BIOLOGICAL RESOURCES ASSESSMENT



Lost Isle Resort Project

San Joaquin County, CA | October 2025

Prepared For:

Lost Isle Resort, LLC
P.O. Box 929
Walnut Grove, CA 95690

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Lost Isle Resort, LLC
P.O. Box 929
Walnut Grove, CA 95690

Prepared By:

Acorn Environmental
5170 Golden Foothill Parkway
El Dorado Hills, CA 95762
916.235.8224
www.acorn-env.com

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Section 1 | Introduction

1.1 PURPOSE OF ASSESSMENT

This Biological Resources Assessment (BRA) has been prepared for the Lost Isle Resort Project (proposed project) located in unincorporated San Joaquin County, California. This BRA provides information about the biological resources within the Study Area, the regulatory environment applicable to such resources, potential project-related impacts on these resources, and recommendations to reduce the significance of potential impacts.

1.2 PROJECT LOCATION AND DESCRIPTION

1.2.1 Project Location

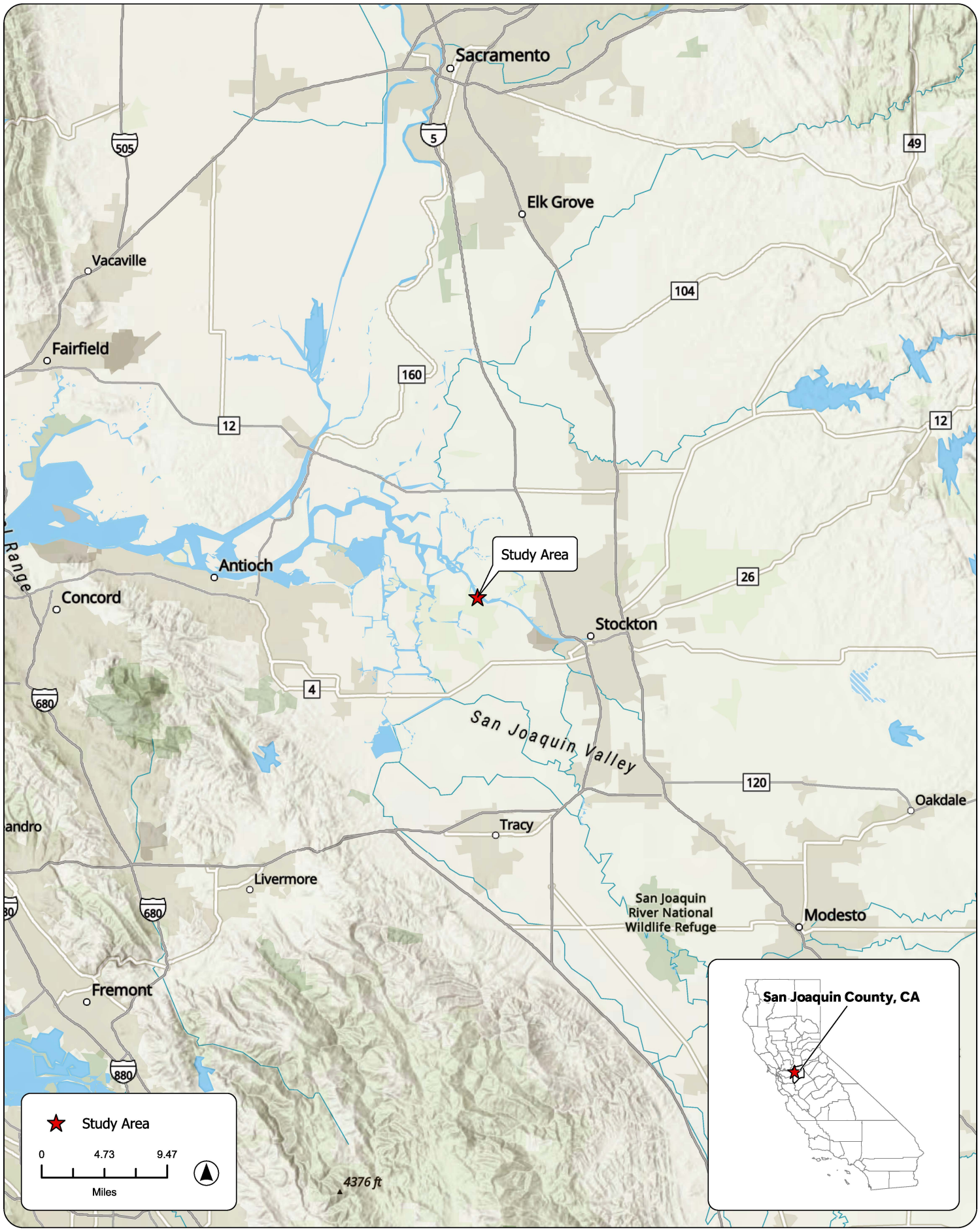
The Study Area consists of approximately 10.3 acres located on Acker Island, which is a small 43-acre island situated on the San Joaquin River/Stockton Deep Water Channel within unincorporated San Joaquin County, California. The Study Area is located within Section 29, Township 2 North, Range 5 East of the Mount Diablo Baseline and Meridian, within the "Holt" United States Geological Survey (USGS) 7.5-minute quadrangle. Access to the Study Area is currently only possible via boat on the San Joaquin River. A portion of the Study Area was previously developed with a marina and restaurant. However, the restaurant closed in 2009 and was subsequently destroyed by a fire in 2022. The eastern portion of the marina remains. **Figure 1** and **Figure 2** show the location of the Study Area. **Figure 3** presents an aerial photograph of the Study Area and the immediate vicinity.

1.2.2 Proposed Project

The proposed project includes modifications to the existing marina to improve safety and boat access and installation of new resort facilities. A site plan is shown in **Figure 4**. Specifically, the proposed project includes the construction of the following, which would impact approximately one acre:

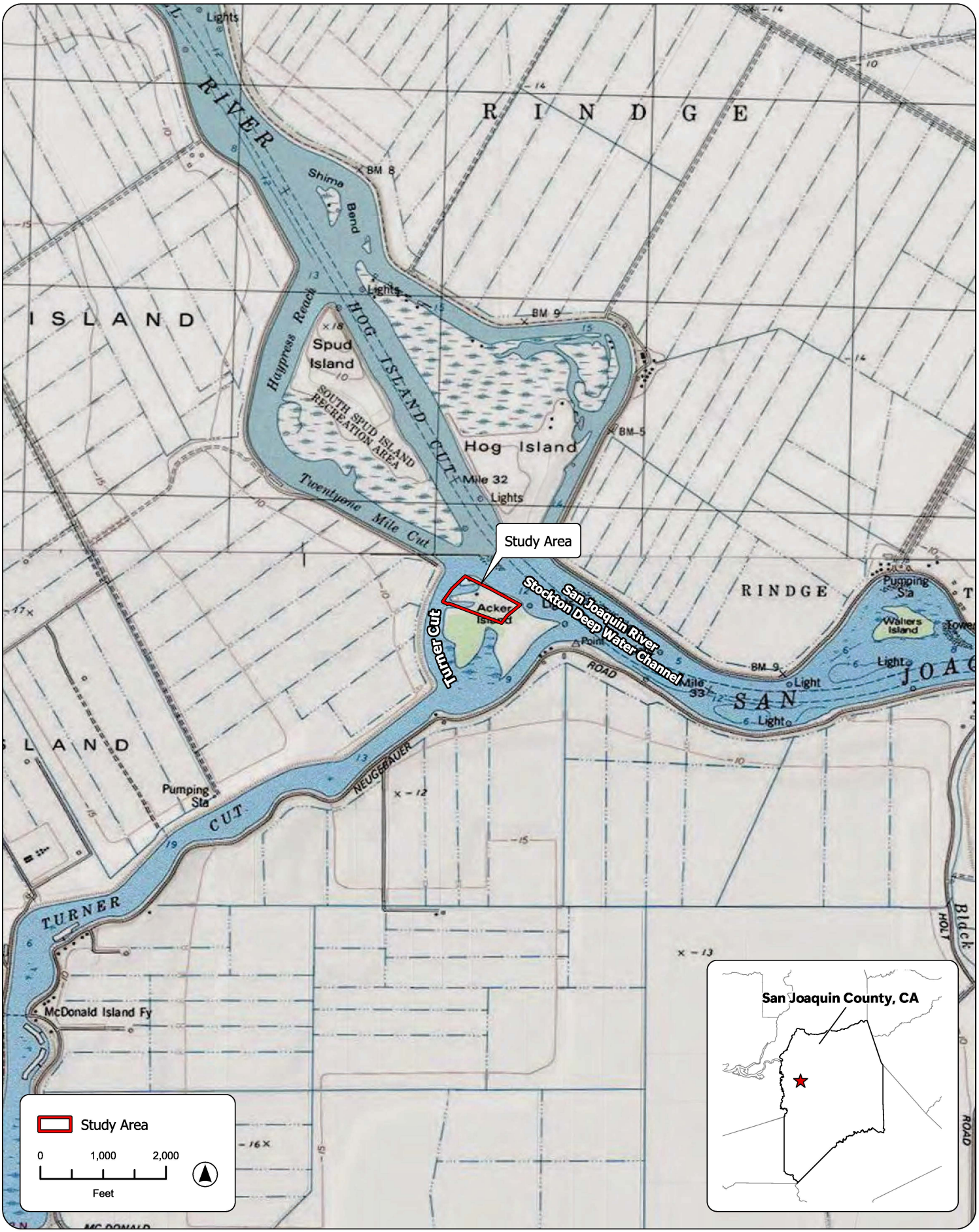
- A 2,500-sf restaurant building
- A 1,200-sf tiki bar
- Two outdoor covered seating areas (800 sf and 1,200 sf)
- An entertainment stage platform
- A 1,150-sf office and store
- A 100-ft tall security tower
- Helipad
- A 300-sf restroom
- A 800-sf restroom and storage building
- Retrofit and remodel of two barges for entertainment purposes
- Marina replacement and improvements

The proposed project includes dock, dock bridge, access ramp, and service ramp replacement and upgrades. Previously used floating waterside docks (approximately 6,400 sf) would be replaced. Beyond the replacement of existing floating structures and removal of an access bridge, the increase in floating marina facilities includes two floats (approximately 1,200 square feet) to support a new elevated access bridge to the center dock and to accommodate an ADA access entrance ramp to the marina.



SOURCE: ESRI, 2025; Acorn Environmental, 7/22/2025

Figure 1
Regional Location



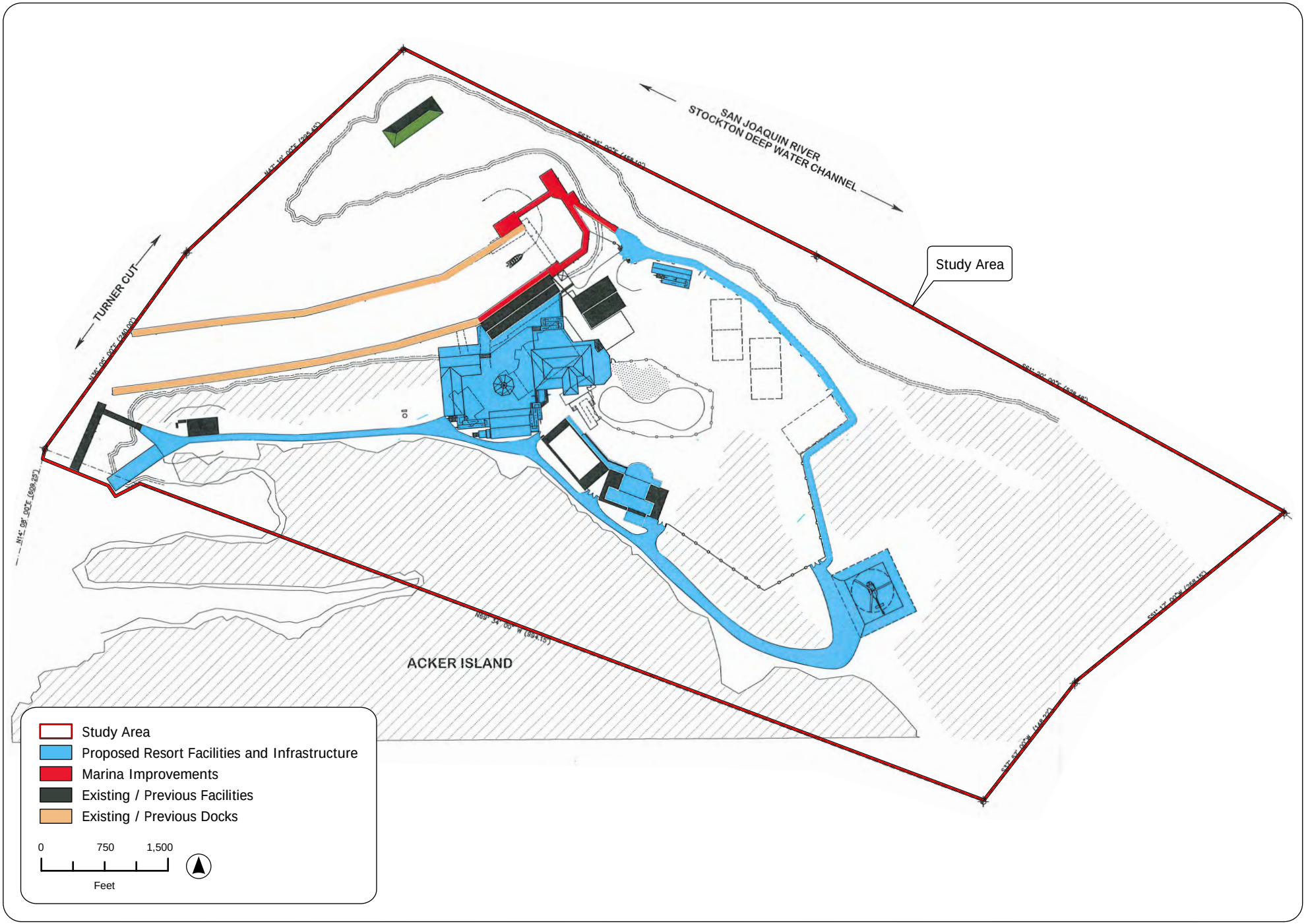
SOURCE: "Holt, CA" USGS 7.5 Minute Topographic Quadrangle, T02N R05E, Section 29, Mt. Diablo Baseline & Meridian; ESRI, 2025; Acorn Environmental, 7/22/2025

Figure 2
Site and Vicinity



SOURCE: ESRI, 2025; Google Earth Aerial Photograph, 3/8/2025; Acorn Environmental, 7/22/2025

Figure 3
Aerial Overview



SOURCE: Gilbert Labrie & DCC Engineering, 5/22/2025; Acorn Environmental, 10/22/2025

Figure 4
Site Plan

Section 2 | Regulatory Setting

The regulatory setting relevant to the proposed project and Study Area is discussed below.

2.1 FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects species that are at risk of extinction and provides for the conservation of the ecosystems on which they depend. The U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmosphere Administration, National Marine Fisheries Service (NMFS) share responsibility for implementing FESA. Generally, USFWS manages terrestrial and freshwater species, while NMFS is responsible for marine and anadromous species. Threatened and endangered species on the federal list (50 CFR Sections 17.11 and 17.12) are protected from take.

Magnuson-Stevens Act and Sustainable Fisheries Act

The Magnuson–Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) is the primary law that governs marine fisheries management in U.S. federal waters. The Sustainable Fisheries Act of 1996 (Public Law 104-297) amended the Magnuson-Stevens Act to establish new requirements for fishery management councils to identify and describe Essential Fish Habitat (EFH) and to protect, conserve, and enhance EFH for the benefit of fisheries. EFH is defined as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. An adverse effect includes direct or indirect physical, chemical, or biological alternations to waters or substrate, species and their habitat, quality and/or quantity of EFH, or other ecosystem components. A 2002 update to EFH regulations allowed fishery management councils to designate Habitat Areas of Particular Concern, specific areas within EFH that have extremely important ecological functions and/or are especially vulnerable to degradation.

Migratory Bird Treaty Act (MBTA)

Migratory birds are protected under the MBTA of 1918 (16 USC 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed under 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). The intentional direct injury or death of a migratory bird that causes nest abandonment, nestling abandonment, or forced fledging would be considered take under federal law.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act was enacted in 1940 to protect bald eagles and was later amended to include golden eagles (16 USC Subsection 668-668). This act prohibits take, possession, and commerce of bald and golden eagles and associated parts, feathers, nests, or eggs with limited exceptions. The USFWS established five recovery programs in the mid-1970s based on geographical distribution of the species, with California located in the Pacific Recovery Region. Habitat conservation efforts in the Pacific Recovery Region, including laws and management practices at federal, state, and community levels, have helped facilitate bald eagle population increases. In 1995, the USFWS reclassified the bald eagle from endangered to threatened under FESA in the contiguous 48 states, excluding Michigan, Minnesota, Wisconsin, Oregon, and Washington where it had already been listed as threatened.

In 2007, the bald eagle was federally delisted under FESA. However, the provisions of this act remain in place for protection of bald and golden eagles.

Clean Water Act (Sections 404 and 401)

Projects that involve discharge of dredged or fill material into jurisdictional waters of the U.S. must first obtain authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA). Projects requiring a 404 permit under the CWA also require a Section 401 certification from the Regional Water Quality Control Board (RWQCB) in California. These two agencies also administer the National Pollutant Discharge Elimination System (NPDES) general permits for construction activities disturbing one acre or more. Effective September 8, 2023, the USEPA and the USACE have issued a new final rule in the Code of Federal Regulations to conform the definition of 'waters of the United States' to the 2023 Supreme Court's May 25, 2023 decision in Sackett vs. USEPA. Under the new final rule, tributaries and wetlands must have a continuous surface connection to navigable waterways to be considered jurisdictional under the CWA. Only those relatively permanent, standing, or continuously flowing bodies of water meet the current definition. In certain states where litigation regarding this definition is ongoing, the pre-2015 definition of waters of the U.S. is in effect. California is not one of these states and currently operates under the definition as promulgated under the new final rule.

2.2 STATE

California Endangered Species Act

The California Endangered Species Act (CESA) declares that certain plant or animal species will be given protection by the State because they are of ecological, educational, historical, recreational, aesthetic, economic, and/or scientific value to the people of the State. The CESA established that it is State policy to conserve, protect, restore, and enhance State-listed species and their habitats. Under State law, plant and animal species may be formally listed by the California Fish and Game Commission, and those species that are listed are protected from take under CESA. CESA authorizes take that is ancillary to an otherwise lawful activity provided that an incidental take permit is acquired prior to the activity.

California Fish and Game Code

The California Fish and Game Code (CFGC) defines "take" (Section 86) and prohibits take of a species listed under the CESA (CFGC Section 2080), or otherwise of a special status CFGC Section 3511, 4700, and 5050). Section 2081(b) and (c) of the CESA allows CDFW to issue an incidental take permit for a State-listed species if specific criteria outlined in Title 14 CCR Section 783.4(a), (b) and CDFW Code Section 2081(b) are met. The CDFW Code Section 3503 also states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by the code. Section 3503.5 states that it is unlawful to take, possess, or destroy any birds in the taxonomic order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the U.S. Secretary of the Interior under provisions of the MBTA. CDFW cannot provide take authorization under the CESA for impacts to migratory birds.

Native Plant Protection Act of 1977

The Native Plant Protection Act of 1977 and implementing regulations in Section 1900 et seq. of the CFGC designate special status plant species and provide specific protection measures for identified populations. The CDFW administers the Native Plant Protection Act.

Porter-Cologne Water Quality Control Act

Waters of the State in California are currently defined to include any surface water or groundwater, including saline waters and man-made features, within the boundaries of the state. In general, features that do not meet the definition of a water of the U.S. but that do meet the definition of a water of the State are subject to permitting requirements as dictated by the Porter-Cologne Water Quality Control Act. Impacts to waters of the State, under the Porter-Cologne Water Quality Control Act, would generally require acquisition of a Waste Discharge Requirement permit.

2.3 LOCAL

San Joaquin County General Plan

Chapter 3.4 of the San Joaquin County General Plan contains the County's goals and policies related to natural and cultural resources, including biological resources. The following are the relevant primary goals as outlined in chapter 3.4:

- To conserve and enhance the County's open space resources
- To preserve and protect wildlife habitat areas for the maintenance and enhancement of biological diversity and ecological integrity
- To ensure the quality of water for municipal and industrial uses, agriculture, recreation, and fish and wildlife

The County's General Plan further contains the following applicable policies:

LU-5.17 New Marinas. The County shall require proposed new marinas to be evaluated to assess their impacts on the waterways, riparian habitat, adjacent land uses, and traffic circulation.

NCR-7.7 Reducing Light Pollution. The County shall encourage project designs, lighting configurations, and operational practices that reduce light pollution and preserve views of the night sky.

NCR-8.23 Marina Facilities. The County shall require new or expanded marinas to include the following facilities: adequate restrooms, pumpout facilities, trash containers, and oil waste disposal facilities.

San Joaquin County Multi-Species Habitat Conservation Plan

The purpose of the San Joaquin County Multi-Species Habitat Conservation Plan (MSHCP) is to "[p]rovide a strategy for balancing the need to conserve Open Space and the need to Convert Open Space to non-Open Space uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act or the California Endangered Species Act; providing and maintaining multiple-use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to project proponents and society at large."

The MSHCP was adopted in 2000 and includes San Joaquin County as a participating agency, along with several incorporated cities and other local agencies.

San Joaquin County Lighting Ordinance

The County's lightning ordinance requires efficient use of lighting and shielding that prevents overspill onto a roadway or adjacent property. For outdoor recreational facilities, this ordinance requires full shielding of lighting and requires that illumination not exceed the minimal amount needed for its purpose (as recommended by the Illuminating Engineering Society of North America).

Section 3 | Methods

3.1 PRELIMINARY DATA GATHERING AND RESEARCH

The following information sources were reviewed in support of this BRA:

- USGS topographic quadrangles (quad) of the Study Area and vicinity
- Current and historical aerial photography of the Study Area and vicinity
- The California Natural Diversity Database (CNDDB) query of known species occurrences within the Holt USGS Quad (**Attachment B**)
- A query of the California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants of California of known species occurrences within the Holt USGS Quad (**Attachment B**)
- USFWS Information for Planning and Consultation species list (**Attachment B**)
- NMFS species list (**Attachment B**)
- The NMFS Critical Habitat and Essential Fish Habitat (EFH) mappers (**Attachment C**)
- USFWS National Wetlands Inventory (NWI) mapper (**Figure 5**)
- Natural Resources Conservation Service soil report for the Study Area (**Attachment A**)

3.2 SURVEYS

A previous biological resources survey was conducted for the Study Area on January 16, 2014 for a project that was never constructed (Robertson-Bryan, Inc., 2014). A biological resources survey and aquatic resources delineation were conducted on the Study Area on July 1, 2025 by Acorn biologists Kimberlina Gomez and Kt Alonzo. Data was collected on wildlife and plant species present, as well as on habitat types and potentially jurisdictional aquatic resources. A variable-intensity pedestrian survey was performed that covered the totality of the Study Area. Fauna and flora observed were recorded in a field notebook and identified to the lowest possible taxon. Survey efforts emphasized the search for State and federally listed special status species identified in the queries contained in **Attachment B**. Habitat types on the Study Area were mapped on aerial photographs and via a handheld GPS receiver. Information on habitat conditions and the suitability of habitats to support special status species was also recorded. Vegetation communities were classified by Vegetation Series using the CNPS Vegetation Classification system (CNPS, 2025a and b). Species' habitat requirements and life histories were identified using the following sources: Baldwin et al. (2012); Calflora (2025); CDFW (2024); and University of California at Berkeley (2024). The aquatic resources delineation was conducted in accordance with the manuals relevant to the region, including the following:

- 1987 Corps of Engineers Wetland Delineation Manual
- 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)
- 2008 A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.
- 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). U.S. Army Engineer Research and Development Center Environmental Laboratory, Vicksburg, MS. 153 pp.



SOURCE: USFS, 5/7/2025; ESRI, 2025; Google Earth Aerial Photograph, 6/6/2024; Acorn Environmental, 7/22/2025

Figure 5
National Wetlands Inventory

Aquatic habitats were classified using USFWS National Wetlands Inventory Classification System for Wetland and Deepwater Habitats, or "Cowardin class" (Cowardin et al., 1979). The aquatic resources delineation identified features based upon the three requisite wetland parameters (hydrophytic vegetation, hydric soils, hydrologic regime) defined in the USACE Wetlands Delineation Manual (Environmental Laboratory, 1987). Corresponding data points were selected and data sheets generated.

3.3 MAPPING AND OTHER ANALYSES

Locations of species' occurrences and habitat boundaries within the Study Area were mapped using hand-held GPS receivers, and color aerial photographs were interpreted and the data digitized to produce habitat maps. The boundaries of potentially jurisdictional aquatic resources within the Study Area were identified and measured in the field and similarly digitized to calculate acreages and to produce aquatic resources delineation maps. Geographic analyses were performed using geographical information system software (ArcGIS Pro, ESRI, Inc.).

Section 4 | Results

4.1 CLIMATE AND TOPOGRAPHY

The Study Area is located within the San Joaquin Valley geographic subdivision within the larger California floristic province (Calflora, 2025). The nearest metropolitan area is Stockton, which experiences a Mediterranean-type climate, characterized by distinct seasons of hot, dry summers and wet, moderately cold winters (Sunset Western Garden Collection, 2025). Average monthly temperatures peak in August at 93 degrees Fahrenheit and reach a low in the months of December and January with an average temperature of 56 degrees Fahrenheit (U.S. Climate Data, 2025). Precipitation falls exclusively as rain, with January seeing the most precipitation at an average of 3.41 inches across the month.

The Study Area is located on Acker Island, which is fully surrounded by water from the San Joaquin River and associated deep water channels. Land across from Acker Island is in agricultural use. Topography on the landward portion of the Study Area is variable, with elevations ranging from 35 feet above mean sea level (asml), to around 12 feet asml at water level.

Soils on the landward portion of the Study Area are fluvaquents (0 to 2 percent slopes) and frequently flooded (**Attachment A**). This soil type is an alluvium that is derived from igneous, metamorphic, and sedimentary rock and/or grassy organic material. Fluvaquents are not considered prime farmland but are considered hydric soils. These soils generally are subject to frequent flooding and have a high runoff class with a very poorly drained drainage class.

4.2 INVENTORY OF FLORA AND FAUNA

Plant and animal species identified on the Study Area during the survey conducted on July 1, 2025 are listed in **Attachment D**.

4.3 TERRESTRIAL HABITATS

Representative site photographs are included as **Attachment E** and a figure illustrating habitat types is provided as **Figure 6**. Terrestrial habitats observed within the Study Area include ruderal/developed areas intermixed with annual grassland.

4.3.1 Ruderal/Developed Intermixed with Annual Grassland

Areas that are ruderal/developed either contain remnants of previous development or areas of landscaped and managed vegetation. Previous areas of development include docks and launch pads, wastewater tanks, and burned down/demolished structures. Throughout these areas, ruderal vegetation largely consists of various ornamental trees including Mexican fan palm (*Washingtonia robusta*) and Golden bamboo (*Phyllostachys aurea*). Annual grassland was intermixed with the ruderal/developed habitat throughout the Study Area. The understory is dominated by non-native annuals that include wild oat (*Avena* spp.), pampas grass (*Cortaderia selloana*), Bermuda grass (*Cynodon dactylon*), faxleaf fleabane (*Erigeron bonariensis*), common knotgrass (*Polygonum aviculare*), and bull thistle (*Cirsium vulgare*). This habitat is present where human activity and management/mowing has occurred.

4.4 AQUATIC HABITATS

An aquatic resources delineation of the Study Area was conducted on July 1, 2025 in accordance with USACE standards (Acorn Environmental, 2025). The location of each NWI feature within the Study Area was surveyed to confirm its absence or presence (**Figure 5**). Aquatic habitats observed within the Study Area include riverine habitat (San Joaquin River), freshwater emergent wetland/freshwater forested/shrub wetland, and two seasonal wetlands. Aquatic habitats are described below and are shown on **Figure 6**.

4.4.1 Riverine (San Joaquin River)

Open water of the San Joaquin River occurs along the northwest and northeast boundaries of the Study Area. Acker Island, including the Study Area, is within the San Joaquin River. The river is heavily travelled by boats. Specifically, the Study Area is surrounded by open water of the Turner Cut and Stockton Deep Water Channel portions of the San Joaquin River. This habitat is characterized by a slow, sluggish velocity with a muddy bottom. Water temperature and turbidity are generally higher than what is found in a fast-moving stream (Grenfell, 1988). Emergent vegetation grows along river banks and includes floating water hyacinth (*Pondtederia crassipes*) and floating primrose willow (*Ludwigia peploides*).

4.4.2 Freshwater Emergent Wetland/Freshwater Forested/Shrub Wetland

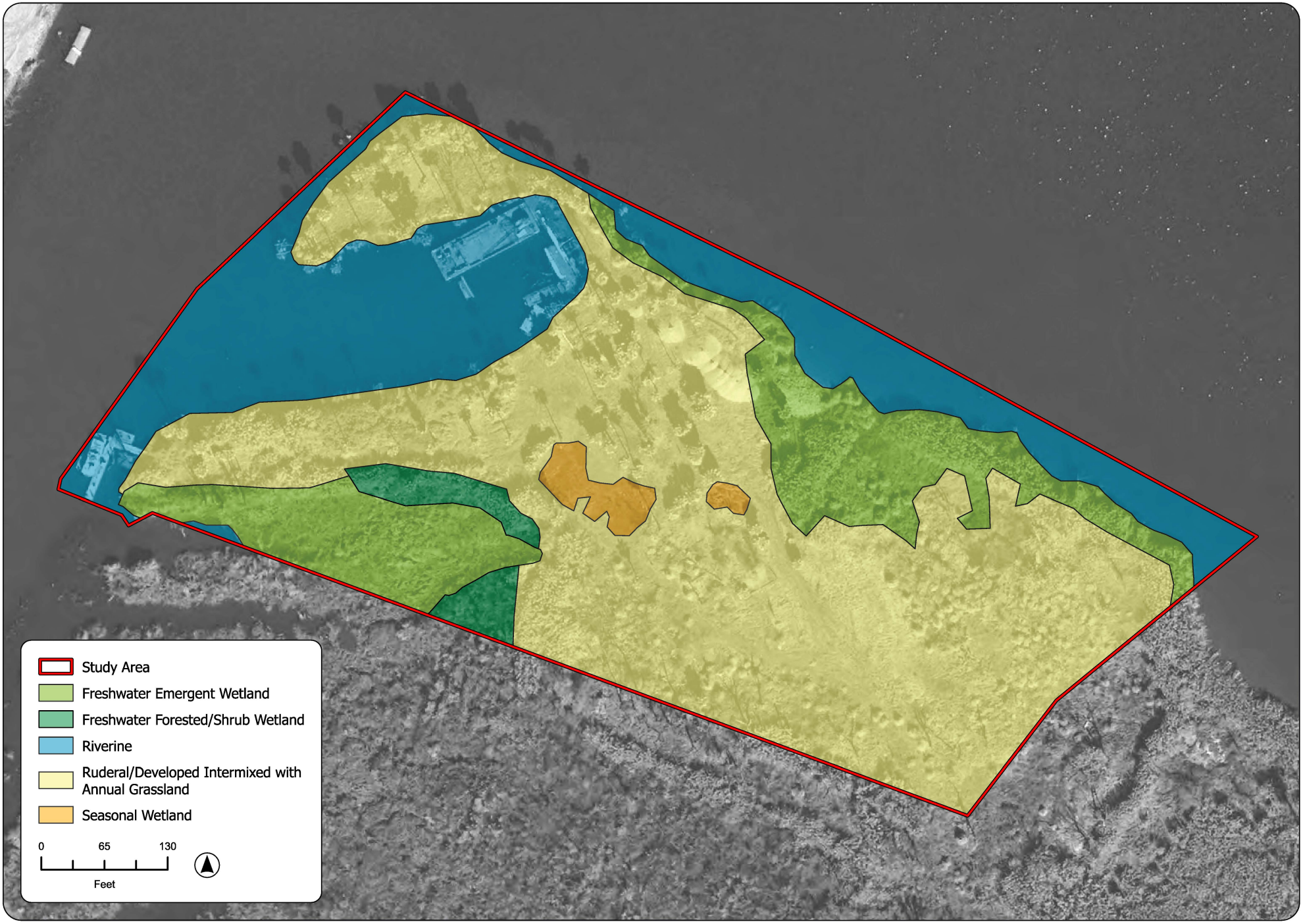
The Study Area is partially bordered by riverine habitat (San Joaquin River) with emergent wetlands located in the southern and northern portions of the Study Area. Freshwater emergent wetlands are characterized by erect, rooted, herbaceous hydrophytes. Flora species found in this habitat include broadleaf cattail (*Typha latifolia*), flat sedges (*Cyperus* spp.), Brazilian glory pea (*Sesbania punicea*), and grass poly (*Lythrum hyssopifolia*). It is noted that riparian vegetation is found intermixed within these areas. Riparian vegetation included a mixture of shrub and tree-dominated areas. The common flora species observed included black poplar (*Populus nigra*), giant reed (*Arundo donax*), Himalayan blackberry (*Rubus armeniacus*), and curly dock (*Rumex crispus*).

4.4.3 Seasonal Wetland

Two isolated wetland features were observed within the central portion of the Study Area, as shown on **Figure 6**. These features lacked channelized characteristics and flood seasonally during periods of rainfall/highwater flows that may occur from other nearby wetlands. The wetlands were recorded and met the three key characteristics of hydric soils, wetland hydrology, and hydrophytic vegetation. Dominant plant species include broadleaf cattail, flat sedges, Himalayan blackberry, and curly dock.

4.5 CRITICAL HABITAT AND ESSENTIAL FISH HABITAT

The Study Area is within critical habitat within the San Joaquin River designated by the USFWS for Delta smelt (**Attachment C**). The Study Area is also within critical habitat designated by NMFS for steelhead (California Central Valley Distinct Population Segment [DPS]) and green sturgeon (Southern DPS) (**Attachment C**). Furthermore, the Study Area is within Essential Fish Habitat (EFH) for groundfish and Chinook salmon (**Attachment C**).



SOURCE: USFS, 5/7/2025; ESRI, 2025; Google Earth Aerial Photograph, 8/12/2024; Acorn Environmental, 10/15/2025

Figure 6
Habitat Types

4.6 WILDLIFE USE AND MOVEMENT

Active bird nests were not observed within the Study Area. However, there is potential for birds to nest in the vegetation or on structures present within the landward portions of the Study Area. There is minimal terrestrial foraging habitat for wildlife given the small nature of the island. Thus, foraging habitat is generally limited to small animals such as rodents or animals able to pass to and from the island, such as birds. As the Study Area is within a small island, terrestrial wildlife movement corridors are absent. The open water portions of the Study Area are known to support numerous fish species and therefore provide localized fish passage for freshwater species as well as passage for anadromous fishes moving through the Delta. Unique wildlife features such as nursery sites and rookeries were not observed.

4.7 SPECIAL STATUS SPECIES

For the purposes of this assessment, "special status" is defined to be species that are:

- Listed as endangered, threatened, proposed, or candidate for listing under FESA;
- Listed as endangered, threatened, rare, or proposed for listing, under CESA;
- Designated as endangered or rare, pursuant to CFGC (§1901);
- Designated as fully protected, pursuant to CFGC (§3511, §4700, or §5050);
- Designated as a species of special concern by CDFW;
- Plants considered to be rare, threatened or endangered in California by CNPS; this consists of species on Lists 1A, 1B, and 2 of the CNPS Ranking System; or
- Plants listed as rare under the California Native Plant Protection Act.

4.7.1 Potential for Special Status Species to Occur within the Study Area

No special status species were observed during the survey conducted on July 1, 2025. Lists of special status species that may occur in the vicinity of the Study Area are included in **Attachment B**. A species table is included as **Attachment F** and provides the species name, status, and habitat requirements of these special status species. **Attachment F** also provides an analysis of the potential for each species to occur within the Study Area, and notes the species that are covered under the MSHCP. The potential for each special status species to occur in the Study Area was evaluated according to the criteria listed below. For purposes of this assessment, species determined to have "none" or "low" potential to occur are presumed absent and are therefore not discussed further.

- **"None" or No Potential.** Habitat on and adjacent to the Study Area is clearly unsuitable for the species (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) or is outside of the known range of the species.
- **Low Potential.** Few habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. Additionally, the Study Area may be outside the known range of the species or isolated such that the species is unlikely to access the area. The species is not likely to occur within the Study Area.
- **Moderate Potential.** Some habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the Study Area is unsuitable. The species has a moderate probability of being found within the Study Area.
- **High Potential.** All habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found within the Study Area.

As detailed in **Attachment F**, the following special status species have the potential to occur within the Study Area:

- Northwestern pond turtle
- Delta smelt
- Longfin smelt
- Green sturgeon (Southern DPS)
- Chinook salmon (Sacramento River winter-run ESU and Central Valley spring-run ESU)
- Steelhead (California Central Valley DPS)

An account of each of these species is provided below along with where and when these species may be present in the Study Area.

Northwestern Pond Turtle

The species is known to occur in a wide variety of aquatic habitats including rivers and streams, lakes, ponds, reservoirs, permanent and ephemeral shallow wetlands, stock ponds, and sewage treatment lagoons (Holland, 1994). Optimal habitat seems to be characterized by the presence of adequate emergent basking sites, emergent vegetation, and the presence of suitable refugia in the form of undercut banks, submerged vegetation, mud, rocks, and logs. In-stream dispersal distances have been recorded of over 12 miles. Long distance overland dispersal between waterbodies has been recorded at up to approximately one mile in California and 3.1 miles in Oregon (NatureServe, 2024b). Suitable upland habitat within 500 meters of suitable aquatic habitat may be used for nesting or aestivation.

This species may occur in the portion of the San Joaquin River in the Study Area. On the landward side, the bank was assessed for potential basking habitat. The bank around the Study Area is vegetated with dense brush and steep topography. There is no basking habitat for northwestern pond turtle, and the banks are too steep to allow for access for nesting or aestivation.

Delta Smelt

Delta smelt are endemic to the upper Sacramento-San Joaquin estuary. The majority of the population is usually observed in the northern Delta and near to and west of the Sacramento-San Joaquin River confluence. Delta smelt are generally considered a diadromous seasonally reproductive migrant (IEPMAS 2015). The species reside in areas with low salinity most of the year, which in most years includes the western Delta and Suisun Bay. However, in early winter, Delta smelt begin their freshwater migration to spawn. Some smelt remain year-round in fresh water (Sommer et al., 2011; Merz et al., 2011). The spawning period is highly variable from year to year, and may occur from late January through June (Moyle et al. 2016), with peak spawning activity typically occurring in April and May (USFWS, 2008; Moyle, 2002). The female broadcasts between 1,200 and 2,600 eggs into the water column, which are fertilized by a dominant male that swims alongside the female releasing milt. Upon hatching, larval Delta smelt have a large oil globule, which is semi-buoyant and allows them to stay suspended in the water column just above the river bottom. Delta smelt larvae begin feeding 4–5 days after hatching. Because they maintain a position near the channel bottom, they are usually not swept downstream by high flows until they are several weeks old and their swim bladder has developed (Moyle, 2002). At this stage, the larvae are able to fill the swim bladder with gas, which makes them more buoyant and allows them to move higher in the water column, where higher velocities carry them downstream to the low salinity mixing zone in the Delta (Moyle, 2002). Delta smelt larvae are transported downstream by river currents to zones of freshwater/saltwater mixing from late March through July (Wang, 1986).

Based on the life history patterns for Delta smelt, this species has the potential to occur in the waters surrounding the Study Area from January to July, with some potential to occur year-round, depending on conditions.

Longfin Smelt

longfin smelt are relatively short-lived, reaching maturity at age two. Most individuals live only two years, but some may live as long as three years. Adult longfin smelt move from estuarine areas into rivers to spawn. Spawning occurs in fresh water, over substrates composed of sand and/or gravel, rocks, and aquatic plants, and may occur from November into June, with peak spawning activity occurring from February through April (Emmett et al., 1991; Wang, 1986). Spawning occurs mainly downstream of about Rio Vista in the Sacramento River, and below Medford Island in the San Joaquin River, with a downstream boundary near Pittsburg and Montezuma Slough (Merz et al., 2013). Once adults spawn they die. Longfin smelt larvae are most common in winter and early spring, but are not found from August through October (Rosenfield, 2010). Larvae move up and down in the water column to maintain position within the mixing zone of the Estuary where foraging on small shrimp-like crustaceans occurs. Within three months larvae develop into juveniles. Juveniles and sub-adults are distributed throughout the year in brackish and marine environments.

Based on the life history patterns for longfin smelt, this species has the potential to occur in the waters surrounding the Study Area from November to July, with some potential to occur year-round, depending on conditions.

Green Sturgeon (Southern DPS)

There are three general phases in green sturgeon life history: (1) freshwater stage (<3 years old), (2) coastal migrants (3–13 years old for females; 3–9 years old for males); and (3) adults (>13 years old for females, >9 years old for males) (EPIC et al., 2001). Sturgeon may spawn every three to five years throughout their lives (Moyle, 2002; Miller et al., 2020). Adult green sturgeon move into estuaries and lower reaches rivers between mid-February and early-May to feed (NMFS, 2010). Tagging studies indicate migration of adults to upstream spawning reaches and downstream emigrations is rapid, typically occurring over the course of a few weeks (Heublein et al., 2009; Miller et al., 2020).

Post-spawn adults hold for several months in deep pools or near spawning sites and migrate downstream to overwintering and rearing habitats when flows increase in fall (NMFS, 2010) and temperature decrease to less than 50° F. Green Sturgeon re-enter the ocean from summer through December (Miller et al., 2020). Based on the life history patterns for green sturgeon, this species has the potential to occur in the waters surrounding the Study Area year-round, depending on climatic conditions.

Chinook Salmon (Sacramento River Winter-run ESU and Central Valley Spring-run ESU)

Adult Central Valley spring-run Chinook ESU begin upstream migration from the ocean in late January and early February (CDFW, 1998) and continue through September (NMFS, 2014). The fish enter rivers sexually immature and hold in deep, cold freshwater pools to mature for several months prior to spawning (Moyle, 2002) and generally enter their natal streams from mid-February through July (CDFW, 1998). Spawning typically occurs from mid-August to early October, peaking in September (Moyle, 2002). Embryos hatch in 40–60 days then remain in gravel as alevins for 4–6 weeks before emerging as fry (average size 44 mm) in November through March (Moyle, 2002).

Juveniles from the Sacramento River generally reside in freshwater for 12–16 months and emigrate as yearlings from October through March with peak movement during November and December (NMFS, 2014). Sacramento River winter-run ESU Chinook depend on cool water temperatures during spawning, embryo incubation and the juvenile rearing period. Upstream spawning migrations through the Delta and into the lower Sacramento River occur from December through July, with peak immigration from January through April (USFWS, 1995). The fish enter freshwater sexually immature and must hold for several months in suitable habitat prior to spawning (NMFS, 2014). Spawning occurs from mid-April to mid-August, peaking in June and July. Fry emerge from the gravel in mid-June through mid-October (NMFS, 1997). After rearing in streamside habitats for almost one year, juvenile salmon migrate downstream during twilight from mid-July with migration peaking in September and occur in the lower Sacramento River primarily from November through early May (NMFS, 2014).

Based on the life history patterns for Chinook salmon, Sacramento River winter-run ESU has the potential to occur in the waters surrounding the Study Area from November through July, with peak abundance in January through April. Central Valley spring-run ESU has the potential to occur in the waters surrounding the Study Area year-round, with peak abundance in May through June.

Steelhead (California Central Valley DPS)

Adult steelhead generally leave the ocean and begin upstream migration through the Delta to spawning reaches in the upper San Joaquin tributaries when river flows increase. Entry into the river system occurs to some degree every month except June (McEwan and Jackson, 1996) although generally migration occurs from July through March, and peaks in November and December (NMFS, 2014). Spawning generally occurs from January through April (McEwan and Jackson, 1996) when water temperatures are between 30–52°F. Juvenile steelhead rear in their natal streams for 1 to 3 years prior to smoltification. Fish are found in cool flowing water or pools where there is ample cover provided by riparian vegetation (Moyle, 2002). Emigration of 1- to 3-year old sub-adults primarily occurs from January through June (Snider and Titus, 1996).

Based on the life history patterns for steelhead, California Central Valley DPS has the potential to occur in the waters surrounding the Study Area year-round.

Section 5 | Impact Analyses and Recommended Avoidance and Minimization Measures

As defined by the California Environmental Quality Act (CEQA), the proposed project would be considered to have a significant adverse impact on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a special status species in local or regional plans, policies, or regulations, or by USFWS or CDFW;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by USFWS or CDFW;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any county or municipal policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved governmental habitat conservation plan.

5.1 IMPACTS TO SPECIAL STATUS SPECIES

Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

As discussed in **Section 4.7**, the following special status species have the potential to occur within the Study Area:

- Northwestern pond turtle
- Delta Smelt
- Longfin Smelt
- Green sturgeon (Southern DPS)
- Chinook salmon (Sacramento River winter-run ESU and Central Valley spring-run ESU)
- Steelhead (California Central Valley DPS)

Potential impacts to these species resulting from implementation of the proposed project are discussed below. Additionally, species covered under the MSHCP are noted in **Attachment F**. Recommendations herein have been made consistent with requirements of the MSHCP.

Northwestern Pond Turtle

Construction

There is no basking habitat for northwestern pond turtle within the Study Area, and the banks are too steep to allow for access for nesting or aestivation. This species may occur in the portion of the San Joaquin River in the Study Area. Construction of the proposed project would involve approximately 0.25 acres of in-water work (1,200 sf of which would be new in-water facilities). This represents a nominal amount of space when compared to the larger San Joaquin River and the greater Delta, and would not be considered a significant loss of habitat. here is potential for construction activities to result in impacts to northwestern pond turtle. Specifically, construction activities can result in noise within the waterway, artificial lighting, and direct contact between wildlife and construction equipment and vehicles. Further, construction on the landward side of the Study Area would result in earthmoving activities and use of construction equipment that carry the risk of increasing sedimentation within waterways or introducing pollutants through accidental spill of common construction chemicals, such as fuel. Each of these potential impacts are detailed below.

Noise

There is little information on the effects of noise on northwestern pond turtle, though some agency guidance conservatively assumes noise in excess of 100 dB could generate an impact to this species (Caltrans, 2024). Watercraft noise can vary widely, with personal watercraft and small boats, such as those found on the San Joaquin River that would patronize the proposed project peaking at over 100 dB with increases in ambient noise levels capable of exceeding 40 dB (University of Rhode Island, n.d.). These levels were influenced highly by speed. There is no data on pond turtles' response and recovery to watercraft noise exposure. During construction, motorized boat trips to the Study Area would occur to transport construction personnel and equipment. However, these trips would be temporary in nature and limited to daylight hours. In water work that could generate noise in suitable habitat for these species would be even shorter in length as the majority of construction would occur on land in areas inaccessible to this species. Additionally, in-water areas within the Study Area are already heavily disturbed by boats and associated noise.

There are 26 separate records of northwestern pond turtle within CNDDB within 10 miles of the Study Area, indicating that the frequent boat traffic in the area has not precluded this species from occurring throughout the Delta. Due to the temporary nature of construction and the daily relief from noise during overnight hours and in between trips, noise production is not expected to result in a significant impact to this species. Further, measures protective of fish (**Section 5.1.2**) related to in-water construction noise, described below, would also be protective of this species and would further reduce potential impacts. There would be a less than significant impact with mitigation.

Lighting

Artificial lighting can result in disorientating effects on wildlife and can cause wildlife to avoid areas through which they would otherwise traverse. The County outlines several artificial lighting requirements associated with construction activities. Recommended measures in **Section 5.1.2** include applicable regulatory measures as well as general construction BMPs that would reduce the potential for artificial lighting to overspill into the San Joaquin River. There would be a less than significant impact with mitigation.

Contact with Equipment

During construction, there is the potential for boats and barges transporting personnel and equipment to strike individual northwestern pond turtles. As discussed in **Section 5.5**, the Study Area is within the San Joaquin County MSCHP. Northwestern pond turtles are listed as a covered species per the MSHCP. However, since publication of this plan, northwestern pond turtles have been re-classified, and their protected status has been elevated to federally Proposed Threatened. It is unclear if the MSHCP can be applied for this species given the changes to pond turtle taxonomy and species status. Additionally, certain activities are not covered by the MSHCP, and coverage for the proposed project is not guaranteed. Therefore, recommended measures in **Section 5.3.1** include options to satisfy FESA requirements and reduce impacts to northwestern pond turtle. There would be a less than significant impact with mitigation.

Water Quality

Construction of the proposed project would include ground-disturbing activities that could increase sediment discharge to surface waters during storm events, thereby degrading downslope water quality. Construction activities would also include the routine use of potentially hazardous construction materials that could spill onto the ground and dissolve into stormwater. Regulated construction activities in excess of one acre are required to apply for coverage under the NPDES Construction General Permit. The provisions of this permit include preparation of a Stormwater Pollution Prevention Plan (SWPPP) that would be developed prior to ground disturbance. The SWPPP would include BMPs to reduce potential surface water contamination during storm events. The BMPs within the SWPPP would minimize potential impacts to surface waters from construction activities by reducing detachment of soil particles from bare soil, reducing the risk of soil contamination from construction materials, and by preventing movement of loose soil into waterways and movement of other contaminants into surface water or groundwater. **Section 5.1.2** contains those BMPs recommended for inclusion within the SWPPP. With adherence to the NPDES permitting program and implementation of the SWPPP, impacts to surface water quality from construction activities would be less than significant. There would be a less than significant impact with mitigation.

Operation

Operation of the proposed project would result in boat and patron visits to the Study Area. However, the increase in boat and patron visits would be comparable to those associated with the previous restaurant that occurred on Acker Island. The proposed project is expected to draw existing recreational boaters that are already out recreating in the vicinity of the Study Area. Riverside marinas and resort type spaces are common in the area and include the Windmill Cover Bar and Grill located approximately 2.1 miles from the Study Area, the RiverPoint Landing Marina-Resort located approximately 3.9 miles from the Study Area, and the Turner Cut Resort and Tiki Lagoon Resort and Marina located approximately 1.7 miles from the Study Area. There are also several yacht clubs on Hog Island, Headreach Island, and Tinsley Island located 0.8 miles, 2.4 miles, and 3.5 miles from the Study Area, respectively. This indicates that this portion of the San Joaquin River is extremely popular amongst recreational boaters. The proposed project itself would direct boaters off the Turner Cut onto the Study Area but would not increase boating activity in the wider Delta. Therefore, increased boat traffic attributable to the proposed project would be limited to patrons navigating off the Turner Cut and entering the proposed marina. The inlet is a narrow introversion of land that will be a no-wake zone (typical 5 mph limit) and would only receive traffic during hours of operation. At these speeds the risk of boats generating sensory disturbance or posing a threat to wildlife is minimal. This would overall be a less-than-significant impact. There would be a less than significant impact.

Special Status Fish Species

Potential impacts to fish species are similar to those that may be induced for northwestern pond turtle and would include impacts from noise, lighting, contact with equipment, and impacts to water quality. These impacts, as they relate to fish, are discussed below. It is noted that increased shading can be beneficial to fish; however, the proposed docks are along a bank with tall and dense vegetation that already provide shading. Thus, there would be no noticeable change in shading.

Noise

Anthropogenic noise can induce startling and alarm responses in fish (Scholik and Yan, 2002), which could result in fish fleeing an area (Boussard, 1981). Thus, increased noise can temporarily disrupt essential behavior patterns such as feeding and predator escapement. However, such transient startle responses are unlikely to result in adverse impacts as fish are likely to quickly respond to normal behaviors (Popper et al., 2019). Abiotic and biotic sounds are important to fish and many use acoustic signals to communicate. Noise emanating from in-water construction activities or construction boat trips can temporarily reduce auditory sensitivity of some fish species (Scholik and Yan, 2002) and interfere with signals that affect communication, behavior and, fitness (Popper and Hastings, 2009; Purser and Radford 2011). CDFW has indicated that in-water work resulting in noise levels in excess of 182 dB at 10 meters could cause harm to fish species, including special status fish species that may occur in the vicinity of the Study Area (CDFW, 2024). **Section 5.1.2** includes recommended measures to reduce the likelihood that this threshold would be exceeded and includes monitoring efforts during construction to halt work in the event that this threshold is exceeded. There would be a less than significant impact with mitigation.

Lighting

As discussed above, recommended measures in **Section 5.1.2** include applicable regulatory measures as well as general construction BMPs that would reduce the potential for artificial lighting to overspill into the San Joaquin River. Artificial lighting impacts would be avoided through shielding and adherence to these BMPs and regulatory requirements. There would be a less than significant impact with mitigation.

Contact with Equipment

Boat trips during construction are not expected to contribute significantly to boat traffic given the high level of existing recreational watercraft use in the vicinity. Benthic-dwelling species, such as green sturgeon, occupy deeper portions of the water column where contact with boats would not occur. Other species, such as Delta and longfin smelt, are not known to be imperiled by boat strike; rather, these species were assessed by CDFW and USFWS and found to be threatened by the reduction in freshwater outflows, entrainment losses to water diversion, and similar conditions (CDFW, 2018; CDFW, 2021; USFWS, 2024). Based upon this, construction-phase boat strike is not considered a significant risk to special status fish. Even though this would not be considered a threat to populations of special status fish, these species are under the jurisdiction of NMFS. The Study Area is within the San Joaquin County MSHCP, which is designed to streamline the consultation process for certain projects and species. However, not all species or activities are covered. Therefore, the applicant has the option to satisfy the requirements of FESA through direct agency consultation, or a combination of direct consultation and coverage through the MSHCP for covered activities/species. NMFS-jurisdictional fish, such as Chinook salmon, are generally not covered by the MSHCP. Therefore, **Section 5.1.2** includes recommendations for consultation based on the type of impact and agency jurisdiction. There would be a less than significant impact with mitigation.

Water Quality

As discussed above under northwestern pond turtle, the proposed project would require a SWPPP, which would include BMPs to reduce potential surface water contamination during construction-phase storm events. **Section 5.1.2** contains those BMPs recommended for inclusion within the SWPPP. With adherence to the NPDES permitting program and implementation of the SWPPP, impacts to surface water quality from construction activities would be less than significant. There would be a less than significant impact with mitigation.

Operation

As discussed above, operation of the proposed project would result in boat and patron visits to the Study Area. However, the increase in boat and patron visits would be comparable to those associated with the previous restaurant that occurred on Acker Island, and the proposed project would divert existing boaters from the Turner Cut into the marina. The inlet is a narrow introversion of land that will be a no-wake zone (typical 5 mph limit). At these speeds, the risk of boats generating sensory disturbance or posing a threat to wildlife is minimal. This would be a less-than-significant impact.

Migratory, Nesting, and Special Status Birds and Raptors

Numerous bird species have the potential to occur on or in the vicinity of the Study Area. Construction activities occurring during the nesting season have the potential to result in sensory disturbance to nesting birds that can cause impacts such as nest abandonment or forced fledging. Avoidance and minimization measures, including a pre-construction nesting bird survey, are included in **Section 5.1.2** to ensure impacts are avoided. These measures would ensure that active nests are identified prior to construction and that the appropriate buffer would be provided for construction occurring in the nesting season. Impacts to nesting birds would be less than significant with mitigation.

Critical Habitat and Essential Fish Habitat

The Study Area is within critical habitat designated by USFWS for Delta smelt (**Attachment C**). The Study Area is also within or immediately adjacent to critical habitat designated by NMFS for steelhead (California Central Valley Distinct Population Segment [DPS]) and green sturgeon (Southern DPS) (**Attachment C**). Further, the Study Area is within or immediately adjacent to Essential Fish Habitat (EFH) for groundfish and Chinook salmon (**Attachment C**).

As discussed above, the proposed project would not degrade water quality of fish habitat. As noted above, floating docks can alter fish habitat by introducing a new source of shade. However, due to the tall and dense shoreline vegetation and the orientation of the docks parallel to the bank, shading is already provided by shoreline vegetation. Placement of the docks/marina facilities would require some form of anchoring that may involve a small footprint of impact to the river bottom. This would constitute an alteration to critical habitat. Recommended measures in **Section 5.1.2** include consultation with USFWS/NMFS regarding necessary measures to offset these impacts, such as compensatory mitigation purchase, design restrictions, habitat restoration projects, or creating conservation areas.

According to the NMFS "Assessment of Impacts of Fishery Management Actions on Essential Fish Habitat" a determination of no adverse impact is acceptable when "the proposed action in the context of the fishery as a whole will not have an adverse impact on EFH" (NMFS, 1999). As described above, the proposed project has some potential to impact individual fish that could be reduced through recommended measures detailed in **Section 5.1.2**.

While individual fish may be impacted, the fishery as a whole would not be altered. In the consultation process, NMFS may elect to impose additional conservation measures to further ensure fisheries resources are not adversely affected. There would be a less than significant impact with mitigation.

5.1.2 Recommended Measures

FESA and San Joaquin County MSHCP Compliance

The San Joaquin County MSHCP shall be complied with in one of the following ways:

- The applicant shall request coverage under the MSHCP. As part of the coverage process, the applicant shall comply with all terms and conditions required by the MSHCP, including but not limited to, compensatory mitigation requirements.

  OR

- The applicant shall decline coverage for those species that are covered by the MSHCP and that may be impacted by the proposed project (northwestern pond turtle, green sturgeon, delta smelt, and longfin smelt) and shall consult with the USFWS. The applicant shall comply with all applicable conservation measures as required by USFWS arising from the consultation process.

The applicant shall also consult with CDFW, USFWS, and/or NMFS in the event that during the MSHCP process it is determined that take may occur for a special status species that is either not covered under the MSHCP (steelhead and chinook salmon) or for which a project component is not considered a covered action under the MSHCP. In these instances, an Incidental Take Permit from CDFW and/or completion of formal consultation with USFWS and/or NMFS shall occur. Mitigation shall be consistent with the level of compensatory requirements outlined in the MSHCP, including a 3:1 mitigation ratio for impacts to the river bottom.

In addition, consultation with USFWS and NMFS shall occur regarding alterations to critical habitat and EFH. At a minimum, impacts shall be offset at a 1:1 ratio through a compensatory option determined in consultation with USFWS and NMFS, such as habitat restoration or credit purchase.

Fish Conservation Measures

- To the extent feasible, in-water work shall occur between August 1 and November 30 to minimize impacts to special status fishes.
- The use of pile drivers and impact hammers for in-water work shall be avoided. If these tools are required during construction, acoustical monitoring shall occur. Work shall halt for at least one hour if monitoring identifies noise levels that exceed 182 dB measured at 10 meters from the source. A fisheries biologist shall be provided the acoustical monitoring data. Should the fisheries biologist determine that this threshold is exceeded at a frequency that would impact fish, CDFW shall be consulted to determine additional measures, such as altering timing of work, adjusting what equipment can be used, or limiting the continuous amount of time certain equipment can be used.
- NMFS and USFWS shall be consulted for impacts to critical habitat and EFH resulting from the loss of 1,200 sf of San Joaquin River surface waters and correlating river bottom impacts that may occur depending on the type of anchoring necessary.

Artificial Lighting Impacts

The proposed project shall comply with the San Joaquin County lighting ordinances and General Plan, including the following:

- Shielding of light to prevent overspilling
- Minimizing illumination to the minimum intensity necessary
- Adhering to Dark Sky principles

In addition, the following BMPs shall be adhered to:

- Limit construction times to daylight hours
- Prohibition of use of artificial lighting that may overspill into the river during construction
- Operational lighting design that orients lighting away from the river and does not include uplighting, strobe lighting, or other forms of lighting disruptive to bird or fish species.

Water Resource Protection

A SWPPP is required in California for development projects that disturb one acre or more of land. This requirement is part of the Construction General Permit (CGP). The following Best Management Practices are recommended for inclusion in the SWPPP:

- Grading activities shall be limited to the immediate area required for construction.
- Temporary erosion control measures (such as silt fences, fiber rolls, staked straw bales, temporary re-vegetation, rock bag dams, erosion control blankets, and sediment traps) shall be employed as needed for disturbed areas. Plastic monofilament or similar materials that could entangle wildlife shall not be used.
- Construction activities shall be scheduled to minimize land disturbance during peak runoff periods to the extent feasible.
- Disturbed areas shall be paved, re-vegetated, and/or stabilized following construction activities.
- A spill prevention and countermeasure plan shall be developed that identifies proper storage, collection, and disposal measures for potential pollutants used on-site.
- Petroleum products shall be stored, handled, used, and disposed of properly in accordance with provisions of the CWA (33 USC §§ 1251 to 1387).
- Construction materials shall be stored, covered, and isolated to prevent runoff loss and contamination of surface and groundwater.
- Fuel and vehicle maintenance areas shall be limited to the impact area.
- Sanitary facilities shall be provided for construction workers.
- To minimize dust generation during construction, soil will be wet with water prior to ground disturbance as needed.
- Generated waste shall be properly disposed of.

Protection of Nesting Birds During Construction

- If construction activities commence during the general nesting season (February 15 to September 1), a preconstruction nesting bird survey shall be conducted by a qualified biologist on and within 100 feet of proposed construction within 5 days of initiating ground disturbance.
- If active nests are identified, then one of the following shall occur:

    - Construction shall be postponed until the end of the nesting season or until the biologist has determined that the nest is no longer active (has failed or the young have fledged and are independent of the nest)
    - The qualified biologist shall determine a suitable avoidance buffer based on the needs of the species observed. The buffer zone shall be established using construction fencing or similar. Avoidance buffers may vary in size depending on habitat characteristics, project-related activities, and disturbance levels. The buffer shall be maintained until the nesting season has concluded, construction has completed, or the biologist determines that the nest is no longer active.
- Should work activity cease for 14 days or more during the nesting season, surveys shall be repeated prior to recommencing construction within the general nesting season to ensure birds and have not established nests during inactivity. If new nests have been established, the avoidance measures outlined above shall apply.

5.2 IMPACTS TO SENSITIVE HABITATS

Will the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Terrestrial habitat that the proposed project may impact is limited to ruderal/developed habitat intermixed with patches of annual grasslands. These habitats are not considered sensitive. The proposed project would, however, impact 0.08 acres of seasonal wetland habitat. Further, in-water work would occur in up to 0.25 acres of open water (San Joaquin River), approximately 1,200 sf of which would be new in-water facilities. Impacts to the San Joaquin River and wetlands habitat is discussed in **Section 5.3** below.

5.2.1 Recommended Measures

See **Section 5.3.1**.

5.3 IMPACTS TO AQUATIC RESOURCES

Will the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

As discussed above, the proposed project would impact 0.08 acres of seasonal wetlands and would introduce approximately 1,200 sf of new floating docks on the San Joaquin River. The San Joaquin River is considered a water of the U.S. and the State. The delineation prepared for the Study Area determined that the seasonal wetlands that would be impacted by the proposed project are isolated features and are therefore not likely to meet the definition of a water of the U.S., but that they still likely meet the definition of a water of the State. However, consultation with USACE and the RWQCB would be necessary in order to confirm the jurisdictional status of these features and identify the necessary permitting. For impacts to features that are waters of the U.S. and State, CWA 401/404 permitting would be necessary. For impacts to features that do not meet the definition of waters of the U.S., but that still meet the definition of a water of the State, a Waste Discharge Requirement (WDR) permit would be necessary.

Based on the results of the delineation, the proposed project would require a CWA 401/404 permit for impacts to the San Joaquin River and either a CWA 401/404 permit or a WDR for impacts to the seasonal wetlands. Additionally, installation of the new marina space may require impacts to the riverbed for anchoring. Thus, a Lake or Streambed Alteration Agreement (LSAA) from CDFW would be required. It is noted that USACE was previously consulted on the Proposed Project and the necessary permitting obtained but has since expired.

Recommended measures in **Section 5.3.1** include consultation with USACE, the RWQCB, and CDFW and acquisition of the necessary permits. All of the impacts to aquatic resources would require at least one permit, thus **Section 5.3.1** includes adherence to permit terms and conditions that are designed to offset impacts to these resources. It is also noted that the SWPPP would provide protections against indirect impacts to aquatic resources.

5.3.1 Recommended Measures

Acquire Necessary Permits

The results of the delineation shall be provided to USACE for review. A CWA 401/404 permit shall be acquired for any impacts to a water of the U.S. The RWQCB shall also be consulted and a WDR permit shall be acquired for impacts to any waters of the state that do not meet the definition of a water of the U.S. Additionally, CDFW shall be consulted and an LSAA obtained. Permit terms and conditions shall be adhered to. Typical permit terms and conditions include:

- Timing work to the dry season for seasonal features
- Providing compensatory mitigation in the form of habitat restoration, habitat creation, and/or purchase of habitat credits
- Adhering to construction BMPs to minimize impacts to wildlife and water quality

5.4 IMPACTS TO WILDLIFE MOVEMENT, CORRIDORS, OR NURSERY SITES

Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

There are no wildlife nursery sites present within the Study Area. Therefore, there would be no impact on nursery sites. The landward portion of the Study Area is on Acker Island, a small island surrounded by the San Joaquin River. Given the surrounding river and small nature of the island, the Study Area is not part of a terrestrial wildlife corridor. However, the San Joaquin River is a known wildlife movement corridor for numerous fish species, including several anadromous species. The proposed project would result in the installation of approximately 1,200 sf of new floating docks. However, these docks have been strategically placed off Turner Cut, are aligned with the previously existing dock to be re-installed, and are within an inlet and immediately adjacent to the bank (see **Figure 4**). While fish may incidentally occur within the inlet, it is a small indentation in the island that does not provide a pass-through connection to other surface waters and therefore does not provide through access for fish species. There would be a less-than-significant impact on movement of aquatic species.

5.4.1 Recommended Measures

No avoidance or minimization measures are required.

5.5 CONFLICT WITH POLICIES, ORDINANCES, HABITAT CONSERVATION PLANS, OR NATURAL COMMUNITY CONSERVATION PLAN

Will the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? Will the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Study Area falls within the San Joaquin County MSHCP. Per the MSHCP, the Plan "in accordance with ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, provides compensation for the Conversion of Open Space to non-Open Space uses which affect the plant, fish and wildlife species covered by the Plan, hereinafter referred to as "SJMSCP Covered Species". In addition, the SJMSCP provides some compensation to offset the impacts of Open Space land Conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial Open Space uses." Activities that are not covered include those actions that require an LSAA or impact a water of the U.S.

The proposed project would not impact open space and would involve work not covered by the MSHCP, including impacts to wetlands and the San Joaquin River. Regarding ESA Section 10(a)(1)(B) and CESA Section 2081(b) Incidental Take Permits, NMFS species are generally not covered by the Plan and therefore would not apply to green sturgeon (though green sturgeon is discussed within the Plan), Chinook salmon, or steelhead. At the time the MSHCP was developed, the Plan covered northwestern pond turtle as a non-listed species. However, northwestern pond turtle has since been reclassified, and the northwestern pond turtle has been elevated to federally Proposed Threatened. Further, the SMHCP lumped two pond turtle species together (then classified as *Clemmys marmorata marmorata* and *Clemmys marmorata pallida*). The MSHCP provides a discussion on loss of suitable bank and nesting habitat for pond turtle, which would not be impacted by the proposed project. As the proposed project does not impact habitat features considered by the MSHCP, and due to the re-classification and status elevation of northwestern pond turtle, the MSHCP would not apply to the proposed project as it relates to northwestern pond turtle.

Delta smelt and longfin smelt are covered by the MSHCP. However, longfin smelt is listed as "covered" but with "no Take Coverage". Based on this, Delta smelt and longfin smelt are the only species covered by the MSHCP that would be applicable to the proposed project. Impacts to species not covered by the MSHCP would require consultation with USFWS, NMFS, and/or CDFW. The MSHCP discusses impacts to submerged aquatic habitats and recommends that impacts be offset at a 3:1 ratio. The proposed project would introduce 1,200 sf of new floating docks that would be anchored into the submerged aquatic habitat. Such a small dock footprint would require an even smaller underwater footprint for anchoring. Even still, this would constitute an impact to submerged aquatic habitat. Recommended measures in **Section 5.1.1** include actions to conform with the MSHCP. With recommended measures, the proposed project would be consistent with the MSHCP.

5.5.1 Recommended Measures

See **Section 5.1.1**.

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Section 7 | Qualifications of Surveyors and Authors

KT ALONZO, B.S.

Kt Alonzo is a Project Manager and Biologist who has provided professional consulting and planning services to Native American Tribes across the U.S., as well as to public works entities, private clients, cities, counties, and state and federal agencies. With over 10 years of experience in CEQA and NEPA compliance, she has managed the preparation of documents for numerous fee-to-trust acquisitions, gaming projects, infrastructure projects, mixed-use and commercial development, housing projects, natural resources conservation, vineyard and cannabis projects, and water rights projects. Ms. Alonzo is also experienced in preparing biological resources documents, mitigating impacts on listed species, preparing CWA permit applications, assisting with Section 7 consultation, and reviewing aquatic resources delineations.

KIMBERLINA GOMEZ, B.S., M.SC.

Ms. Gomez holds a B.S. and M.Sc. in Environmental Science with a focus on Wildlife and Biodiversity. She has approximately 3 years of experience collecting field data and preparing environmental assessments. Ms. Gomez has also published a scientific article related to wildlife behavior ecology. She also has experience in preparing documents for Section 7 consultation the USFWS.

KELLI RAYMOND, B.S.

Ms. Raymond holds a B.S. in Animal Biology with a focus on Wildlife Ecology. She has approximately 10 years of experience collecting field data and preparing environmental assessments. Ms. Raymond has worked in several states across the U.S. performing biological resources surveys, including plant surveys, wetland delineations, and wildlife utilization monitoring. She also has experience live-handling numerous wildlife species, including fish, migratory birds, and big game. Ms. Raymond is experienced in the preparation of Biological Assessments and Section 7 consultation with both the USFWS and NMFS under the federal Endangered Species Act.

Attachment A

NRCS Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Joaquin County, California



June 24, 2025

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

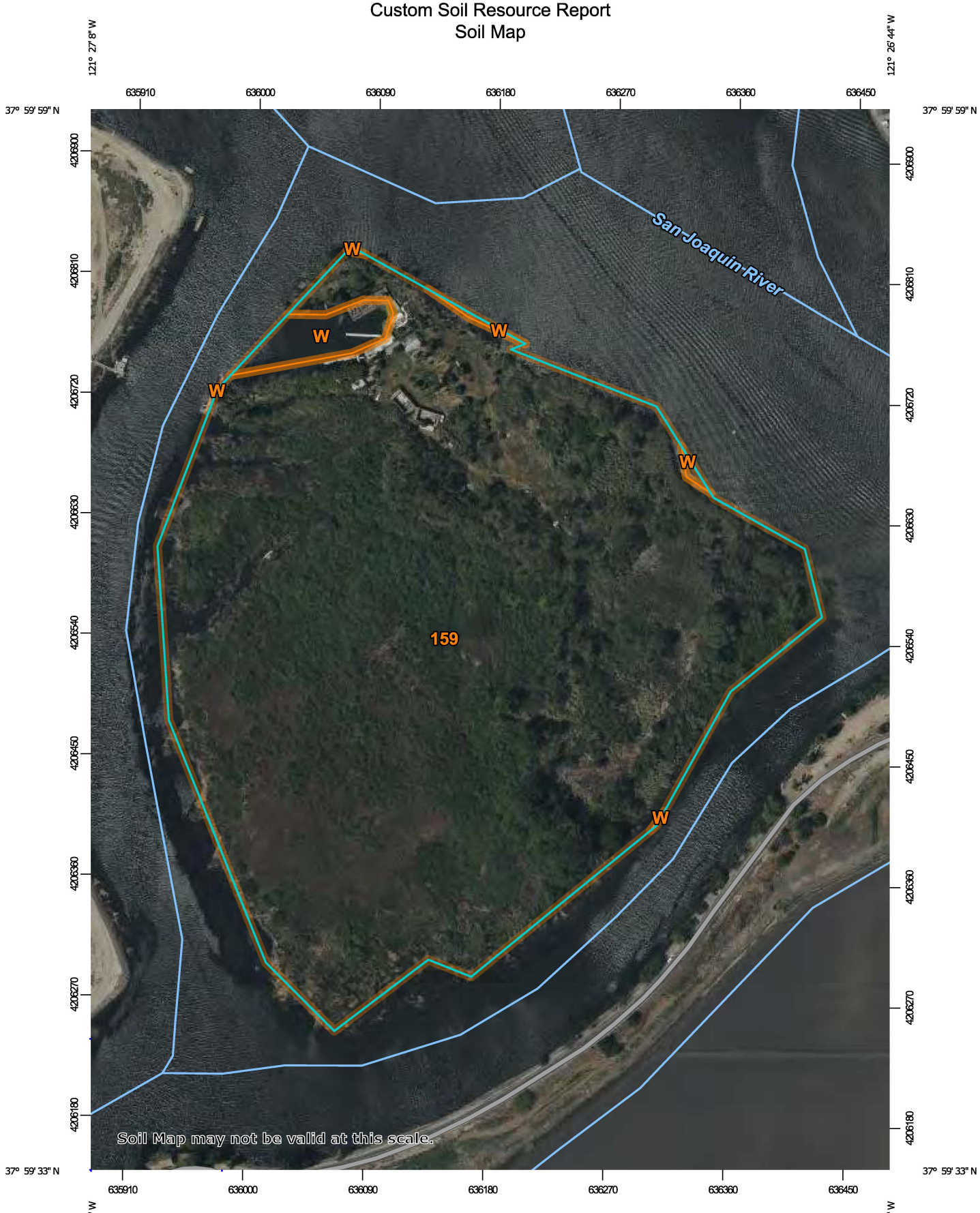
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,860 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Joaquin County, California
Survey Area Data: Version 18, Sep 8, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 23, 2022—Apr 24, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
159	Fluvaquents, 0 to 2 percent slopes, frequently flooded, MLRA 16	43.4	97.9%
W	Water	0.9	2.1%
Totals for Area of Interest		**44.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Joaquin County, California

159—Fluvaquents, 0 to 2 percent slopes, frequently flooded, MLRA 16

Map Unit Setting

National map unit symbol: 2yc98
Elevation: -10 to 10 feet
Mean annual precipitation: 13 to 18 inches
Mean annual air temperature: 61 to 62 degrees F
Frost-free period: 318 to 348 days
Farmland classification: Not prime farmland

Map Unit Composition

Fluvaquents and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fluvaquents

Setting

Landform: Marshes
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock and/or grassy organic material

Typical profile

A - 0 to 14 inches: silty clay loam
Cg1 - 14 to 20 inches: silty clay loam
Cg2 - 20 to 26 inches: silt loam
Cg3 - 26 to 36 inches: silty clay loam
Cg4 - 36 to 44 inches: silty clay loam
Cg5 - 44 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 6 to 24 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 7w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: R016XA001CA - Tidally-Influenced, Freshwater
Hydric soil rating: Yes

Minor Components

Peltier

Percent of map unit: 4 percent
Landform: Deltas, flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R016XA001CA - Tidally-Influenced, Freshwater
Hydric soil rating: Yes

Kingile

Percent of map unit: 4 percent
Landform: Flood plains, marshes
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R016XA001CA - Tidally-Influenced, Freshwater
Hydric soil rating: Yes

Columbia

Percent of map unit: 4 percent
Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R016XA002CA - Freshwater, Stratified, Fluventic
Hydric soil rating: Yes

Ryde

Percent of map unit: 3 percent
Landform: Flood plains, deltas
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R016XA001CA - Tidally-Influenced, Freshwater
Hydric soil rating: Yes

W—Water

Map Unit Composition

Water: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydric soil rating: Unranked

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Attachment B

Special Status Species Lists

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

6 matches found. Click on scientific name for details

Search Criteria: , CRPR is one of [**1A:1B:2A:2B:3:4:CBR:PPD**] , Fed List is one of [**FE:FT:FC:FD:None**] **and** State List is one of [**CE:CT:CR:CC:CD:None**] , Quad is one of [**3712184**]

▲ SCIENTIFIC NAME	COMMON NAME	BLOOMING PERIOD	FED LIST	STATE LIST	STATE RANK	CA RARE PLANT RANK	GENERAL HABITATS	MICROHABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)
Carex comosa	bristly sedge	May-Sep	None	None	S2	2B.1	Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland		0	2050
Hibiscus lasiocarpos var. *occidentalis*	woolly rose-mallow	Jun-Sep	None	None	S3	1B.2	Marshes and swamps (freshwater)		0	395
Lathyrus jepsonii var. *jepsonii*	Delta tule pea	May-Jul(Aug-Sep)	None	None	S2	1B.2	Marshes and swamps (brackish, freshwater)		0	15

Lilaeopsis masonii	Mason's lilaeopsis	Apr-Nov	None	CR	S2	1B.1	Marshes and swamps (brackish, freshwater), Riparian scrub		0	35
Limosella australis	Delta mudwort	May-Aug	None	None	S2	2B.1	Marshes and swamps (brackish, freshwater), Riparian scrub	Streambanks (usually)	0	10
Symphyotrichum lentum	Suisun Marsh aster	(Apr)May-Nov	None	None	S2	1B.2	Marshes and swamps (brackish, freshwater)		0	10

Showing 1 to 6 of 6 entries

Go to top

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 27 June 2025].

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
San Francisco Bay-Delta Fish And Wildlife
650 Capitol Mall
Suite 8-300
Sacramento, CA 95814
Phone: (916) 930-5603 Fax: (916) 930-5654

In Reply Refer To: 06/03/2025 23:37:17 UTC
Project Code: 2025-0105085
Project Name: Acker Island

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 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 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:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 (https://www.fws.gov/program/eagle-management/working-around-eagles). Additionally, wind energy projects should follow the wind energy guidelines (https://www.fws.gov/node/266177) 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:https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation; and http://www.towerkill.com.

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 Code 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

PROJECT SUMMARY

Project Code: 2025-0105085
Project Name: Acker Island
Project Type: Marina - Maintenance/Modification
Project Description: N/A
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@37.996339899999995,-121.44897191742383,14z



Counties: San Joaquin County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 13 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
Riparian Brush Rabbit *Sylvilagus bachmani riparius* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6189	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
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

AMPHIBIANS

NAME	STATUS
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot *Spea hammondii* Population: Northern DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5425	Proposed 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
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9011	Endangered
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay-Delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Proposed Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. 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. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

FLOWERING PLANTS

NAME	STATUS
Large-flowered Fiddleneck *Amsinckia grandiflora* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5558	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

IPAC USER CONTACT INFORMATION

Agency: County of San Joaquin
Name: Kimberlina Gomez
Address: 5170 Golden Foothill Pkwy
City: El Dorado Hills
State: CA
Zip: 95762
Email kgomez@acorn-env.com
Phone: 9162358224

An official website of the United States government Here's how you know

ESA Section 7 Consultations on the West Coast

NOAA Fisheries assists federal agencies to ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

NOAA Fisheries helps federal agencies comply with the requirements of the Endangered Species Act whose purpose is to conserve ecosystems upon which endangered and threatened species depend.

Under Section 7(a)(1) of the Endangered Species Act (ESA), federal agencies are directed to implement programs for the conservation of threatened and endangered species. In the West Coast Region (WCR), we assist federal agencies with the development of conservation programs for marine and anadromous species under NOAA Fisheries' jurisdiction throughout California, Oregon, Washington, and Idaho. We also work with federal agencies on training and opportunities to implement proactive conservation actions that will benefit ESA-listed species and their habitats.

Under ESA Section 7(a)(2), federal agencies must consult with NOAA Fisheries when any project or action they take may affect an ESA-listed marine or anadromous species or designated critical habitat. As of February 2025, there are 53 listed marine or anadromous species along the West Coast.

How do Endangered Species Act consultations work?

Federal agencies must determine whether their actions may affect ESA-listed species. If an agency determines its actions may affect threatened or endangered marine species, the agency is required to consult with NOAA Fisheries. Some consultations are called "informal" and could involve conference calls, email exchanges, and site visits. Others are called "formal" and result in biological opinions. The time needed to conduct an ESA consultation varies depending on the complexity of the proposed action.

Informal consultations are conducted on actions that are not likely to adversely affect ESA-listed species or designated critical habitat. These consultations generally must be completed within 60 days of initiation and extended up to 120 days in total. In these cases, NOAA Fisheries provides a letter of concurrence and no further consultation is required.

Formal consultations are conducted on actions that are likely to adversely affect ESA-listed species or designated critical habitat. These consultations must be completed within 135 days of initiation unless the agencies agree upon an extension. Formal consultation is documented in a biological opinion in which NOAA Fisheries makes a determination regarding whether the federal action is likely to jeopardize the continued existence of an ESA-listed species or is likely to destroy or adversely modify designated critical habitat.

During an ESA consultation, NOAA Fisheries reviews the proposed action and its effects on ESA-listed species and designated critical habitat. The biological opinion resulting from a formal consultation documents the consultation process, analyses, and conclusions. It also identifies the conditions under which the proposed action may proceed.

During consultation, we work with the federal action agency to identify appropriate mitigation, monitoring, and best management practices for their activities to protect ESA-listed species and their habitat. If, at the end of consultation, we find that the action is likely to jeopardize ESA-listed species, an alternative action with fewer impacts (known as a reasonable and prudent alternative) may be required.

Information on emergency consultations >

What types of activities does the WCR provide consultations for?

Federal activities along the West Coast that we consult on can range from actions at the local or state level, to regional, national, or international actions. The scope of projects may also vary—from small stream systems to entire river basins or vast portions of the Pacific Ocean.

Actions that commonly require consultation include:

- Water projects
- Transportation
- Federally managed fisheries
- Fish hatcheries
- Fish passage
- Dredging
- Construction activities
- Habitat restoration
- Permitting programs
- Scientific research
- Hydroelectric activities

What federal agencies do we typically consult with?

Some of the agencies that seek ESA consultation from us include:

- U.S. Army Corps of Engineers
- U.S. Forest Service
- U.S. Bureau of Land Management
- U.S. Bureau of Reclamation
- Federal Emergency Management Agency
- Federal Highway Administration
- Department of Defense
- Department of the Interior
- Environmental Protection Agency
- Federal Energy Regulatory Commission

We also consult with our own agency. For example, we may self-consult on issuing scientific research projects, habitat restoration projects, or approving fishery management plans.

Where can I find consultations developed by the WCR?

Information on consultations that the WCR has conducted under the Endangered Species Act and Magnuson-Stevens Act can be found in NOAA Fisheries' Environmental Consultation Organizer (ECO) for records from 2017 to present. If you are looking for information on consultations completed before 2017 (not available in ECO), you may send an email with specific details on your information request to NMFS.Historic.Consultations@noaa.gov.

Contacts and Species

To find the right WCR staff person to talk to about an ESA consultation, the contacts below will be able to assist you. ESA-listed species that may be found in each geographic area are provided.

Topic

Anadromous Hatcheries North (Puget Sound and Washington Coast)

Jeromy Jording
(360) 763-2268
jeromy.jording@noaa.gov

Anadromous Hatcheries South (Columbia Basin and Oregon/Northern California)

Natasha Preston
(503) 231-2178
Natasha.Preston@noaa.gov

Salmon Harvest: Ocean, Puget Sound, mainstem Columbia River

Susan Bishop
(206) 526-4587
susan.bishop@noaa.gov

Highly Migratory Species

Lyle Enriquez
(562) 980-4025
lyle.enriquez@noaa.gov

Coastal Pelagic Species

Josh Lindsay
(562) 980-4034
josh.lindsay@noaa.gov

Groundfish

Keeley Kent
(206) 526-4655
keeley.kent@noaa.gov

Geographic Area

Puget Sound (north)

Contact:
owco.section7info@noaa.gov



ESA-listed species that may be found in the area

- Bocaccio (Puget Sound/Georgia Basin DPS)
- Rockfish, yelloweye (Puget Sound/Georgia Basin DPS)
- Sturgeon, green (Southern DPS)
- Salmon, Chinook (Puget Sound ESU)
- Steelhead (Puget Sound DPS)
- Whale, killer (Southern Resident DPS)

Puget Sound (central and south)



Contact: owco.section7info@noaa.gov

ESA species that may be found in the area

- Eulachon (Southern DPS)
- Bocaccio (Puget Sound/Georgia Basin DPS)
- Rockfish, yelloweye (Puget Sound/Georgia Basin DPS)
- Sturgeon, green (Southern DPS)
- Salmon, Chinook (Puget Sound ESU)
- Salmon, chum (Hood Canal summer-run ESU)
- Steelhead (Puget Sound DPS)
- Whale, killer (Southern Resident DPS)

Washington Coast and Columbia River (lower)



Contact: owco.section7info@noaa.gov

ESA species that may be found in the area

- Eulachon (Southern DPS)
- Sturgeon, green (Southern DPS)
- Salmon, chum (Columbia River ESU)
- Salmon, coho (Lower Columbia River ESU)
- Salmon, sockeye (Ozette Lake ESU)
- Salmon, sockeye (Snake River ESU)
- Salmon, Chinook (Upper Columbia River spring-run ESU)
- Salmon, Chinook (Lower Columbia River ESU)
- Salmon, Chinook (Snake River fall-run ESU)
- Salmon, Chinook (Snake River spring/summer-run ESU)
- Salmon, Chinook (Upper Willamette River ESU)
- Steelhead (Upper Columbia River DPS)
- Steelhead (Middle Columbia River DPS)
- Steelhead (Lower Columbia River DPS)
- Steelhead (Snake River Basin DPS)

- Steelhead (Upper Willamette River DPS)

Status of the Species summaries

- Snake River Sockeye Salmon (PDF, 5 pages)
- Upper Columbia Spring-run Chinook Salmon (PDF, 5 pages)
- Snake River Fall-run Chinook Salmon (PDF, 6 pages)
- Snake River Spring/Summer Chinook Salmon (PDF, 7 pages)
- Upper Columbia Steelhead (PDF, 4 pages)
- Middle Columbia River Steelhead (PDF, 6 pages)
- Snake River Basin Steelhead (PDF, 6 pages)

Oregon Coast

Contact:
owco.section7info@noaa.gov

ESA species that may be found in the area

- Eulachon (Southern DPS)
- Sturgeon, green (Southern DPS)
- Salmon, coho (Oregon Coast ESU)
- Salmon, coho (Southern Oregon/Northern California Coast ESU)



Willamette River

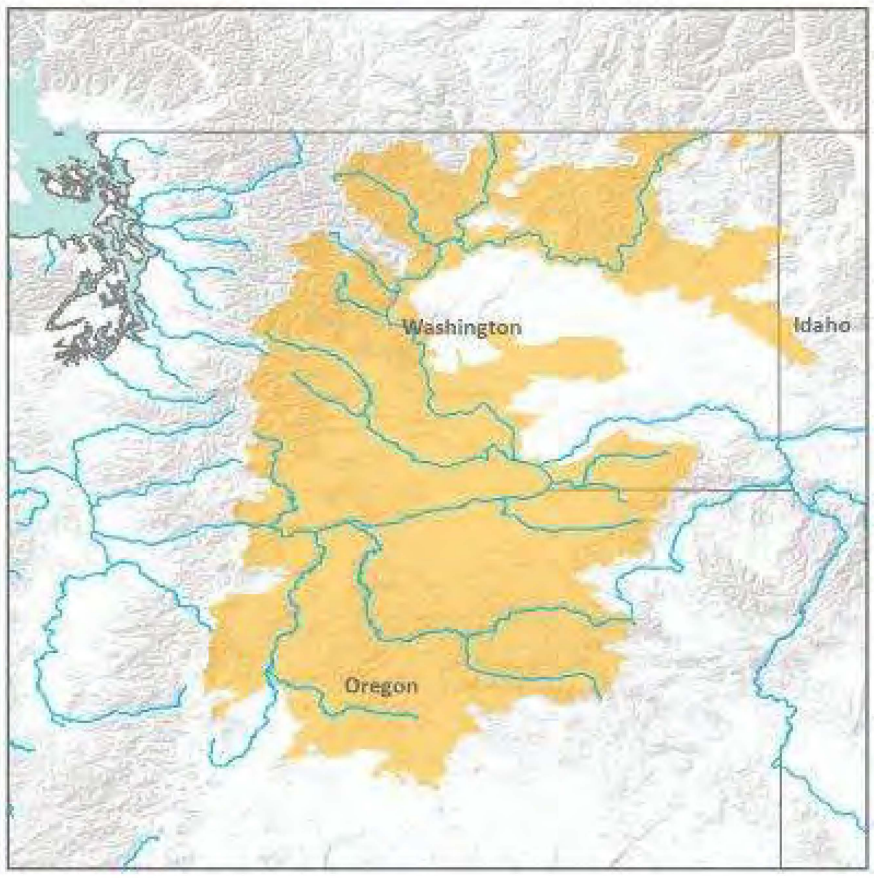
owco.section7info@noaa.gov

ESA species that may be found in the area

- Salmon, coho (Lower Columbia River ESU)
- Salmon, Chinook (Lower Columbia River ESU)
- Salmon, Chinook (Upper Willamette River ESU)
- Steelhead (Lower Columbia River DPS)
- Steelhead (Upper Willamette River DPS)



Columbia River (middle and upper)



To request consultation use: crbo.consultationrequest.wcr@noaa.gov

ESA species that may be found in the area

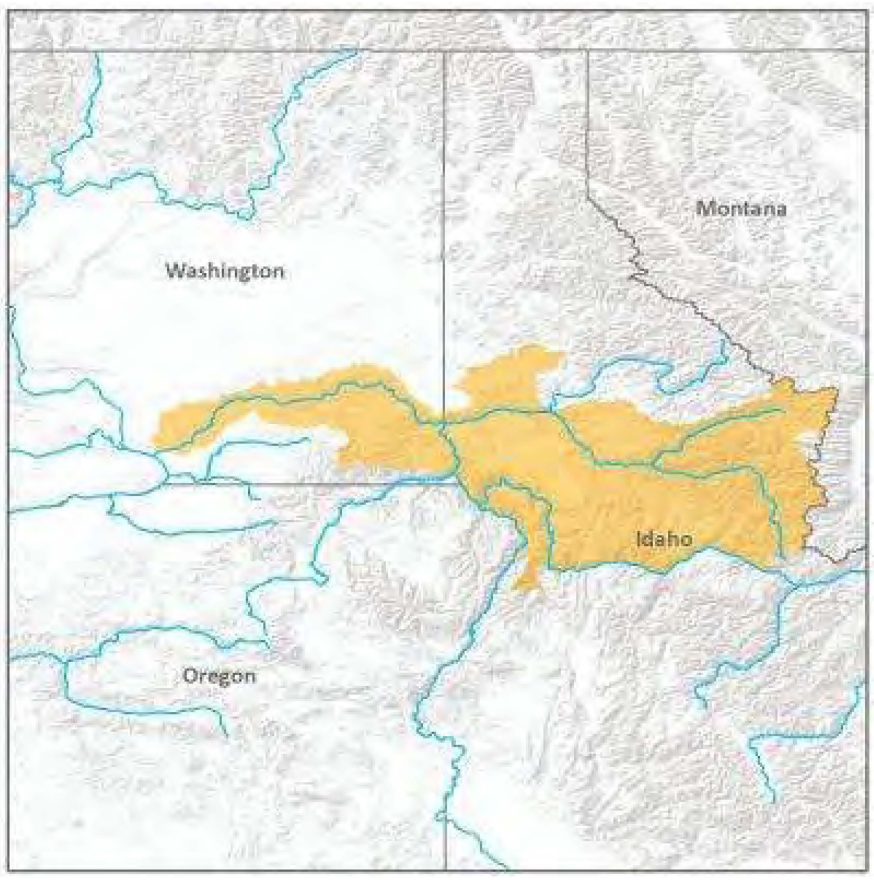
- Salmon, chum (Columbia River ESU)
- Salmon, coho (Lower Columbia River ESU)
- Salmon, sockeye (Snake River ESU)
- Salmon, Chinook (Upper Columbia River spring-run ESU)
- Salmon, Chinook (Lower Columbia River ESU)
- Salmon, Chinook (Snake River fall-run ESU)
- Salmon, Chinook (Snake River spring/summer-run ESU)
- Steelhead (Upper Columbia River DPS)
- Steelhead (Middle Columbia River DPS)
- Steelhead (Snake River Basin DPS)

Status of the Species summaries

- Snake River Sockeye Salmon (PDF, 5 pages)
- Upper Columbia Spring-run Chinook Salmon (PDF, 5 pages)
- Snake River Fall-run Chinook Salmon (PDF, 6 pages)
- Snake River Spring/Summer Chinook Salmon (PDF, 7 pages)
- Upper Columbia Steelhead (PDF, 4 pages)
- Middle Columbia River Steelhead (PDF, 6 pages)
- Snake River Basin Steelhead (PDF, 6 pages)

Snake River (north)

Johnna Sandow
(208) 254-1164
johnna.sandow@noaa.gov



To request consultation use: nmfswcr.srbo@noaa.gov

ESA species that may be found in the area

- Salmon, sockeye (Snake River ESU)
- Salmon, Chinook (Snake River fall-run ESU)
- Salmon, Chinook (Snake River spring/summer-run ESU)

- Steelhead (Snake River Basin DPS)

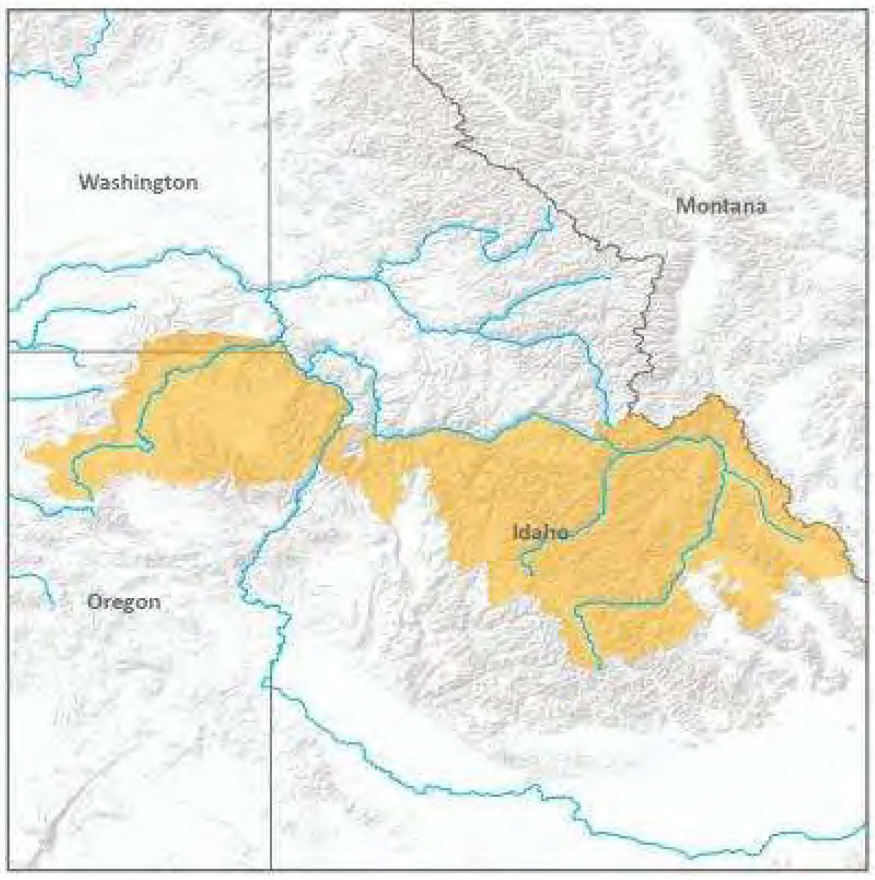
Status of the Species summaries

- Snake River Sockeye Salmon (PDF, 5 pages)
- Snake River Fall-run Chinook Salmon (PDF, 6 pages)
- Snake River Spring/Summer Chinook Salmon (PDF, 7 pages)
- Snake River Basin Steelhead (PDF, 6 pages)

Snake River (south)

Johnna Sandow
(208) 254-1164
johnna.sandow@noaa.gov

To request consultation use: nmfswcr.srbo@noaa.gov



ESA species that may be found in the area

- Salmon, sockeye (Snake River ESU)
- Salmon, Chinook (Snake River fall-run ESU)
- Salmon, Chinook (Snake River spring/summer-run ESU)
- Steelhead (Snake River Basin DPS)

Status of the Species summaries

- Snake River Sockeye Salmon (PDF, 5 pages)
- Snake River Fall-run Chinook Salmon (PDF, 6 pages)
- Snake River Spring/Summer Chinook Salmon (PDF, 7 pages)
- Snake River Basin Steelhead (PDF, 6 pages)

California Coast

Dan Wilson
(707) 578-8555
dan.wilson@noaa.gov



ESA species that may be found in the area

- Eulachon (Southern DPS)
- Sturgeon, green (Southern DPS)
- Salmon, coho (Southern Oregon/Northern California Coast ESU)
- Salmon, coho (Central California Coast ESU)

- Salmon, Chinook (California Coastal ESU)
- Salmon, Chinook (Sacramento River winter-run ESU)
- Salmon, Chinook (Central Valley spring-run ESU)
- Steelhead (Northern California DPS)
- Steelhead (Central California Coast DPS)
- Steelhead (California Central Valley DPS)
- Steelhead (South-Central California Coast DPS)
- Steelhead (Southern California DPS)

California Central Valley

Naseem Alston
(916) 930-3655
naseem.alston@noaa.gov

To request consultation use: ccvo.consultationrequests@noaa.gov



ESA species that may be found in the area

- Sturgeon, green (Southern DPS)
- Salmon, Chinook (Sacramento River winter-run ESU)
- Salmon, Chinook (Central Valley spring-run ESU)
- Steelhead (California Central Valley DPS)

Pacific Ocean (within U.S. Exclusive Economic Zone)

Shivonne Nesbit
(503) 231-6741
shivonne.nesbit@noaa.gov



ESA species that may be found in the area

- Abalone, black
- Abalone, white
- Eulachon (Southern DPS)
- Grouper, gulf
- Sea lion, Steller (Western DPS)
- Sea turtle, green (East Pacific DPS)
- Sea turtle, hawksbill

- Sea turtle, leatherback
- Sea turtle, loggerhead (North Pacific Ocean DPS)
- Sea turtle, olive ridley
- Seal, Guadalupe fur
- Shark, scalloped hammerhead (Eastern Pacific DPS)
- Shark, oceanic whitetip
- Sturgeon, green (Southern DPS)
- Whale, blue
- Whale, fin
- Whale, gray (Western North Pacific DPS)
- Whale, humpback (Central America DPS)
- Whale, humpback (Mexico DPS)
- Whale, killer (Southern Resident DPS)
- Whale, North Pacific right
- Whale, sei
- Whale, sperm

Resources

- Marine mammal tools - intersection of the ESA and Marine Mammal Protection Act
- Species and Habitat App - interactive web map, displays and queries data
- Maps & GIS data - filtered by West Coast
- ESA species directory - filtered by West Coast

For all other questions, please contact:

Rosalie del Rosario, Ph.D
(562) 980-4085
rosalie.delrosario@noaa.gov

Last updated by
West Coast Regional Office
on 05/13/2025

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Holt (3712184))

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Acipenser medirostris pop. 1 green sturgeon - southern DPS	AFCAA01031	Threatened	None	G2T1	S1	SSC
Actinemys marmorata northwestern pond turtle	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S2	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
Buteo swainsoni Swainson's hawk	ABNKC19070	None	Threatened	G5	S4	
Carex comosa bristly sedge	PMCYP032Y0	None	None	G5	S2	2B.1
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
Desmocerus californicus dimorphus valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T3	S3	
Gonidea angulata western ridged mussel	IMBIV19010	None	None	G3	S2	
Hibiscus lasiocarpos var. occidentalis woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Hypomesus transpacificus Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
Laterallus jamaicensis coturniculus California black rail	ABNME03041	None	Threatened	G3T1	S2	FP
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	G5	S2	2B.1
Melospiza melodia pop. 1 song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
Oncorhynchus mykiss irideus pop. 11 steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	SSC
Spea hammondii western spadefoot	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
Spirinchus thaleichthys pop. 2 longfin smelt - San Francisco Bay-Delta DPS	AFCHB03040	Endangered	Threatened	G5TNRQ	S1	
Symphyotrichum lentum Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
Thamnophis gigas giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	

Record Count: 21

Attachment C

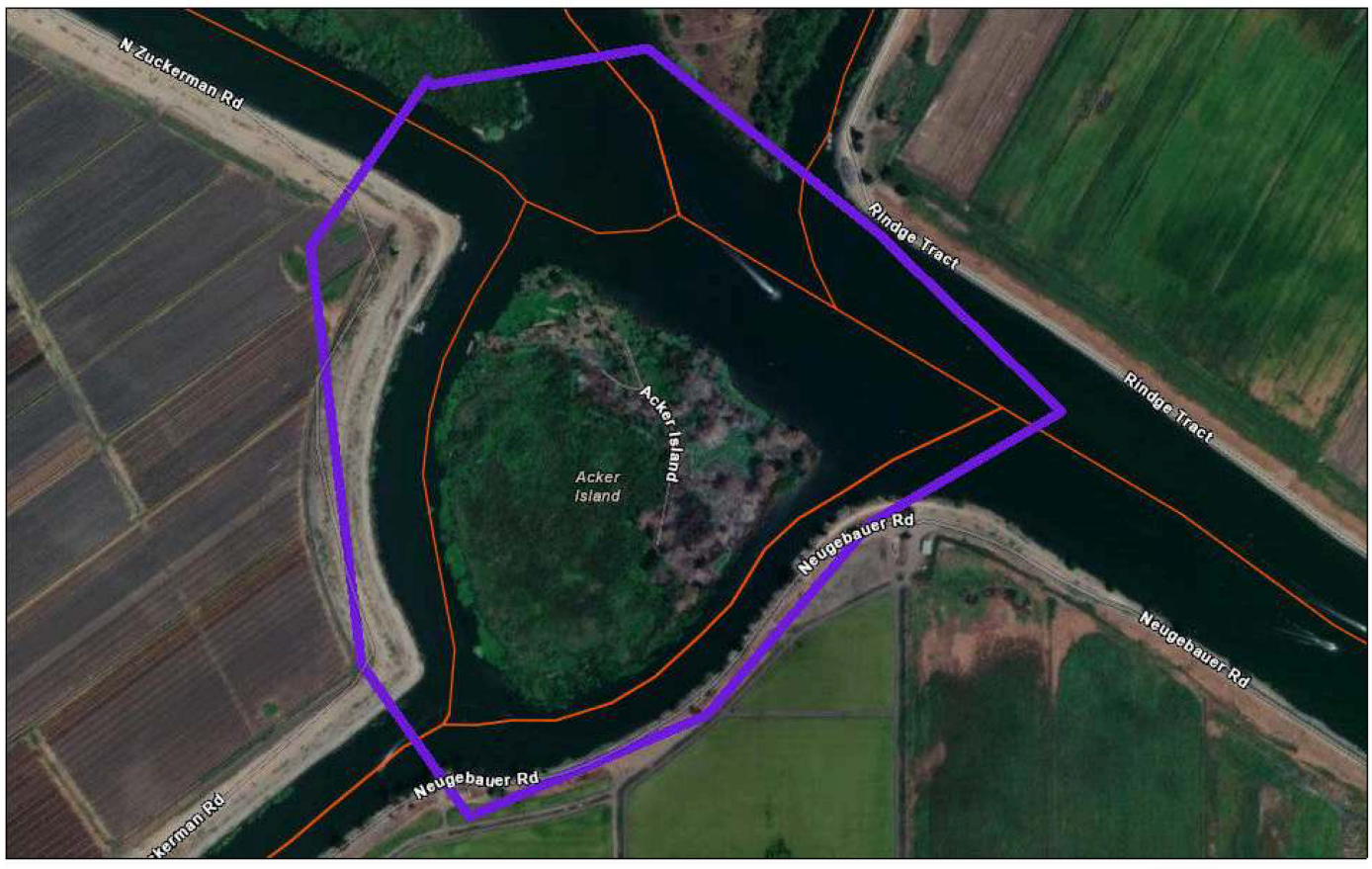
NMFS Essential Fish Habitat and Critical Habitat Maps

Critical Habitat Report

Area of Interest (AOI) Information

Length : 3.08 km

Jun 30 2025 13:17:39 Pacific Daylight Time



All_critical_habitat_line_20220404

1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, (c) OpenStreetMap contributors, and the GIS User Community, Source: Esri, Maxar, Earthstar

Summary

Name	Count	Area(km²)	Length(m)
All Critical Habitat Polyline	11	N/A	N/A
All Critical Habitat Polygon	0	N/A	N/A

All Critical Habitat Polyline

#	Listed Entity	Common Name	Scientific Name	Length(m)
1	Steelhead [California Central Valley DPS]	Steelhead	Oncorhynchus mykiss	N/A
2	Sturgeon, green [Southern DPS]	Sturgeon, green	Acipenser medirostris	N/A

EFH Mapper Report

EFH Data Notice

Essential Fish Habitat (EFH) is defined by textual descriptions contained in the fishery management plans developed by the regional fishery management councils. In most cases mapping data can not fully represent the complexity of the habitats that make up EFH. This report should be used for general interest queries only and should not be interpreted as a definitive evaluation of EFH at this location. A location-specific evaluation of EFH for any official purposes must be performed by a regional expert. Please refer to the following links for the appropriate regional resources.

West Coast Regional Office

Query Results

Degrees, Minutes, Seconds: Latitude = 37° 59' 53" N, Longitude = 122° 32' 59" W
Decimal Degrees: Latitude = 37.998, Longitude = -121.450

The query location intersects with spatial data representing EFH and/or HAPCs for the following species/management units.

EFH

Link	Data Caveats	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
		Groundfish	ALL	Pacific	Groundfish

Pacific Salmon EFH

Link	HUC Name	Species/Management Unit	Lifestage(s) Found at Location	Management Council	FMP
	San Joaquin Delta	Chinook Salmon	All	Pacific	Pacific Coast Salmon Plan

Atlantic Salmon

No Atlantic Salmon were identified at the report location.

HAPCs

No Habitat Areas of Particular Concern (HAPC) were identified at the report location.

EFH Areas Protected from Fishing

No EFH Areas Protected from Fishing (EFHA) were identified at the report location.

Spatial data does not currently exist for all the managed species in this area. The following is a list of species or management units for which there is no spatial data.
****For links to all EFH text descriptions see the complete data inventory: open data inventory -->**

Pacific Coastal Pelagic Species,
Jack Mackerel,
Pacific (Chub) Mackerel,
Pacific Sardine,
Northern Anchovy - Central Subpopulation,
Northern Anchovy - Northern Subpopulation,
Pacific Highly Migratory Species,
Bigeye Thresher Shark - North Pacific,
Bluefin Tuna - Pacific,
Dolphinfish (Dorado or Mahimahi) - Pacific,
Pelagic Thresher Shark - North Pacific,
Swordfish - North Pacific

Attachment D

Species Observed

Species Observed During the July 2025 Survey

Scientific Name	Common Name
PLANTS	
Cortaderia selloana	Pampas grass
Arundo donax	Giant reed
Rubus armeniacus	Himalayan blackberry
Cyperus eragrostis	Tall flat sedge
Avena spp.	Wild oat
Rumex crispus	Curly dock
Lotus pedunculatus	Greater birds-foot trefoil
Sesbania punicea	Brazilian glory pea
Populus nigra	Black poplar
Oenothera elata	Hooker's evening primrose
Phyllostachys aurea	Golden bamboo
Melilotus albus	White sweet clover
Verbena bonariensis	Purple top vervain
Sesbania punicea	Rattlebox
Erigeron bonariensis	Flaxleaf fleabane
Symphyotrichum subulatum	Annual saltmarsh aster
Typha latifolia	Broadleaf cattail
Iris pseudacorus	Yellow flag iris
Epilobium coloratum	Purple-leaved willow herb
Washingtonia robusta	Mexican fan palm
Helichrysum luteoalbum	Jersey cudweed
Polygonum aviculare	Common knotgrass
Lythrum hyssopifolia	Grass-poly
Oenothera villosa	Hairy evening-primrose
Cynodon dactylon	Bermuda grass
Paspalum dilatatum	Dallis grass
Capillipedium spicigerum	Scented-top grass
Cyperus eragrostis	Umbrella sedge
Amsinckia menziesii	Common fiddleneck
Polypogon monspeliensis	Annual beard-grass
Atriplez prostrata	Fat-hen
Epilobium parviflorum	Small flower hairy willowherb
Pondtederia crassipes	Water hyacinth
Ludwigia peploides	Floating primrose willow
Oenothera biennis	Common evening-primrose
Cirsium vulgare	Bull thistle
ANIMALS	
Pandion haliaetus	Osprey
Ardea alba	Great egret
Turdus migratorius	American robin
Buteo jamaicensis	Red-tailed hawk
Geothlypis trichas	Common yellow throat
Picoides pubescens	Downy woodpecker
Pavo cristatus	Peacock
Melospiza melodia	Song sparrow
Ardea alba	Great egret

Bombus spp.	Bumblebee
Petrochelidon pyrrhonota	Cliff swallow
Zenaida macroura	Mourning dove

Attachment E

Site Photographs



View of the bank of the Project Site from the San Joaquin River.



View showing access point of the Project Site via boat along the San Joaquin River.



View showing the intermixed grassland and ruderal habitats.



View showing the easternmost isolated Seasonal Wetland.



View showing the remenants of previous commercial use and development, along with the westernmost isolated Seasonal wetland feature.

Attachment F

Special Status Species Table

SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR WITHIN THE STUDY AREA

Common Name *Scientific Name*	Status	Covered by the MSHCP?	Life History/Habitat*	Potential to Occur within the Study Area
Animals				
Tricolored blackbird *Agelaius tricolor*	ST	Yes	Nests colonially in large, dense stands of freshwater marsh, riparian scrub, and other shrubs and herbs; forages in grasslands and agricultural fields. Year-round resident throughout the Central Valley.	Low. The Study Area contains minimal areas of dense riparian vegetation. No individuals were observed or reported within the Study Area.
Burrowing owl *Athene cunicularia*	SC	Yes	Nests and forages in grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present. Occasionally inhabits artificial structures and small patches of disturbed habitat. Year-round range includes the Central Valley and Delta.	None. The Study Area lacks burrows and suitable habitat. No individuals were observed or reported within the Study Area.
Swainson's hawk *Buteo swainsoni*	ST	Yes	Nests in isolated trees, open woodlands, and woodland margins; forages in grasslands and agricultural fields. Breeding range spans the Central Valley and Delta west of Suisun Marsh, northeastern California, and a few additional scattered sites; most of the population migrates south of California in fall/winter, although a small number winters in the Delta.	Low. The Study Area does not contain woodland habitat. No individuals were observed or reported within the Study Area.
California black rail *Laterallus jamaicensis coturniculus*	ST	Yes	Occurs most commonly in tidal emergent wetlands dominated by pickleweed, or in brackish marshes supporting bullrushes in association with pickleweed. In freshwater, usually found in bullrushes, cattails, and saltgrass.	Low. The Study Area contains minimal areas suitable for nesting. No individuals were observed or reported within the Study Area.
Riparian brush rabbit *Sylvilagus bachmani riparius*	SE, FE	Yes	Habitat for the riparian brush rabbit consists of riparian areas that contain willow thickets, California wild rose, Pacific blackberry, wild grape, Douglas' coyote bush and various grasses. The rabbits have small home ranges that are limited by the size of available brushy habitat.	None. While the Study Area contains riparian habitat it is intermixed with developed and grassland habitats. No individuals were observed or reported within the Study Area, and there is no feasible method for this species to access the island.
Giant garter snake *Thamnophis gigas*	ST, FT	Yes	Giant garter snakes inhabit marshes, sloughs, ponds, small lakes, small streams and other waterways, and are also found in agricultural wetlands such as rice fields and irrigation and drainage canals. Uplands are also important as they use this habitat to bask or find shelter for the winter. The giant garter snake overwinters in burrows made by small mammals, including ground squirrels and other rodents.	Low. While the Study Area contains wetland habitats it is intermixed with developed and grassland habitats. Does not occur around larger rivers (USFWS, 2025). No individuals were observed or reported within the Study Area.
Northwestern pond turtle *Actinemys marmorata*	SSC, FPT	Yes	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater (California Herps, 2025a).	**High.** The Study Area contains suitable waterways. The bank along Acker Island is too dense and steep to support basking or access to terrestrial habitat.

Common Name *Scientific Name*	Status	Covered by the MSHCP?	Life History/Habitat*	Potential to Occur within the Study Area
California tiger salamander *Ambystoma californiense*	ST, FT	Yes	California tiger salamanders require access to both aquatic and upland habitat throughout their life cycle. This species uses standing bodies of fresh water, like ponds, vernal pools and other ephemeral or permanent water bodies for breeding. These bodies of water must hold water for a minimum of 12 weeks to support the salamander larvae development. This species also need access to upland habitat that contains small animal burrows or underground hideaways for shelter and protection from predators and desiccation during nonbreeding periods	Low. The Study Area contains wetland habitats and grassland features that may provide suitable breeding and shelter sites, respectively. No individuals were observed or reported as occurring, and there is no feasible method for this species to access the island.
Western spadefoot *Spea hammondii*	SSC, FPT	Yes	Grasslands with shallow temporary pools are optimal habitats. Rainfall is important in the formation and maintenance of breeding ponds. Most surface movements by adults are associated with rains or high humidities at night	Low. The Study Area contains wetland habitats and grassland features that may provide suitable breeding and shelter sites, respectively. However, this species does not occur within rivers (CaliforniaHerps, 2025) and does not disperse across rivers and would have no feasible access to the island. No individuals were observed or reported as occurring.
Green Sturgeon (Southern DPS) *Acipenser medirostris*	FT	Yes	Known to occur in the San Joaquin River.	**High.** The Study Area is located along the San Joaquin River.
Delta smelt *Hypomesus transpacificus*	SE, FT	Yes	This species is typically found in brackish water with moderate turbidity, and is native to California, is found in the Sacramento-San Joaquin River Delta. Delta Smelt is a euryhaline species, able to tolerate a wide salinity range.	**High.** The Study Area is located along the San Joaquin River.
Steelhead (Central Valley DPS) *Oncorhynchus mykiss irideus pop. 11*	FT	No	Known to occur in the San Joaquin River.	**High.** The Study Area is located along the San Joaquin River.
Chinook Salmon (Sacramento River winter-run ESU) *Oncorhynchus tshawytscha*	SE, FT	No	Known to occur in the San Joaquin River.	**High.** The Study Area is located along the San Joaquin River.
Chinook Salmon Central Valley spring-run ESU *Oncorhynchus tshawytscha*	ST, FT	No	Known to occur in the San Joaquin River.	**High.** The Study Area is located along the San Joaquin River.
Longfin smelt *Spirinchus thaleichthys*	ST, FE	Yes	Estuaries and lower portions of freshwater streams. Longfin Smelt are euryhaline and can tolerate a wide range of salinity from completely fresh to marine. Longfin Smelt is also anadromous and depends on fresh and marine waters for spawning and rearing	**High.** The Study Area is located along the San Joaquin River.

Common Name *Scientific Name*	Status	Covered by the MSHCP?	Life History/Habitat*	Potential to Occur within the Study Area
Monarch butterfly *Danaus plexippus*	FPT	No	Monarch is an obligate feeder on milkweed for breeding. Open areas like prairies, meadows, grasslands, and roadsides may provide suitable breeding grounds.	None. While the Study Area contains grassland habitat, no host plants were observed within the Study Area.
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	FT	Yes	The valley elderberry longhorn beetle is dependent on its host plant, the elderberry, a shrub that grows in riparian areas and foothill oak woodlands in California. While these shrubs are widely distributed, the valley elderberry longhorn beetle is only found on the valley floor and low foothills.	None. No suitable habitat present.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	Yes	Vernal pools and other seasonal wetlands with shallow cool water.	None. No suitable habitat present.
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	Yes	Vernal pools and other seasonal wetlands with shallow cool water.	None. No suitable habitat present.
Plants**				
Large-flowered fiddleneck *Amsinckia grandiflora*	FE	Yes	Cismontane woodland and valley and foothill grassland. Elevation ranges from 885 to 1805 feet amsl.	None. Elevation is outside the range for species.
Bristly sedge *Carex comosa*	2B.1	Yes	Coastal prairie, marshes and swamps (lake margins), and valley and foothill grassland. Elevation ranges from 0 to 2,050 feet above mean sea level amsl. Blooms May – September.	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.
Woolly rose-mallow *Hibiscus lasiocarpos var. occidentalis*	1B.2	Yes	Marshes and swamps (freshwater). Elevation ranges from 0 to 395 amsl. Blooms June – September.	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.
Delta tule pea *Lathyrus jepsonii var. jepsonii*	1B.2	Yes	Marshes and swamps (brackish freshwater). Elevation ranges from 0 to 15 feet amsl. Blooms May – July (in some years as late as September).	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.
Mason's lilaeopsis *Lilaeopsis masonii*	1B.1	Yes	Marshes and swamps (brackish freshwater), riparian scrub. Elevation ranges from 0 to 35 feet amsl. Blooms April – November.	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.
Delta mudwort *Limosella australis*	2B.1	Yes	Marshes and swamps (brackish freshwater), riparian scrub with microhabitat includes streambanks. Elevation ranges from 0 to 10 feet amsl. Blooms May – August.	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.

Common Name *Scientific Name*	Status	Covered by the MSHCP?	Life History/Habitat*	Potential to Occur within the Study Area
Suisun Marsh aster *Symphyotrichum lentum*	1B.2	Yes	Marshes and swamps (brackish freshwater). Elevation ranges from 0 to 10 feet amsl. Blooms May – November.	None. While the Study Area contains wetland habitats, no individuals were observed or reported within the Study Area. The July 2025 site visit was conducted during the blooming period.

*Habitat requirements are derived from the USFWS, CNDDB, or CNPS general and microhabitats unless otherwise noted.
** California Rare Plant Rankings are determined by CNPS.
***MSHCP: San Joaquin County Multi-Species Habitat Conservation Plan

Status Rankings

State:

- **SE**: State-listed as Endangered
- **ST**: State listed as threatened
- **SC**: State candidate for listing as endangered or threatened
- **SSC**: Species of Special Concern

Federal:

- **FPT:** Federally-proposed for listing as Threatened
- **FT**: Federally-listed as Threatened
- **FPE:** Federally-proposed for listing as Endangered
- **FE**: Federally-listed as Endangered

CNPS:

- **1A**: Plants presumed extirpated in California and either rare or extinct elsewhere
- **1B**: Plants rare, threatened, or endangered in California and elsewhere
- **2A**: Plants presumed extirpated in California but common elsewhere
- **2B**: Plants rare, threatened, or endangered in California but more common elsewhere

The following describes the criteria used for the probability of a special status species' occurrence:

- **No Potential.** Habitat on and adjacent to the Study Area is clearly unsuitable for the species (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) or is outside of the known range of the species.
- **Low Potential.** Few habitat components meeting the species' requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. Additionally, the Study Area may be outside the known range of the species or isolated such that the species is unlikely to access the area. The species is not likely to occur within the Study Area.
- **Moderate Potential.** Some habitat components meeting the species' requirements are present, and/or only some of the habitat on or adjacent to the Study Area is unsuitable. The species has a moderate probability of being found within the Study Area.
- **High Potential.** All habitat components meeting the species' requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found within the Study Area.

Additional References

CaliforniaHerps, 2025a. Western Spadefoot. Available online at: https://californiaherps.com/frogs/pages/s.hammondii.html. Accessed July 2025.
USFWS, 2025. FWS Focus: Giant Garter Snake. Available online at: https://www.fws.gov/species/giant-garter-snake-thamnophis-gigas. Accessed July 2025