater.

CDFW monitors various life stages for this species with sampling locations in waters surrounding the Project area (CDFW 2021g). This species has been detected at sampling locations upstream and downstream of the Project area (CDFW 2021g). Because this species is regularly detected at sites surrounding the Project area, it has a high potential to occur within waters of the Project area.

5.2.2 Marine Mammals

Pacific Harbor Seal

Harbor seals are fairly common, non-migratory pinnipeds inhabiting coastal and estuarine waters from Alaska to Baja California, Mexico. They are a year-round resident in the San Francisco Bay Area (Kopec 1999). They haul out on rocks, reefs, and beaches, and feed in marine, estuarine, and occasionally fresh waters (National Marine Mammal Laboratory 2021).

This widespread true seal is commonly found throughout much of San Francisco Bay. Harbor Seals use open water for feeding and travelling, and terrestrial substrates adjacent to water for hauling out (resting). A haul-out site is generally considered a rookery if there are pups present at the site. Harbor seals in San Francisco Bay also tend strongly towards use of established haul-out areas, as opposed to hauling out in new areas (Kopec 1999). Bair Island also contains known haul-out and rookery sites.

This species has been observed infrequently swimming up the San Joaquin River typically following salmon migrations. No barriers exist downstream of the Project area to prevent animals in San Pablo Bay from foraging up the San Joaquin River and through the Project area. The steep rip rap covered banks and lack of low docks eliminate potential use of the Project area as a haul-out location. Therefore, the species has a moderate potential to be observed swimming through, or foraging in open waters around the Project area.

California Sea Lion

California sea lions are found from Vancouver Island, British Columbia to the southern tip of Baja California in Mexico. They breed mainly on offshore islands, ranging from southern California's Channel Islands south to Mexico, although a few pups have been born on Año Nuevo and the Farallon Islands on the central Californian coast (The

Marine Mammal Center [TMMC] 2021). Sandy beaches are preferred for haul-out sites, although in California they haul-out on marina docks as well as jetties and buoys (TMMC 2021).

This species has been documented by the USFWS swimming up the San Joaquin River in the vicinity of the Project area (USFWS 2014). No low boat docks, floating structures, or suitable sandy beach habitat is present to support haul-outs for the species. Because this species has been observed in the area, but does not permanently occupy the area, this species has a moderate potential to occur within open waters of the Project area.

5.2.3 Migratory Birds

The Project area does not provide suitable nesting habitat for special-status birds or raptors; however, trees, shrubs, and wharf structures within the Project area could provide suitable nesting habitat for other migratory birds protected under the Migratory Bird Treaty Act (MBTA) or California FGC. Removal of trees or structures during the typical nesting season (February 15 through September 15) could have an impact to nesting migratory birds and would require preconstruction nesting bird surveys prior to the start of construction.

6.0 CONSTRAINTS ANALYSIS

This section lists recommended CEQA mitigation measures for impacts to potential waters of the U.S., special-status animal species, and migratory birds, as well as federal and state regulations and permits that are applicable to the Project.

6.1 RECOMMENDED MITIGATION MEASURES

Mitigation Measure BIO-1: Fill Below the Water Line and Shading of Open Waters of the San Joaquin River

The Project will mitigate for the lost aquatic resource function resulting from permanent fill consisting of new piles and shading of open waters in the San Joaquin River by purchasing shallow freshwater habitat credits from an agency-approved mitigation or conservation bank at a ratio of no less than 1:1. With the implementation of Mitigation Measure BIO-1, adverse effects due to permanent fill and shading of open waters in the San Joaquin River will be mitigated to less than significant.

Mitigation Measure BIO-2: Fish – Pile Driving

Prior to initiation of construction, the Project Applicant will consult with regulatory agencies with jurisdiction over the Project activities, such as CDFW, NMFS, and USFWS to obtain appropriate permits, recommendations for mitigation measures and habitat mitigation recommendations for Project impacts. This series of consultations will provide a comprehensive list of measures, which will be required to be implemented by the Project. Any such measures will be incorporated into the Project, but at minimum, the following measures will be implemented during the driving of all piles:

- Pile driving will be limited to the period between July 1 and November 1 for concrete and high density polyethylene (HDPE) piles, and from August 1 and November 30 for steel piles.
- A Worker Environmental Awareness Program will be developed which will inform project personnel about the ecology, and protection of special-status species, as well as any Project specific measures to be implemented for the protection of aquatic species.
- A spill prevention and control plan will be developed in advance of the Project initiation.
- Spill kits will be on hand for all work.
- Any equipment used will be maintained to be free of any leaks that might release toxic substances (I.e. fuel, oil or hydraulic fluid).
- Any wildlife encountered within the work area will be allowed to leave the area unharmed.

The following measures will also be included for times when work involves driving steel piles:

- To the extent feasible, pile driving for steel piles will be conducted with a vibratory hammer.
- When installation with an impact hammer is required for steel piles, the following additional measures will be employed:

- Underwater sound monitoring will be performed during pile driving activities, according to the details of a sound attenuation and monitoring plan accepted by the regulatory agencies.
- Use of a bubble curtain.
- Use of a slow start (gradually increasing energy and frequency).
- A biological monitor will be present to observe for marine mammals within 500 meters of the Project area, which is the safety zone established around the work area based on estimates of the potential hydroacoustic effects of pile driving. If the monitor observes a marine mammal within the 500 meter disturbance zone, they will direct work to halt until the animal has left the area on its own and passed beyond the zone of influence for acoustic impacts.

The following measures will also be included for general water quality:

- No debris, rubbish, creosote-treated wood, soil, silt, sand, cement, concrete, or washings thereof, or other construction-related materials or wastes, oil, or petroleum products would be allowed to enter into or placed where it would be subject to erosion by rain, wind, or waves and enter into jurisdictional waters.
- Protective measures would be utilized to prevent accidental discharges to waters during fueling, cleaning, and maintenance.
- Floating booms would be used to contain debris discharged into waters and any debris shall be removed as soon as possible, and no later than the end of each workday.
- Machinery or construction materials not essential for project improvements would not be allowed at any time in the intertidal zone. The construction contractors would be responsible for checking daily tide and current reports.
- A spill contingency plan for hazardous waste would be prepared.

With the implementation of Mitigation Measure BIO-2, it is anticipated that effects to fish from pile driving will be reduced to less than significant levels.

Mitigation Measure BIO-3: Marine Mammals – Pile Driving

Driving of piles with a vibratory hammer, or driving concrete piles is not likely to create sounds capable of causing post-traumatic stress to marine mammals.

To prevent impacts to marine mammals during the driving of steel piles which require use of an impact hammer, a biological monitor will be present to observe for marine mammals within 500 meters of the Project area, which is the safety zone established around the work area based on pile driving estimates. If the monitor observes a marine mammal within the 500-meter disturbance zone, they will direct work to halt until the animal has left the area on its own and passed beyond the zone of influence for acoustic impacts or 15 minutes has elapsed since the last sighting.

With the implementation of Mitigation Measure BIO-3, adverse effects to marine mammals by pile driving will be reduced to less than significant.

Mitigation Measure BIO-4: Migratory Nesting Birds

If initial construction activities commence during the nesting season (February 15 through September 15) a survey for active bird nests will be conducted by a qualified biologist no more than 5 days prior to the start of Project activities. The survey will be conducted to the extent feasible for all areas within 250 feet around the Project area in order to identify the location and status of any nests that could potentially be directly or indirectly affected by construction activities.

- If active nests of MBTA or FGC protected species are found within the Project area or close enough to the area to affect nesting success, a work exclusion zone will be established around each nest. Established exclusion zones will remain in place until all young in the nest have fledged or the nest otherwise becomes inactive (e.g. due to predation). Appropriate exclusion zone sizes vary dependent upon bird species, nest location, existing visual buffers, ambient sound levels, and other factors; an exclusion zone radius may be as small as 25 feet (for common, disturbance-adapted species) or as large as 250 feet or more for raptors.
- Exclusion zone size may also be reduced from established levels if supported by nest monitoring by a qualified biologist indicating that work activities are not adversely impacting the nest.

With the implementation of Mitigation Measure BIO-4, adverse effects to MBTA and FGC protected nesting birds will be mitigated to less than significant.

6.2 FEDERAL AND STATE REGULATIONS AND PERMITS

The following federal regulatory requirements and laws apply to the Project:

- Federal Endangered Species Act (FESA) (16 U.S.C. § 1531); Section 7 Consultation with USFWS and NMFS will be required for in-water work.
- Clean Water Act (CWA), Section 404 (U.S.C. § 1344)
- Rivers and Harbors Act of 1899 (RHA), Section 10 (33U.S.C. § 401 et seq.)
- Migratory Bird Treaty Act (MBTA) (16 U.S.C. §§ 703-712)
- Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. §§ 1801-1884)
- Marine Mammal Protection Act (16 U.S.C. §§ 361–1362, 1371-1389, 1401-1407, 1411- 1418, 1421-1421H, 1423-1423H)

The following state regulatory requirements and laws apply to the Project:

- CEQA (Public Resources Code, Division 13 § 21000 et seq.)
- California Endangered Species Act of 1984 (CESA) Fish and Game Code [F.G.C.] § 2050 et seq.
- CWA, Section 401 (33 U.S.C. § 1341)
- Protection of Migratory Birds (F.G.C. §§ 3503 and 3800)

The following federal permits may be required for this Project:

- USACE Section 404 Nationwide Permit

The following state permits may be required for this Project:

- RWQCB Section 401 Water Quality Certification
- CDFW Section 1602 Lake or Streambed Alteration Agreement
- CDFW Section 2081 Incidental Take Permit

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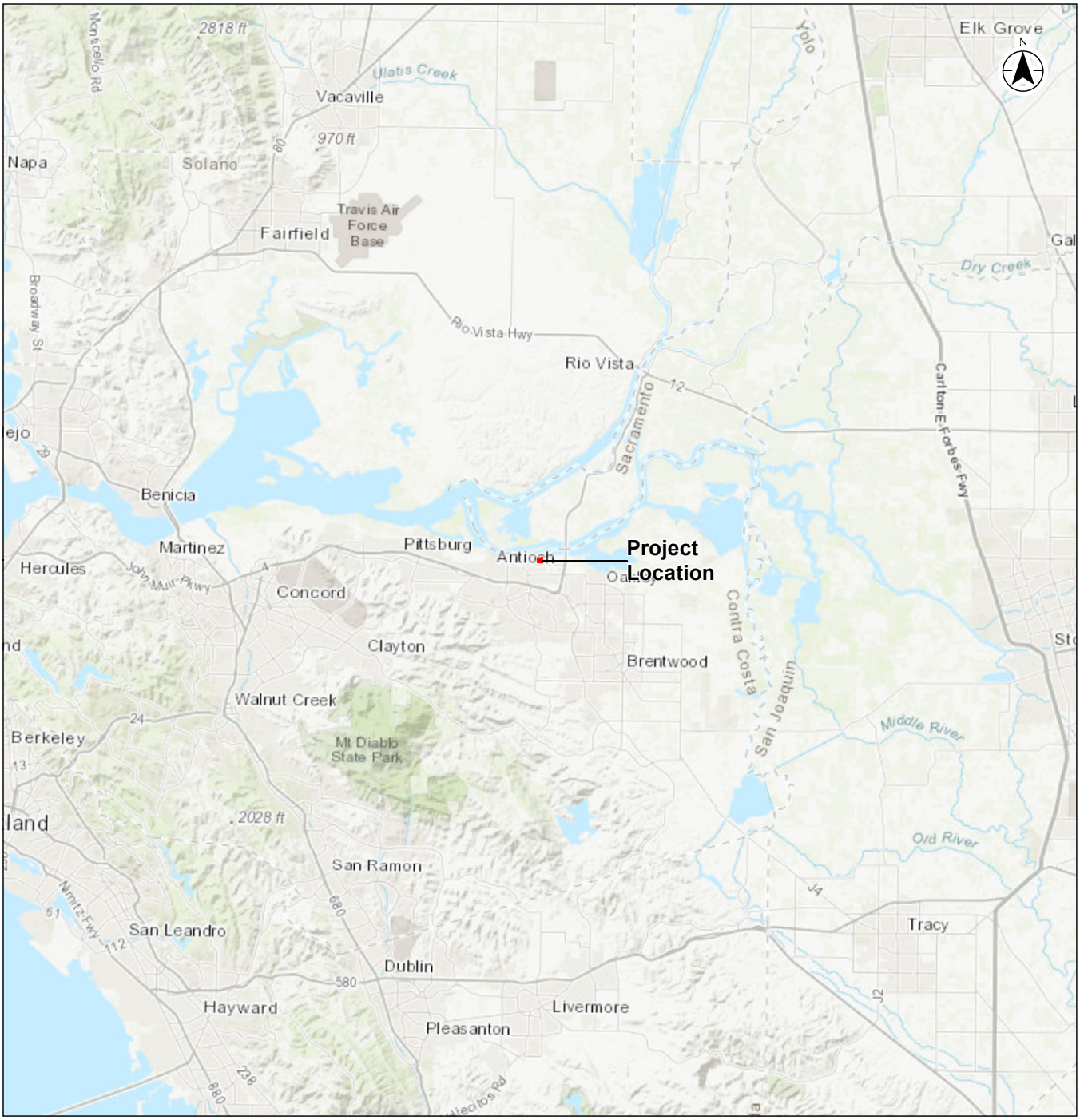
APPENDIX A

Figures



Notes

1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Base Map: Esri World Topographic Map web mapping service

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Stantec

Project Location
Antioch, California

Prepared by TM on 2021-03-16

Client/Project
City of Antioch
Amports Antioch Vehicle Processing Facility Project

Figure No.
1

Title
Regional Overview

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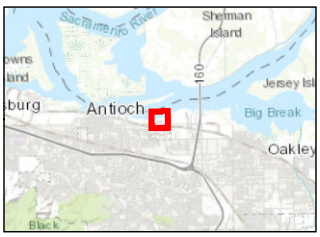

Project Site

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Stantec

Project Location
Antioch, California

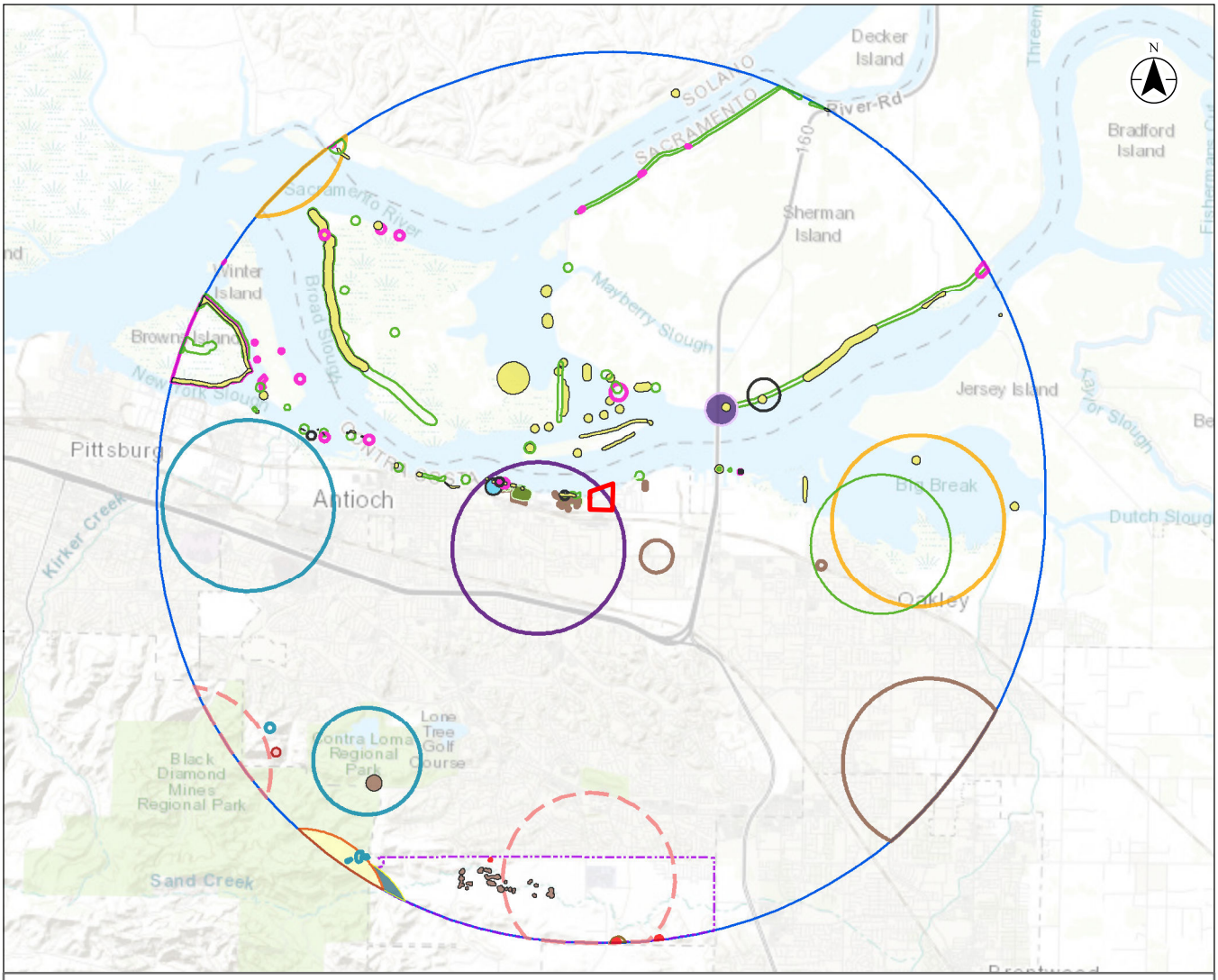
Prepared by TM on 2021-03-16

Client/Project
City of Antioch
Amports Antioch Vehicle Processing Facility Project

Figure No.
2

Title
Project Site Location

Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Base Map: Esri World Imagery web mapping service



Project Site
Project Site 5-mile Buffer

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1 inch = 2 miles (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Base Map: Esri World Topographic Map web mapping service

Stantec

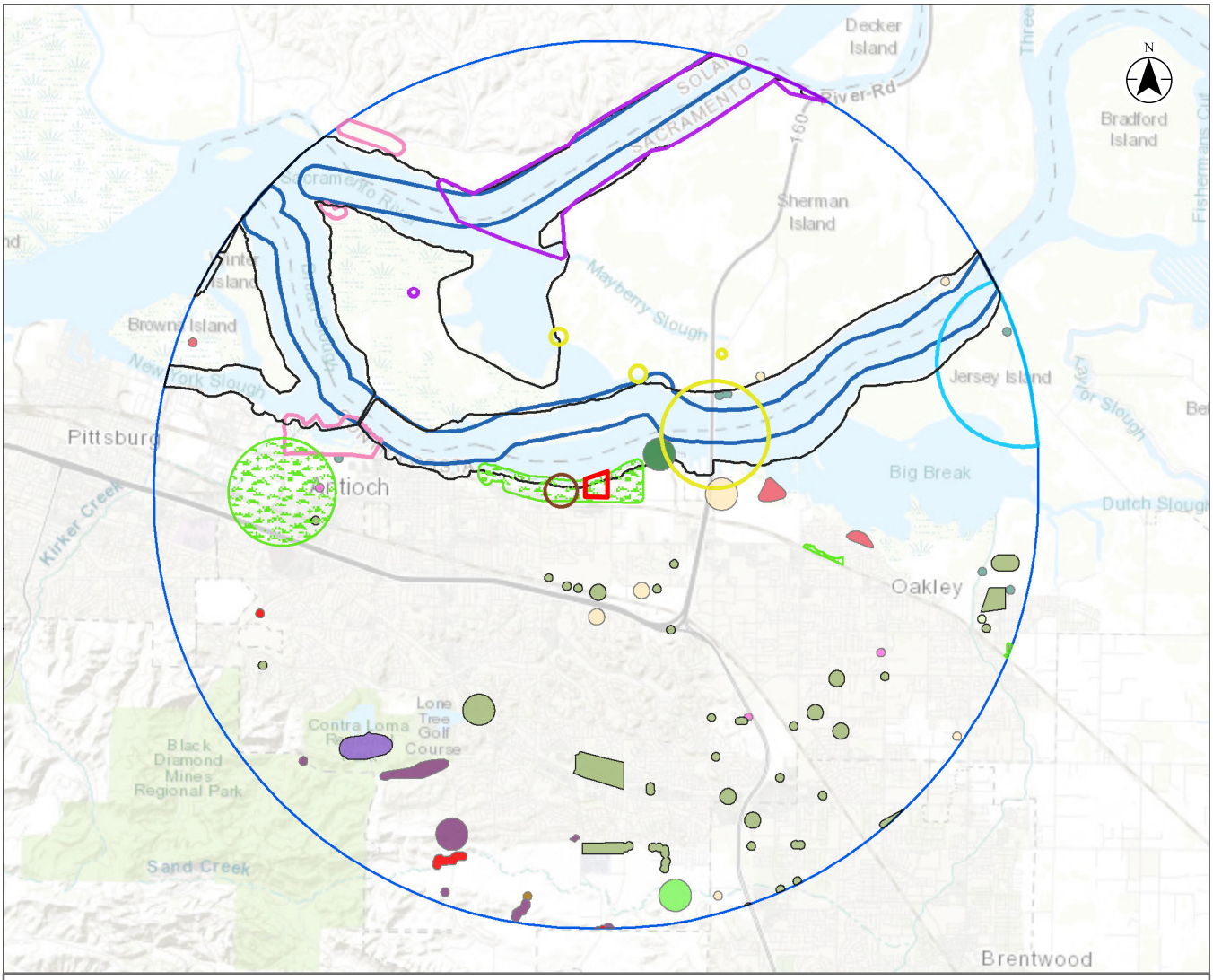
Project Location
Antioch, California

Prepared by TM on 2021-05-07

Client/Project
City of Antioch
Amports Antioch Vehicle Processing Facility Project

Figure No.
3

Title
CNDDB Special-Status Plant Occurrences



- American badger, Taxidea taxus
- California black rail, Laterallus jamaicensis coturniculus
- California glossy snake, Arizona elegans occidentalis
- California red-legged frog, Rana draytonii
- California tiger salamander, Ambystoma californiense
- Delta smelt, Hypomesus transpacificus
- Northern California legless lizard, Anniella pulchra
- Sacramento perch, Archoplites interruptus
- San Joaquin kit fox, Vulpes macrotis mutica
- Swainson's hawk, Buteo swainsoni
- burrowing owl, Athene cunicularia
- giant gartersnake, Thamnophis gigas
- loggerhead shrike, Lanius ludovicianus
- longfin smelt, Spirinchus thaleichthys
- salt-marsh harvest mouse, Reithrodontomys raviventris
- song sparrow ("Modesto" population), Melospiza melodia
- steelhead - Central Valley DPS, Oncorhynchus mykiss irideus pop. 11
- vernal pool fairy shrimp, Branchinecta lynchi
- western pond turtle, Emys marmorata
- white-tailed kite, Elanus leucurus

Project Site
Project Site 5-mile Buffer

0 1 2 Miles

1 inch = 2 miles (at original document size of 8.5x11)

Notes
1. Coordinate System: NAD 1983 StatePlane California III FIPS 0403 Feet
2. Base Map: Esri World Topographic Map web mapping service

Stantec

Project Location
Antioch, California

Prepared by TM on 2021-05-07

Client/Project
City of Antioch
Amports Antioch Vehicle Processing Facility Project

Figure No.
4

Title
CNDDB Special-Status Animal Occurrences

APPENDIX B

USFWS, NOAA, CNDDB and CNPS Database Results

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Antioch North (3812117) OR Antioch South (3712187) OR Jersey Island (3812116) OR Brentwood (3712186))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
Ambystoma californiense California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
Andrena blennospermatis Blennosperma vernal pool andrenid bee	IIHYM35030	None	None	G2	S2	
Anniella pulchra Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
Anthicus antiochensis Antioch Dunes anthicid beetle	IICOL49020	None	None	G1	S1	
Antrozous pallidus pallid bat	AMACC10010	None	None	G4	S3	SSC
Apodemia mormo langei Lange's metalmark butterfly	IILEPH7012	Endangered	None	G5T1	S1	
Archoplites interruptus Sacramento perch	AFCQB07010	None	None	G2G3	S1	SSC
Ardea herodias great blue heron	ABNGA04010	None	None	G5	S4	
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Bombus crotchii Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
Bombus occidentalis western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	
Branchinecta conservatio Conservancy fairy shrimp	ICBRA03010	Endangered	None	G2	S2	
Branchinecta lynchi vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
Branchinecta mesovallensis midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
Coelus gracilis San Joaquin dune beetle	IICOL4A020	None	None	G1	S1	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Efferia antiochi Antioch efferian robberfly	IIDIP07010	None	None	G1G2	S1S2	
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucerceris ruficeps redheaded sphecid wasp	IIHYM18010	None	None	G1G3	S1S2	
Geothlypis trichas sinuosa saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S1S2	
Helminthoglypta nickliniana bridgesi Bridges' coast range shoulderband	IMGASC2362	None	None	G3T1	S1S2	
Hygrotus curvipes curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Idiostatus middlekauffi Middlekauff's shieldback katydid	IIORT31010	None	None	G1G2	S1	
Lanius ludovicianus loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
Lasiurus blossevillii western red bat	AMACC05060	None	None	G4	S3	SSC
Lasiurus cinereus hoary bat	AMACC05030	None	None	G3G4	S4	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
Lepidurus packardi vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
Linderiella occidentalis California linderiella	ICBRA06010	None	None	G2G3	S2S3	
Lytta molesta molestan blister beetle	IICOL4C030	None	None	G2	S2	
Masticophis lateralis euryxanthus Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
Melospiza melodia song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
Melospiza melodia maxillaris Suisun song sparrow	ABPBXA301K	None	None	G5T3	S3	SSC
Metapogon hurdi Hurd's metapogon robberfly	IIDIP08010	None	None	G1G2	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Myrmosula pacifica Antioch multilid wasp	IIHYM15010	None	None	GH	SH	
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
Perdita scitula antiochensis Antioch andrenid bee	IIHYM01031	None	None	G1T1	S1	
Perognathus inornatus San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
Phalacrocorax auritus double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
Philanthus nasalis Antioch specid wasp	IIHYM20010	None	None	G1	S1	
Rana boylii foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
Rana draytonii California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
Reithrodontomys raviventris salt-marsh harvest mouse	AMAFF02040	Endangered	Endangered	G1G2	S1S2	FP
Riparia riparia bank swallow	ABPAU08010	None	Threatened	G5	S2	
Sphecodogastra antiochensis Antioch Dunes halcitid bee	IIHYM78010	None	None	G1	S1	
Spirinchus thaleichthys longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
Taxidea taxus American badger	AMAJF04010	None	None	G5	S3	SSC
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
Vulpes macrotis mutica San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	

Record Count: 54

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Antioch North (3812117) OR Antioch South (3712187) OR Jersey Island (3812116) OR Brentwood (3712186))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Amsinckia grandiflora large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos auriculata Mt. Diablo manzanita	PDERI04040	None	None	G2	S2	1B.3
Astragalus tener var. tener alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
Atriplex depressa brittlescale	PDCHE042L0	None	None	G2	S2	1B.2
Blepharizonia plumosa big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
Calochortus pulchellus Mt. Diablo fairy-lantern	PMLIL0D160	None	None	G2	S2	1B.2
Centromadia parryi ssp. congdonii Congdon's tarplant	PDAST4R0P1	None	None	G3T1T2	S1S2	1B.1
Chloropyron molle ssp. molle soft salty bird's-beak	PDSCR0J0D2	Endangered	Rare	G2T1	S1	1B.2
Cicuta maculata var. bolanderi Bolander's water-hemlock	PDAPI0M051	None	None	G5T4T5	S2?	2B.1
Cryptantha hooveri Hoover's cryptantha	PDBOR0A190	None	None	GH	SH	1A
Downingia pusilla dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
Eriogonum nudum var. psychicola Antioch Dunes buckwheat	PDPGN0849Q	None	None	G5T1	S1	1B.1
Eriogonum truncatum Mt. Diablo buckwheat	PDPGN085Z0	None	None	G1	S1	1B.1
Eryngium jepsonii Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
Erysimum capitatum var. angustatum Contra Costa wallflower	PDBRA16052	Endangered	Endangered	G5T1	S1	1B.1
Eschscholzia rhombipetala diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
Extriplex joaquinana San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Fritillaria agrestis stinkbells	PMLIL0V010	None	None	G3	S3	4.2
Fritillaria liliacea fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
Helianthella castanea Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
Hesperolinon breweri Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Lasthenia conjugens Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
Lathyrus jepsonii var. jepsonii Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
Lilaeopsis masonii Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
Limosella australis Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
Madia radiata showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
Malacothamnus hallii Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
Navarretia nigelliformis ssp. radians shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
Oenothera deltoides ssp. howellii Antioch Dunes evening-primrose	PDONA0C0B4	Endangered	Endangered	G5T1	S1	1B.1
Plagiobothrys hystriculus bearded popcornflower	PDBOR0V0H0	None	None	G2	S2	1B.1
Potamogeton zosteriformis eel-grass pondweed	PMPOT03160	None	None	G5	S3	2B.2
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Sidalcea keckii Keck's checkerbloom	PDMAL110D0	Endangered	None	G2	S2	1B.1
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Tropidocarpum capparideum caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
Viburnum ellipticum oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 38

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

38 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3812117, 3712187 3712186 and 3812116;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Amsinckia grandiflora	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	1B.1	S1	G1
Arctostaphylos auriculata	Mt. Diablo manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	1B.3	S2	G2
Arctostaphylos manzanita ssp. laevigata	Contra Costa manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar(Apr)	1B.2	S2	G5T2
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Blepharizonia plumosa	big tarplant	Asteraceae	annual herb	Jul-Oct	1B.1	S1S2	G1G2
Calochortus pulchellus	Mt. Diablo fairy-lantern	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S2	G2
Centromadia parryi ssp. congdonii	Congdon's tarplant	Asteraceae	annual herb	May-Oct(Nov)	1B.1	S1S2	G3T1T2
Chloropyron molle ssp. molle	soft bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Nov	1B.2	S1	G2T1
Cicuta maculata var. bolanderi	Bolander's water-hemlock	Apiaceae	perennial herb	Jul-Sep	2B.1	S2?	G5T4T5
Cryptantha hooveri	Hoover's cryptantha	Boraginaceae	annual herb	Apr-May	1A	SH	GH
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eriogonum nudum var. psychicola	Antioch Dunes buckwheat	Polygonaceae	perennial herb	Jul-Oct	1B.1	S1	G5T1
Eriogonum truncatum	Mt. Diablo buckwheat	Polygonaceae	annual herb	Apr-Sep(Nov-Dec)	1B.1	S1	G1
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?
Erysimum capitatum var. angustatum	Contra Costa wallflower	Brassicaceae	perennial herb	Mar-Jul	1B.1	S1	G5T1
Eschscholzia rhombipetala	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	1B.1	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2	G2
Helianthella castanea	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Hesperolinon breweri	Brewer's western flax	Linaceae	annual herb	May-Jul	1B.2	S2	G2
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Isocoma arguta	Carquinez goldenbush	Asteraceae	perennial shrub	Aug-Dec	1B.1	S1	G1
Lasthenia conjugens	Contra Costa goldfields	Asteraceae	annual herb	Mar-Jun	1B.1	S1	G1

Lathyrus jepsonii var. jepsonii	Delta tule pea	Fabaceae	perennial herb	May-Jul(Aug-Sep)	1B.2	S2	G5T2
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Limosella australis	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	2B.1	S2	G4G5
Madia radiata	showy golden madia	Asteraceae	annual herb	Mar-May	1B.1	S3	G3
Malacothamnus hallii	Hall's bush-mallow	Malvaceae	perennial evergreen shrub	(Apr)May-Sep(Oct)	1B.2	S2	G2
Navarretia nigelliformis ssp. radians	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	1B.2	S2	G4T2
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
Oenothera deltoides ssp. howellii	Antioch Dunes evening-primrose	Onagraceae	perennial herb	Mar-Sep	1B.1	S1	G5T1
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Potamogeton zosteriformis	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	2B.2	S3	G5
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	2B.2	S2	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 10 March 2021].

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In Reply Refer To: March 19, 2021
Consultation Code: 08FBDT00-2021-SLI-0115
Event Code: 08FBDT00-2021-E-00276
Project Name: Amports Antioch Vehicle Processing Facility Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08FBDT00-2021-SLI-0115
Event Code: 08FBDT00-2021-E-00276
Project Name: Amports Antioch Vehicle Processing Facility Project
Project Type: DEVELOPMENT
Project Description: AMPORTS is developing an automotive logistics and processing facility in Antioch, California. The site will be used for delivery and storage of vehicles and limited processing prior to distributions to dealerships.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.0145666,-121.77602563030568,14z

Counties: Contra Costa County, California

Endangered Species Act Species

There is a total of 20 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle *Elaphrus viridis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2319	Threatened
Lange's Metalmark Butterfly *Apodemia mormo langei* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4382	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose *Oenothera deltoides ssp. howellii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5970	Endangered
Colusa Grass *Neostapfia colusana* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5690	Threatened
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Contra Costa Wallflower *Erysimum capitatum var. angustatum* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7601	Endangered
Keck's Checker-mallow *Sidalcea keckii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5704	Endangered
Soft Bird's-beak *Cordylanthus mollis ssp. mollis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: March 19, 2021
Consultation Code: 08ESMF00-2021-SLI-1335
Event Code: 08ESMF00-2021-E-03839
Project Name: Amports Antioch Vehicle Processing Facility Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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This species list is provided by:

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Sacramento, CA 95825-1846
(916) 414-6600

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San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
(916) 930-5603

Project Summary

Consultation Code: 08ESMF00-2021-SLI-1335
Event Code: 08ESMF00-2021-E-03839
Project Name: Amports Antioch Vehicle Processing Facility Project
Project Type: DEVELOPMENT
Project Description: AMPORTS is developing an automotive logistics and processing facility in Antioch, California. The site will be used for delivery and storage of vehicles and limited processing prior to distributions to dealerships.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@38.0145666,-121.77602563030568,14z

Counties: Contra Costa County, California

Endangered Species Act Species

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse *Reithrodontomys raviventris* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/613	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Delta Green Ground Beetle *Elaphrus viridis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2319	Threatened
Lange's Metalmark Butterfly *Apodemia mormo langei* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4382	Endangered
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Antioch Dunes Evening-primrose *Oenothera deltoides ssp. howellii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5970	Endangered
Colusa Grass *Neostapfia colusana* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5690	Threatened
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Contra Costa Wallflower *Erysimum capitatum var. angustatum* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7601	Endangered
Keck's Checker-mallow *Sidalcea keckii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5704	Endangered
Soft Bird's-beak *Cordylanthus mollis ssp. mollis* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8541	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* https://ecos.fws.gov/ecp/species/321#crithab	Final

NMFS Species List

Quad Name **Antioch North**
Quad Number **38121-A7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

Quad Name **Antioch South**
Quad Number **37121-H7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

Quad Name **Jersey Island**
Quad Number **38121-A6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) - **X**
SRWR Chinook Salmon ESU (E) - **X**
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat - **X**
SRWR Chinook Salmon Critical Habitat - **X**
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat - **X**
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - **X**
Groundfish EFH - **X**
Coastal Pelagics EFH -
Highly Migratory Species EFH -

Quad Name **Brentwood**
Quad Number **37121-H6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) - **X**
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -