

Appendix B

Biological Technical Memorandum

BIOLOGICAL TECHNICAL MEMORANDUM

**ROADWAY IMPROVEMENTS AND TRAFFIC SIGNAL INSTALLATION AT
CORRAL HOLLOW ROAD AND LINNE ROAD INTERSECTION PROJECT**

CML-5192(050)

CITY OF TRACY CIP No. 72104

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Prepared for:

Kimley-Horn
555 Capitol Mall, Suite 300
Sacramento, CA 95814
Contact: Alex Jewell
alex.jewell@kimley-horn.com

Prepared by:



Horizon Water and Environment, LLC
P.O. Box 2727
Oakland, CA 94612
Contact: Robin Hunter
robin@horizonh2o.com

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Acronyms and Abbreviations

ADA	Americans with Disabilities Act
AMMs	avoidance and minimization measures
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
City	City of Tracy
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESA	Endangered Species Act
EO	Executive Order
F&G Code	California Fish and Game Code
Horizon	Horizon Water and Environment, LLC
IPaC	Information for Planning and Conservation
ISCC	California Invasive Species Council
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
Project	Traffic Signal Installation at the Corral Hollow Road and Linne Road Intersection Project
ROW	right of way
RWQCB	Regional Water Quality Board
SWRCB	State Water Resources Control Board
UPRR	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
°F	degrees Fahrenheit
USGS	U.S. Geological Survey

1 Introduction and Project Description

1.1 Introduction

The Roadway Improvements for Traffic Signal Installation at the Corral Hollow Road and Linne Road Intersection Project (Project or proposed Project) is located in the City of Tracy (City) within San Joaquin County, California (see Figure 1). More specifically, the project site is located within the existing road grades at the intersection of Corral Hollow Road and Linne Road. Both roads will be widened at the intersection to provide both through lanes and right-turn lane pockets, which will require the acquisition of new right of way (ROW), as well as utility relocation. The Union Pacific Railroad (UPRR) runs perpendicular (east-west) to W. Linne Road directly north of the intersection, where it is crossed by Corral Hollow Road.

1.2 Purpose and Need

The proposed road widening and signalization along Corral Hollow Road would maintain road width consistency along Corral Hollow Road and increase the intersection level of service (LOS) at the intersection with W. Linne Road. Corral Hollow Road is currently being widened north of the intersection with W. Linne Road and private development will fund the widening east and south of the intersection. The Project would widen Corral Hollow Road to match the width of these other projects. The intersection of Corral Hollow Road currently operates at a deficient LOS. The improvements, including widening, addition of a dedicated turn lane, and addition of signalization, would improve the LOS. Intersection improvements would improve mobility, alleviate traffic congestion, and improve traffic efficiency along Corral Hollow Road.

1.3 Project Description

The proposed Project would make transportation improvements to Corral Hollow Road and Linne Road, within the intersection of the two roadways and within portions of adjacent parcels. Improvements would include widening Corral Hollow Road and Linne Road, and the addition of signals within the intersection.

Corral Hollow Road would be widened to two (2) travel lanes in each direction. These project improvements would start immediately north of the UPRR ROW and extend southerly to approximately 500 feet south of the intersection with W. Linne Road. Other improvements proposed along Corral Hollow Road would include the construction of a center median, curbs, and sidewalks. New sidewalk and curb and gutter would be installed on the westerly side of the roadway and at the two corners of the intersections. Standard sidewalks and curb ramps would be Americans with Disabilities Act (ADA) compliant. In addition, the driveways to the adjacent properties would be improved with new concrete driveways. A total of four new driveways would be installed.

A new retention basin (approximately 0.35 acres/15,400 square feet) would be installed adjacent to the southwest corner of the intersection and would require the removal of approximately 40 orchard trees. Other standard improvements would include the installation of new signage, roadway striping, and crosswalks. All roadway improvements would conform to Caltrans and City standards as applicable.

Minor improvements to W. Linne Road would be made, primarily in the westbound lanes. The road would be widened to enable paving and striping of a new right turn only lane. The existing left lane

would remain and be used as a left only lane to southbound Corral Hollow Road. The proposed Project would also install new traffic signals at the intersection of Corral Hollow Road and W. Linne Road as well as streetlights and a pre-signal north of the UPRR crossing for southbound traffic along Corral Hollow Road. Signals would be connected to existing infrastructure on the north side of Corral Hollow Road. Signal timing between the proposed traffic signal, the pre-signal, and raising and lowering of guard arms, would be created in coordination with UPRR.

Some ROW acquisitions would be required. In addition to the listed 40 orchard trees above, approximately 151 other trees would be removed, for new ROW and a temporary construction easement. The project would also require removal of some existing hardscape and fencing, grinding and matching with existing pavement grades, and utility relocation.

It should be noted that Corral Hollow Road is currently being widened north of the intersection and private development is anticipated to fund additional widening efforts to both roadways as development progresses and demand becomes known. Ongoing widening of Corral Hollow Road is occurring to the north, and the proposed Project would widen Corral Hollow Road to match the width of this and other improvements to the south of the Project site. This is intended to help ensure smooth traffic flow and avoid constriction that would occur under the existing alignment (from two lanes to a single lane).

1.3.1 Stormwater

The proposed Project would include new stormwater facilities and would utilize an approximate 0.35-acre retention basin to contain stormwater flows, promote water infiltration, and reduce potential for increased downstream stormwater flows.

1.3.2 Utilities

The proposed Project would tie into existing utilities for electrification of the new signals, streetlights, and other roadway and railroad crossings, as needed. As applicable, it would tie into existing water, stormwater, sewer, gas, electrical, and telecommunications utilities. Substantial alterations are not needed because the Project does not include new land uses. The proposed Project would realign the existing above ground utility lines and poles adjacent to the new roadways.

1.4 Construction

Some demolition, excavation, and grading would be required for this Project. Equipment that may be used to accomplish Project work is listed in Table 1 below. Some excavation to a maximum depth of 14 feet for the installation of traffic signal poles, six feet for the drainage feature, and four feet for road widening would be required only where these Project elements are proposed.

Table 1. Equipment

Bobcat/skid steer loader	Gradall (multi-purpose excavator)
Compactor (Ground)	Jackhammer
Concrete Mixer Truck	Pavement Scarifier/Roller
Concrete Saw	Pneumatic Tools
Crane or bucket truck	Truck (Dump/Flat Bed)
Dozer/Grader/Excavator/Scraper	

1.5 Biological Study Area

The Biological Study Area (BSA) includes the Corral Hollow Road and W. Linne Road intersection and adjacent areas (Figure 1). **Appendix A** provides representative site photographs.

2 Study Methods

2.1 Regulatory Requirements

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) is administered by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Overall, NMFS is responsible for protection of ESA-listed marine species and anadromous fish species, while other listed species fall under USFWS jurisdiction.

2.1.2 California Endangered Species Act

The California Endangered Species Act (CESA) incorporates provisions that permit impacts to species listed in California as rare, threatened, or endangered. CESA declares that it is the policy of the State that State agencies should not approve projects that would jeopardize the continued existence of a species listed under CESA as endangered or threatened or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if reasonable and prudent alternatives are available consistent with conserving the species or its habitat that would prevent jeopardy (California Fish and Game Code [CFGF] Section 2053).

Section 2080 of the CFGF prohibits the take of any species that is state-listed as endangered or threatened, or designated as a candidate for such listing. "Take" is defined by Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" an individual of a listed species. Under the CESA, the CDFW may issue an incidental take permit authorizing the take of listed and candidate species that is incidental to an otherwise lawful activity, subject to specified conditions.

2.1.3 Clean Water Act (CWA)

The federal Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. CWA requirements pertaining to the proposed project are described below.

Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the U.S., must obtain a state certification that the discharge complies with other provisions of CWA. The Regional Water Quality Boards (RWQCB) administer the certification program in California.

Section 404 establishes United States Army Corps of Engineers (USACE) jurisdiction over fill materials in essentially all water bodies, including wetlands. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative. Section 404 established a permit program administered by USACE regulating the discharge of dredged or fill material into waters of the U.S. (including wetlands).

Section 404 guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

2.1.4 Porter-Cologne Water Quality Control Act

The 1969 Porter–Cologne Water Quality Control Act (known as the Porter–Cologne Act) dovetails with the CWA. It established the State Water Resources Control Board (SWRCB) and divided the state into nine regions, each overseen by its own RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of the state’s surface water and groundwater supplies; however, much of the SWRCB’s daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 402 and 303[d]. In general, the SWRCB manages water rights and regulates statewide water quality, whereas RWQCBs focus on water quality within their respective regions.

The Porter–Cologne Act requires that the RWQCB develop water quality control plans (also known as Basin Plans) that designate beneficial uses of California’s major surface-water bodies and groundwater basins and establish specific narrative and numerical water quality objectives for those waters. Beneficial uses represent the services and qualities of a waterbody (i.e., the reasons that the waterbody is considered valuable). Water quality objectives reflect the standards necessary to protect and support those beneficial uses. Basin Plan standards are primarily implemented by regulating waste discharges so that water quality objectives are met. Under the Porter–Cologne Act, Basin Plans must be updated every three years. Project activities that result in point-source discharges into state-regulated waters are subject to the RWQCB’s Waste Discharge Requirements Program in order to ensure compliance with Basin Plan standards and water quality objectives.

2.1.5 Migratory Bird Treaty Act

The Migratory Bird Treaty with Canada, Mexico and Japan makes it unlawful to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit. The federal Migratory Bird Treaty Act (MBTA) applies to the removal of nests occupied by migratory birds during the breeding season.

2.1.6 California Fish and Game Code

Section 3503

Section 3503 of the CFGC prohibit the take, possession, or needlessly destruction of a nest or eggs of any bird, except as otherwise provided by CFGC or any regulation made pursuant thereto.

2.1.7 Executive Order 13112 – Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order (EO) 13112 requiring federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council (ISCC) to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

2.2 Studies Required

2.3 Literature and Database Review

Biological resources and potential impacts were identified through a literature and database review. A literature review was used to develop a list of special-status plant and wildlife species and natural communities. For purposes of this evaluation, special-status species are those that are listed under or included in:

- the federal ESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species;
- the California Endangered Species Act (CESA) as threatened, endangered, rare, or a candidate species;
- the California Native Plant Society (CNPS)'s California Rare Plant Rank (CRPR) designations as rare or endangered with ranks of 1A, 1B, 2A, 2B, or 3;
- Designated by CDFW as a California species of special concern; or
- Listed in the California Fish and Game (F&G) Code as a fully protected species (birds at Section 3511, mammals at Section 4700, reptiles and amphibians at Section 5050, and fish at Section 5515).

The following data sources on special-status species were queried:

- USFWS list of federally endangered and threatened species that may occur in the proposed Project, and/or may be affected by the proposed Project (USFWS 2022a);
- USFWS's Critical Habitat Portal (USFWS 2022b);
- National Wetland Inventory (NWI) results (USFWS 2022c);
- California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB) queries for the nine U.S. Geological Survey (USGS) 7.5-minute Quadrangles surrounding and encompassing the BSA (Tracy, Vernalis, Lathrop, Union Island, Clifton Court Forebay, Midway, Cedar Mountain, Lone Tree Creek, and Solyo);
- CNPS Inventory of Rare and Endangered Plants of California queries for the for the nine USGS 7.5-minute Quadrangles surrounding and encompassing the BSA; and
- eBird records for the study area (Cornell Lab of Ornithology 2022).

Results from the database queries are provided in **Appendix B**. A NMFS species list is not required, as the Proposed Project is outside of NMFS jurisdiction. Based on the results of the searches, preliminary field surveys were then conducted to evaluate the listed special-status plants, wildlife, and fish species and their potential to occur within the BSA, included in **Appendix C**.

Maps of existing biological resources, including an aerial photographic overview of the BSA (Figure 1), CNDDB special-status species occurrence records within five miles of the BSA (Figures 2 and 3), and critical habitat (Figure 4), were created based on the literature review. No critical habitat is present within the BSA.

2.4 Field Reviews

2.4.1 Survey Methods and Dates

Previous Surveys

Three surveys were conducted in 2018 for the Corral Hollow Road Widening Phase 2 Linne Road to I-580 Project. This road widening project overlaps the Proposed Project along Corral Hollow Road, and within the orchard. These surveys were conducted by Steve McMurtry of De Novo Planning Group to evaluate biological conditions within the project area (De Novo Planning Group 2020).

Current Survey

Horizon biologists Robin Hunter and Erica Caddell conducted a reconnaissance survey of the BSA on May 2, 2022. The survey was conducted on-foot in all accessible areas within BSA. Natural and anthropogenic features, land cover types, and the presence of common and special-status species were visually surveyed. Visual aids, such as binoculars, were used to better assess survey areas and wildlife species when appropriate.

2.5 Agency Coordination and Professional Contacts

No coordination with regulatory agencies has occurred.

3 Biological Study Area Description

3.1 Environmental Setting

3.1.1 Physical Conditions

Topography

Topography in the vicinity of the BSA is largely flat. Elevations in the BSA range from approximately 160-170 feet above mean sea level, sloping up towards the southwest (USGS 1981).

Climate

The study area has a Mediterranean climate characterized by cool, wet winters and hot, dry summers. Average temperatures range from a low of 36 degrees Fahrenheit (°F) in January to a high of 85°F in July (Natural Resources Conservation Service [NRCS] 2022a). Average annual precipitation is approximately 9.9 inches, with the majority of precipitation occurring from October through April (NRCS 2022a).

Soils

The Project area is underlain by Zacharias clay loam, 0 to 2 percent slopes (NRCS 2022b). This soil is not classified as a hydric soil (NRCS 2022c).

3.1.2 Land Use

The land uses in the vicinity of the BSA consist of a mix of agriculture, industrial, residential, and infrastructure (canals and airport). Residential uses are dominant to the north as new development is expanding southerly from the main City center. Residential development is located to the northwest of the Project site and additional homes are under construction. Further to the northwest the primary land use is agricultural production. To the southeast, south, and southwest, the Project is surrounded by a mix of land uses. This includes industrial uses for concrete production, the Tracy Municipal Airport, American Legion Park, the Tracy Water Treatment Plan, the northerly reach of the Delta Mendota Canal, and agricultural land.

Adjacent land uses to the north of Linne Road include highly disturbed roadway shoulder and the UPRR. This area is nearly devoid of vegetation and does not contain any structures. To the south of Linne Road is an industrial site with numerous buildings used for sand and gravel operations and manufacturing concrete products. To the southeast of the corner of Linne Road and Corral Hollow Road is a lot that is partially developed with three small single-story structures. The westerly side of this lot is adjacent to the eastern alignment of Corral Hollow Road. The northerly portion of the lot contains an undeveloped but disturbed area with an existing billboard. The southerly half of this parcel contains three structures. To the west of Corral Hollow Road is agricultural land that is cultivated with an orchard. There are above ground power lines strung on wooden power poles along both the southerly sides of Linne Road and the easterly side of Corral Hollow Road.

3.2 Biological Resources

3.2.1 Land Cover Types

This section describes habitats and land cover present within the BSA. The reconnaissance survey identified four land cover types in the study area: developed, landscaped, orchard, and ruderal. Vegetation within the study area was surveyed on foot. Botanical nomenclature follows the second edition of the Jepson Manual (Baldwin et al. 2012). The characteristics of each land cover type are described below.

Developed

Developed land cover includes W. Linne Road, Corral Hollow Road, adjacent driveways, and the UPRR tracks. Vegetation in these areas, if present at all, is usually sparse and dominated by opportunistic weedy herbaceous species. Wildlife species typically associated with developed areas include striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), and Virginia opossum (*Didelphis virginiana*).

Landscaped

Landscaped areas of the BSA are characterized by ornamental vegetation. Due to its close proximity to the more expansive developed areas, wildlife associated with landscaped vegetation is the same as associated developed cover.

Orchard

An almond (*Prunus dulcis*) orchard is present in the western portion of the BSA. The understory vegetation that would provide food and cover for wildlife is sparse in this orchard, limiting the abundance and diversity of wildlife species that may be found there. Species such as the side-blotched lizard (*Uta stansburiana*), pocket gopher (*Thomomys bottae*), squirrel (*Citellus* spp.), and western brush rabbit (*Sylvilagus bachmani*) can occur in this habitat type.

Ruderal

Ruderal vegetation is characterized by non-native forbs and grasses in a disturbed habitat typically along the edges of development or areas with frequent anthropogenic impacts (e.g., mowing/discing). This vegetation type is present to the north of the orchard and in the disced field located to the southeast of the intersection.

3.2.2 Aquatic resources

No aquatic resources were present within the BSA. A rock-lined constructed detention basin is located just outside the BA, to the northwest of the intersection.

3.2.3 Invasive species

Table 2 identifies the invasive species observed in BSA during the field survey. The species listed in the table were observed at numerous locations in the BSA and are considered invasive based on the ISCC invasive plant species list.

Table 1: Invasive Species Observed in the BSA

Scientific Name	Common Name	Cal-IPC Ranking*
<i>Bromus madritensis ssp. rubens</i>	red brome	High
<i>Carduus pycnocephalus</i>	Italian thistle	Moderate
<i>Centaurea solstitialis</i>	yellow star thistle	High
<i>Convolvulus arvensis</i>	field bindweed	Not listed
<i>Festuca perennis</i>	Italian ryegrass	Moderate
<i>Hordeum murinum</i>	Foxtail barley	Moderate
<i>Lactuca serriola</i>	Prickly lettuce	Not listed
<i>Malva parviflora</i>	Cheeseweed mallow	Not listed

* California Invasive Plant Council (Cal-IPC) ranking for ecological impacts.

3.2.4 Habitat Connectivity

Habitat within and in the vicinity of the BSA is largely isolated, and connectivity is substantially restricted due to the surrounding land uses. The BSA is largely developed, landscaped, disturbed, or in orchard cultivation. The overall degree of noise and human presence and activity within and adjacent to the BSA further reduces the quality of habitat within the BSA.

3.3 Special-Status Species

3.3.1 Plants

Special-status plants known to occur in the vicinity of the BSA were evaluated for their potential to occur (**Appendix C**). No special-status plants are anticipated to occur in the BSA.

3.3.2 Wildlife

Special-status wildlife known to occur in the vicinity of the BSA were evaluated for their potential to occur are described in detail in Appendix C and summarized below. Additional detail is provided in Chapter 4.

San Joaquin kit fox (*Vulpes macrotis mutica*) is known to occur in the vicinity of the BSA (Figure 3). Burrowing owl (*Athene cunicularia*) and Swainson's hawk (*Buteo swainsoni*) are known to occur at several locations within 5 miles of the Proposed Project (Figure 3). A Swainson's hawk was also observed perching on a power pole in the BSA during the May reconnaissance survey.

Several species of special-status bats may forage over the BSA, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), and western mastiff bat (*Eumops perotis californicus*).

3.3.3 Critical Habitat

No Critical Habitat is designated within the study area (USFWS 2022b).

3.4 Regional Species and Habitats and Natural Communities of Concern

This section describes special-status species, their habitats, their potential to occur within the BSA. Table 3 includes the species that have potential to occur in the BSA. Complete lists of all special-status plant, wildlife, and fish species considered are included in Appendix C.

Table 2: Species with Potential to Occur.

<i>Scientific Name</i> <i>Common Name</i>	Status (Federal / State)	General Habitat Description	Potential to Occur at the Project Site
			Effect Finding for Federally Listed Species
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base.	May occur. No dens were observed during the May 2022 reconnaissance survey; however, this species is known from the vicinity of the BSA and could travel through the BSA. May affect, not likely to adversely affect.
<i>Buteo swainsoni</i> Swainson's Hawk	-/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Present. Potentially suitable foraging habitat is present in the vicinity of the BSA. This species is not anticipated to nest within the BSA, but may nest in the vicinity. No suitable nest trees are present within the BSA. One individual observed perching in the BSA during the May 2022 reconnaissance survey.
<i>Athene cunicularia</i> burrowing owl	-/SCC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	May occur. Potentially suitable foraging habitat is present and there are known CNDDB occurrences within 5 miles of the BSA (CDFW 2022). The BSA is not anticipated to provide suitable nesting habitat due to the lack of burrows observed during May 2022 reconnaissance survey.

Scientific Name Common Name	Status (Federal / State)	General Habitat Description	Potential to Occur at the Project Site
			Effect Finding for Federally Listed Species
<i>Antrozous pallidus</i> pallid bat	-/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Possible. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	-/SCC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. This species generally roosts in caves, abandoned mines, and occasionally buildings and is extremely sensitive to human disturbance (Pierson and Rainey 1998).	May occur. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
<i>Eumops perotis californicus</i> western mastiff bat	-/SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	May occur. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
Status Legend Federal: FE = federally listed as endangered - = no listing status State ST = state threatened SSC = species of special concern			

4 Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

Natural communities of special concern include those that are regulated by federal, state, or local jurisdictions, have limited distributions, and/or support populations of special-status plants or wildlife. Federal and state agencies also consider wetlands and waters of the United States as features of special concern. No natural communities of special concern, wetlands, or waters of the United States were identified within the BSA. Therefore, no impacts would occur.

4.2 Critical Habitat

USFWS and NMFS designated critical habitat to protect areas that are essential to the survival of federally listed species of plants and wildlife. No critical habitat is present within the BSA. Therefore, no impacts would occur.

4.3 Special Status Plant Species

Many special-status plant species were identified by the CNDDDB, CNPS, and USFWS databases as having potential to occur in the region (see Appendix B). However, no special-status plant species are expected to occur in the BSA due to the lack of suitable habitat. No special-status plant species were observed during the biological reconnaissance-level survey, or in previous surveys conducted within the BSA. Since special-status plant species are not expected to occur within the BSA, the Project would not impact any special-status plants.

4.4 Special Status Animal Species

The CNDDDB and USFWS databases identified special-status wildlife species that have potential to occur in the region (see Appendix B). Based on the observations made during the biological reconnaissance-level surveys, all but eight species were determined to have no potential or were not expected to occur within the BSA due to the lack of suitable habitat. The special-status species with potential to occur include San Joaquin kit fox, Swainson's hawk, burrowing owl, pallid bat, Townsend's big-eared bat, and western mastiff bat.

4.4.1 San Joaquin Kit Fox

Survey Results

The BSA is mainly comprised of roadways and orchard. These areas may be utilized by San Joaquin kit fox for dispersal and occasional foraging, but are generally not suitable for extended periods of occupation (USFWS 2010). No dens were observed during reconnaissance surveys. Due to the very limited extent of suitable habitat, this species is considered unlikely to occur in the BSA.

Project Impacts

Although it is unlikely that San Joaquin kit fox would occur within the BSA, construction activities could create temporary barriers to movement and dispersal of this species.

Avoidance and Minimization Efforts

Potential impacts to San Joaquin kit fox would be minimized by implementing Avoidance and Minimization Measure (AMM)-1, which requires pre-construction surveys for San Joaquin kit fox dens and additional avoidance or minimization measures.

AMM-1: Avoid and Minimize Impacts to San Joaquin kit fox:

- A qualified biologist will conduct preconstruction surveys no less than 14 days and no more than 30 days before the commencement of activities to identify potential dens more than 5 inches in diameter within 200 feet of ground disturbing activities. The City will implement USFWS' (2011) Standardized Recommendations for Protection of San Joaquin Kit Fox Prior to or During Ground Disturbance. The City will notify USFWS in writing of the results of the preconstruction survey within 30 days after these activities are completed.
- If potential dens are located within the proposed work area and cannot be avoided during construction activities, a USFWS-approved biologist will determine if the dens are occupied. If occupied dens are present within the proposed work, their disturbance will be avoided. Exclusion zones will be implemented following the most current USFWS procedures (currently USFWS 2011). The City will notify USFWS immediately if a natal or pupping den is found in the survey area, and will present the results of pre-activity den searches within 5 days after these activities are completed and before the start of construction activities in the area.

Compensatory Mitigation

No compensatory mitigation is necessary because impacts to San Joaquin kit fox would be avoided through the implementation of AMM-1.

4.4.2 Swainson's Hawk

Survey Results

A Swainson's hawk was observed perching on a power pole in the BSA during the May reconnaissance survey. No suitable nesting habitat for this species is present within the BSA. Marginally suitable nesting habitat is present in the tree located to the northeast of the intersection of Corral Hollow Road and the Delta Mendota Canal, to the southeast of the BSA. Trees that provide marginally suitable nesting habitat area also present in the residential development to the north of W. Linne Road. This species may also forage within or adjacent to the BSA.

Project Impacts

Although no nesting habitat is present within the BSA, this species could nest in the marginally suitable habitat that is present within ½ mile of the BSA. Construction could disturb nesting Swainson's hawk through generation of noise or visual distraction. No suitable nesting habitat would be removed by the Project.

The Project would not remove foraging habitat for Swainson's hawk, but would result in temporary noise and visual disturbance during construction that could cause these species to avoid foraging within or adjacent to the BSA. Due to the large amount of foraging habitat available in the region, this would not be a significant impact.

Avoidance and Minimization Efforts

Implementation of AMM-2 would minimize impacts on Swainson's hawk.

AMM-2: Conduct Swainson's Hawk Surveys

If construction occurs between February 1 and August 31, the City or its contractor(s) shall require that a qualified biologist conduct surveys no more than 10 days before the start of construction for Swainson's hawk in accordance with the recommended timing and methodology developed by the Swainson's Hawk Technical Advisory Committee (2000 or most recent). Surveys will cover a minimum ½-mile radius around the construction area. If nesting Swainson's hawk are detected, buffers shall be established around active nests that are sufficient to ensure that breeding is not likely to be disrupted or adversely affected by construction. Buffers around active nests will be ½ mile unless a qualified biologist determines, based on a site-specific evaluation, that a smaller buffer is sufficient to avoid impacts on nesting raptors. Factors to be considered when determining buffer size include the presence of natural buffers provided by vegetation or topography, nest height, locations of foraging territory, and baseline levels of noise and human activity. Buffers shall be maintained until a qualified biologist has determined that the young have fledged and are no longer reliant on the nest or parental care for survival.

Compensatory Mitigation

No compensatory mitigation is necessary because impacts to Swainson's hawk would be avoided through the implementation of AMM-2.

4.4.3 Burrowing Owl

Survey Results

No burrows potentially suitable for burrowing owl were observed during reconnaissance surveys, and no burrowing owls, whitewash, or other evidence of occupation by burrowing owls was observed. Burrowing owl could forage within the vicinity of the BSA. However, this species may disperse and colonize suitable habitat within the BSA.

Project Impacts

If present in the vicinity of the BSA, construction could disturb burrowing owls through noise, visual distraction, or direct impacts to occupied habitat.

Avoidance and Minimization Efforts

Implementation of AMM 3 would minimize the potential for impacts on burrowing owls

AMM-3: Nesting Bird Avoidance:

To the extent feasible, construction activities should be scheduled to avoid the nesting season. If Project activities are scheduled to take place outside the nesting season, impacts to nesting

birds protected under the MBTA and California Fish and Game Code would be avoided. The nesting season for most birds in San Joaquin County extends from February 1 through August 31. If it is not possible to schedule Project activities outside the nesting season, then the following measures will be implemented:

- A qualified biologist will conduct pre-construction surveys for nesting birds. These surveys shall be conducted no more than seven days prior to the initiation of Project activities, including tree and vegetation removal. During these surveys, the biologist shall inspect all trees and other potential nesting habitats (e.g., shrubs, ruderal areas, burrows, and structures) in and immediately adjacent to the construction areas for nests.
- If an active nest is found sufficiently close to work areas to be disturbed by these activities, a non-disturbance buffer zone will be established around the nest at the biologist's discretion and in accordance with regulatory permits and conditions to ensure that no nests of special-status species or species protected by the MBTA and California Fish and Game Code shall be disturbed during Project implementation. Buffer zones will remain until the birds have fledged or the nest is no longer active as determined by a qualified biologist.

Compensatory Mitigation

No compensatory mitigation is necessary because impacts to burrowing owl would be avoided through the implementation of AMM-3.

4.4.4 Special-status Bats

Survey Results

Several species of special-status bats may forage over the BSA, including pallid bat, Townsend's big-eared bat, and western mastiff bat. Suitable roosting habitat for these species is not present within the BSA.

Project Impacts

Construction of the Project is anticipated to have minimal impacts on bat foraging, and no impacts on bat roosting. Therefore, impacts would not be significant and no avoidance or minimization measures or compensatory mitigation would be required.

4.5 Nesting Birds

Migratory birds and their occupied nests, young, and eggs are protected under federal and state laws. The BSA and immediately surrounding area includes a few trees and shrubs that provide suitable nesting habitat for a variety of bird species protected under the CFGC and the MBTA.

4.5.1 Survey Results

Two inactive nest structures were observed in a shrub within the BSA during the May 2022 survey. Trees and shrubs within and adjacent to the BSA provide suitable nesting substrate for bird species protected by MBTA.

4.5.2 Project Impacts

Impacts to active nests belonging to MBTA- and CFGC-protected bird species could occur throughout the BSA and immediately surrounding nesting substrate from construction activities. Indirect effects including project-related noise and vibration generated from nearby construction activities may disrupt nesting activity or nest fitness that could result in nest abandonment, potentially to the point of nestling mortality. Suitable nesting substrate occurs in shrubs and trees in and surrounding the BSA, and MBTA-protected bird species could nest within and adjacent to the BSA. Therefore, active nests of MBTA-protected species could be impacted by the Project.

4.5.3 Compensatory Mitigation

No compensatory mitigation is necessary because impacts to nesting birds would be avoided through the implementation of AMM-3.

4.5.4 Avoidance and Minimization Efforts

Active bird nests protected by CFGC sections 3503 and 3503.5, as well as the MBTA will be avoided through the implementation of AMM-3

5 Summary and Conclusions

5.1 Federal Endangered Species Act Consultation Summary

Horizon biologists obtained a USFWS list of federally listed species potentially occurring in the BSA and vicinity on April 27, 2022, available in **Appendix B**. Additionally, the biologists obtained CNDDDB and CNPS lists of special-status species occurrences in the BSA and surrounding vicinity, including federally listed species, prior to biological surveys. No other coordination with USFWS has occurred. This Project is located outside of NMFS jurisdiction; therefore, a NMFS species list is not required and no effects to NMFS species would occur.

Evaluations of federally listed species resulted in one species with a “may affect, but not likely to adversely affect” determination. The Project may affect, but is not likely to adversely affect San Joaquin kit fox. AMMs are proposed that would avoid and minimize effects on San Joaquin kit fox resulting from construction of the Project. No other federally-listed species will be impacted by this Project. Full species tables are provided in **Appendix C**. No coordination with U.S. Fish and Wildlife Service has occurred.

5.2 Essential Fish Habitat Consultation Summary

No Essential Fish Habitat is present within the BSA. Therefore, no impacts would occur.

5.3 California Endangered Species Act Consultation Summary

Swainson’s hawk is listed as threatened under CESA, and was observed within the BSA. With implementation of AMMs, the Project would not impact CESA-listed species. Therefore, an Incidental Take Permit is not required. No consultation with CDFW has occurred to date.

5.4 Wetlands and Other Waters Coordination Summary

No wetlands or other waters are present within the BSA; therefore, no coordination is required.

5.5 Other

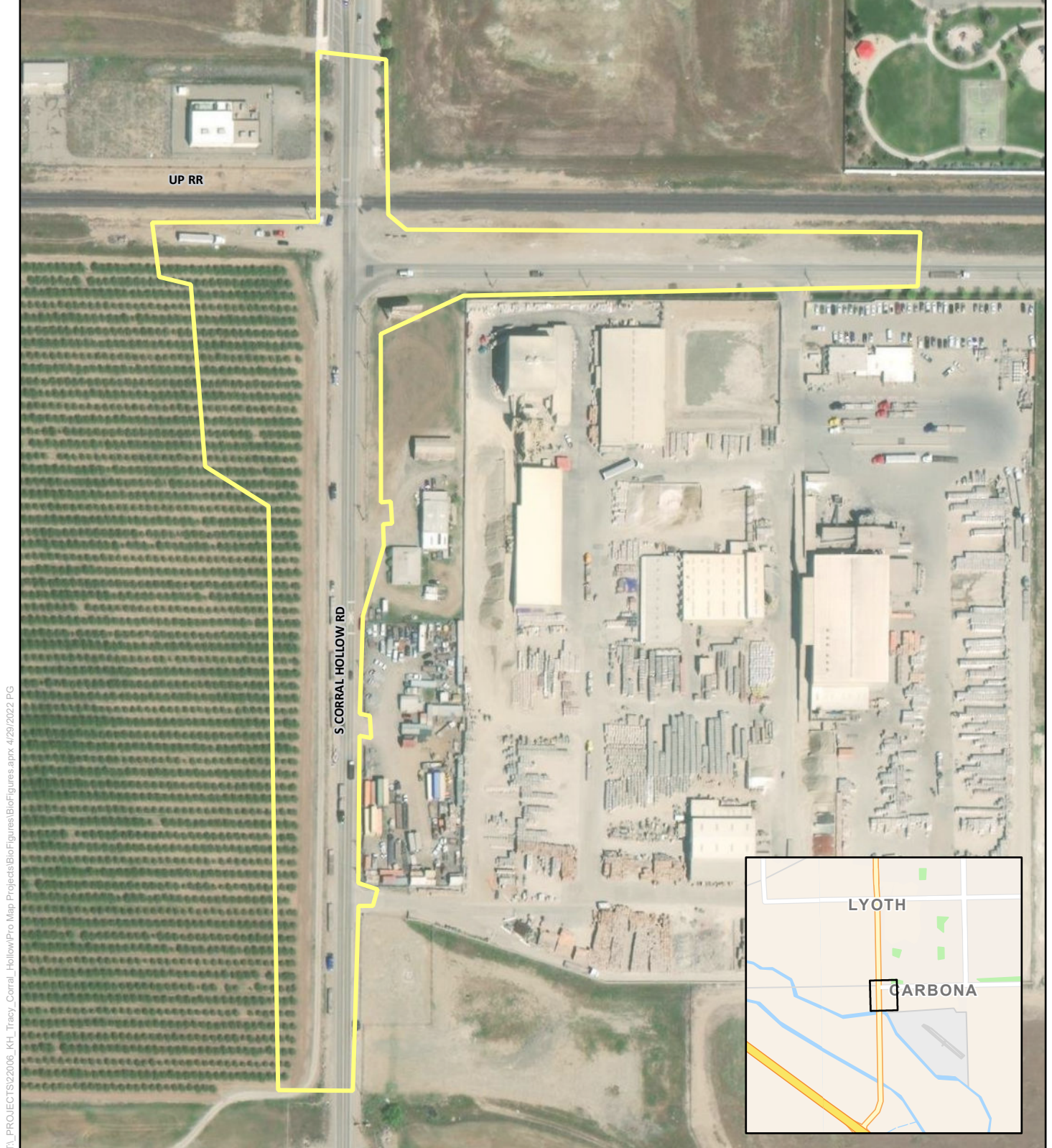
5.5.1 Migratory Bird Treaty Act

The Migratory Bird Treaty Act protects migratory bird nests from disturbances that leads to nest abandonment and/or loss of nest success. CFGC sections 3503 and 3503.5 also protect active bird nests from being taken, possessed, or needlessly destroyed. Birds have potential to nest within trees and structures within the BSA; however, the implementation of AMM-3 ensures that active nests are avoided by project-related disturbance. Project activities will avoid the nesting season (February 1 to August 31) to the extent feasible. Should Project activities be required to occur during the nesting season, a pre-construction survey will identify active nests and establish no disturbance buffers. Therefore, the Project will have no effect on active bird nests protected by the MBTA or CFGC section 3503 and 3503.5.

6 References

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- U.S. Geological Survey (USGS). 1981. Tracy Quadrangle Topographic Map.
- USFWS. See U.S. Fish and Wildlife Service.

Figures



T:\PROJECTS\202006_KH_Tracy_Corral_Hollow\Map Projects\BioFigures\BioFigures.aprx 4/29/2022 PG

Notes: USGS 7.5" Oakland West Quad; T1S,
R4W, Section 27; 1.72-Acre Project Area

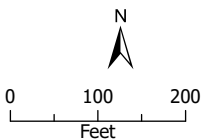


Figure 1
Project Limits

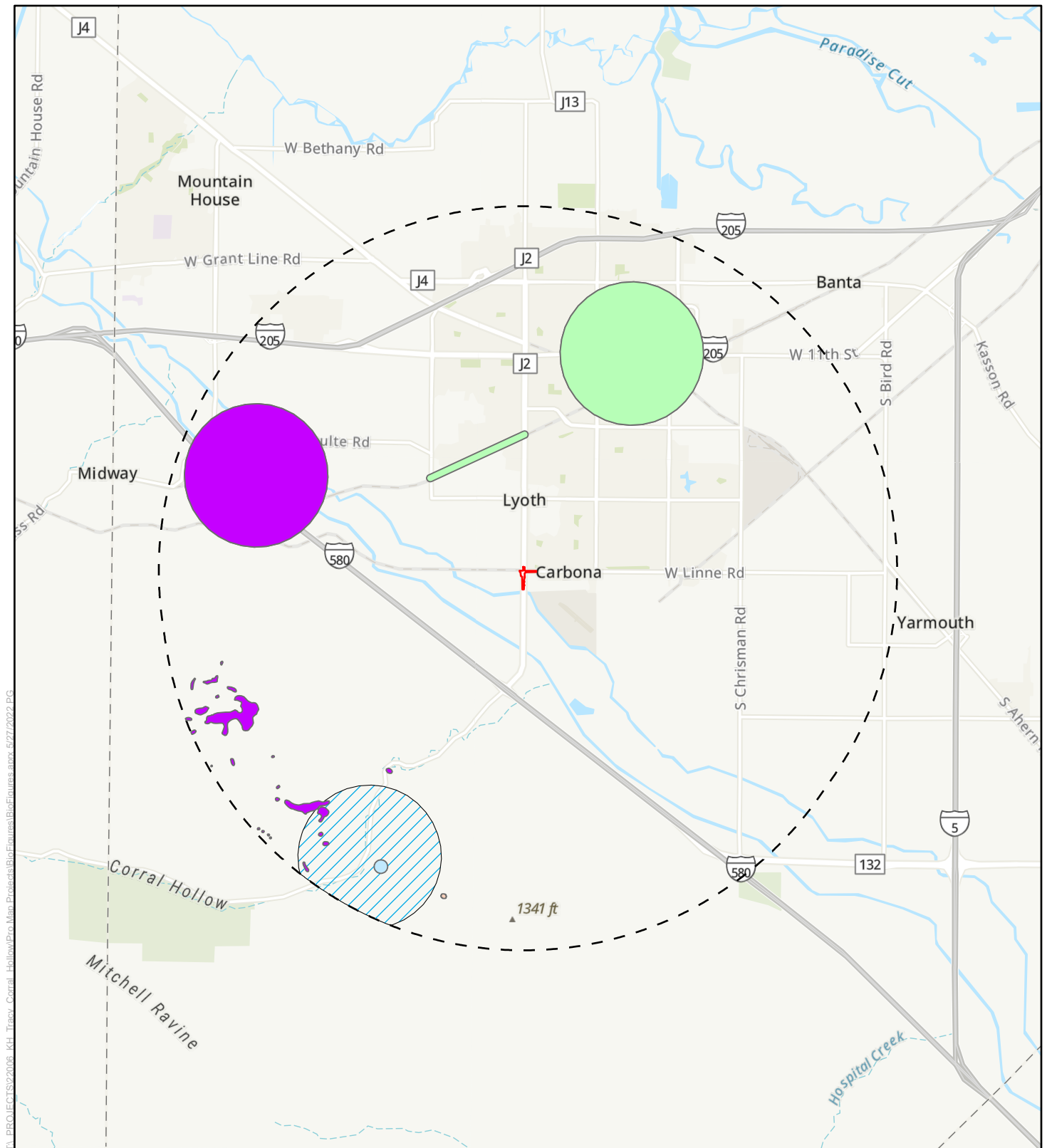
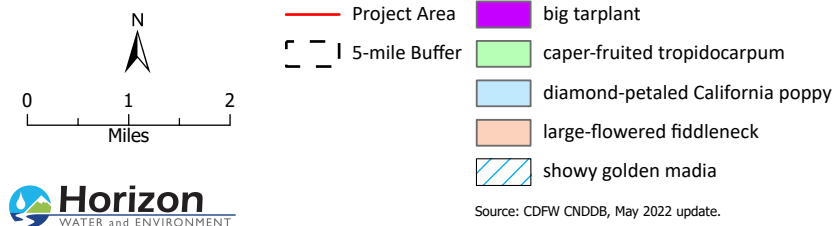


Figure 2
Special-Status Plant Occurrences



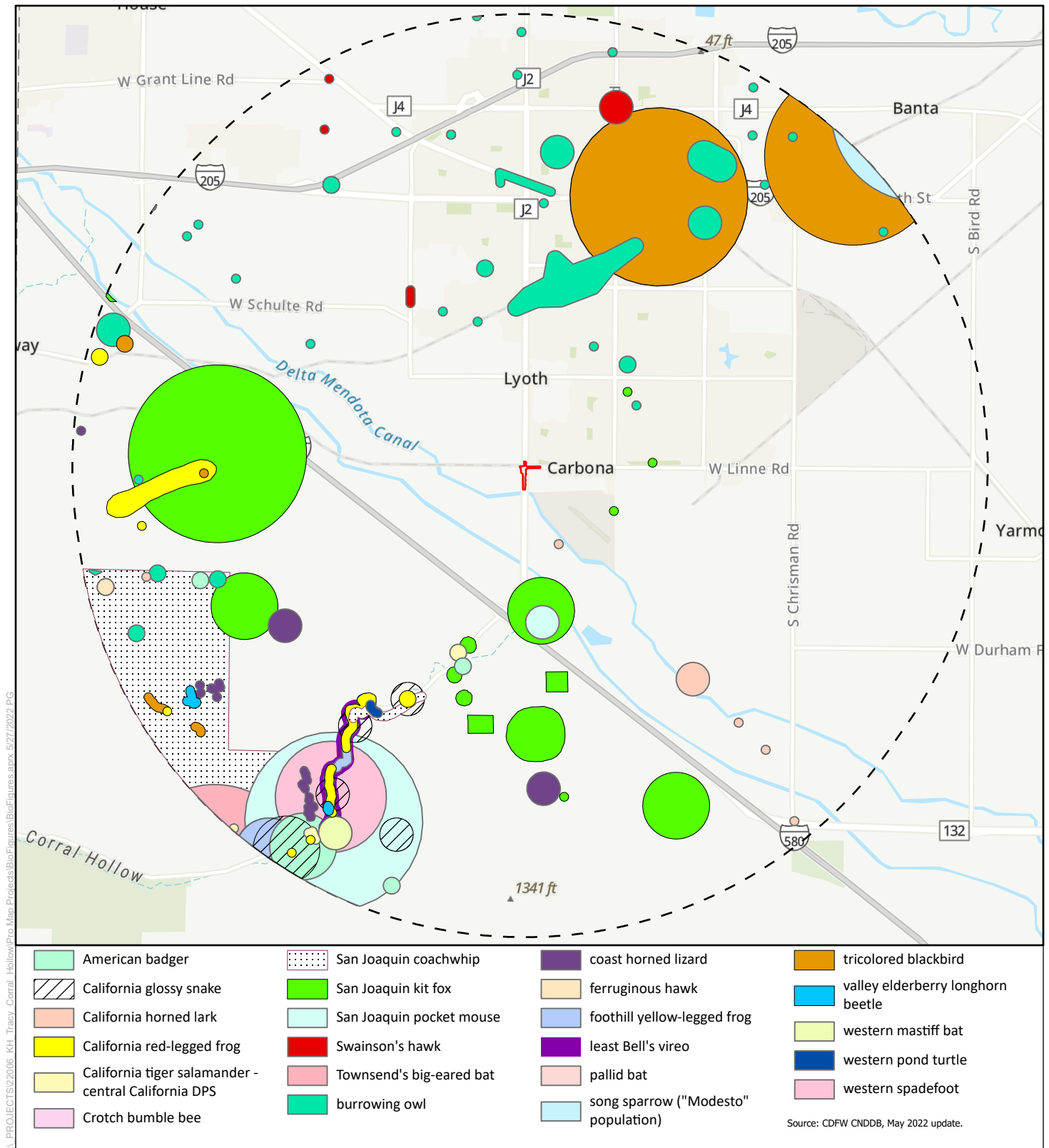
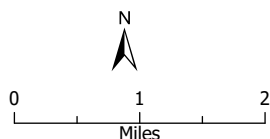


Figure 3
Special-Status Wildlife Occurrences



— Project Area
[- -] 5-mile Buffer

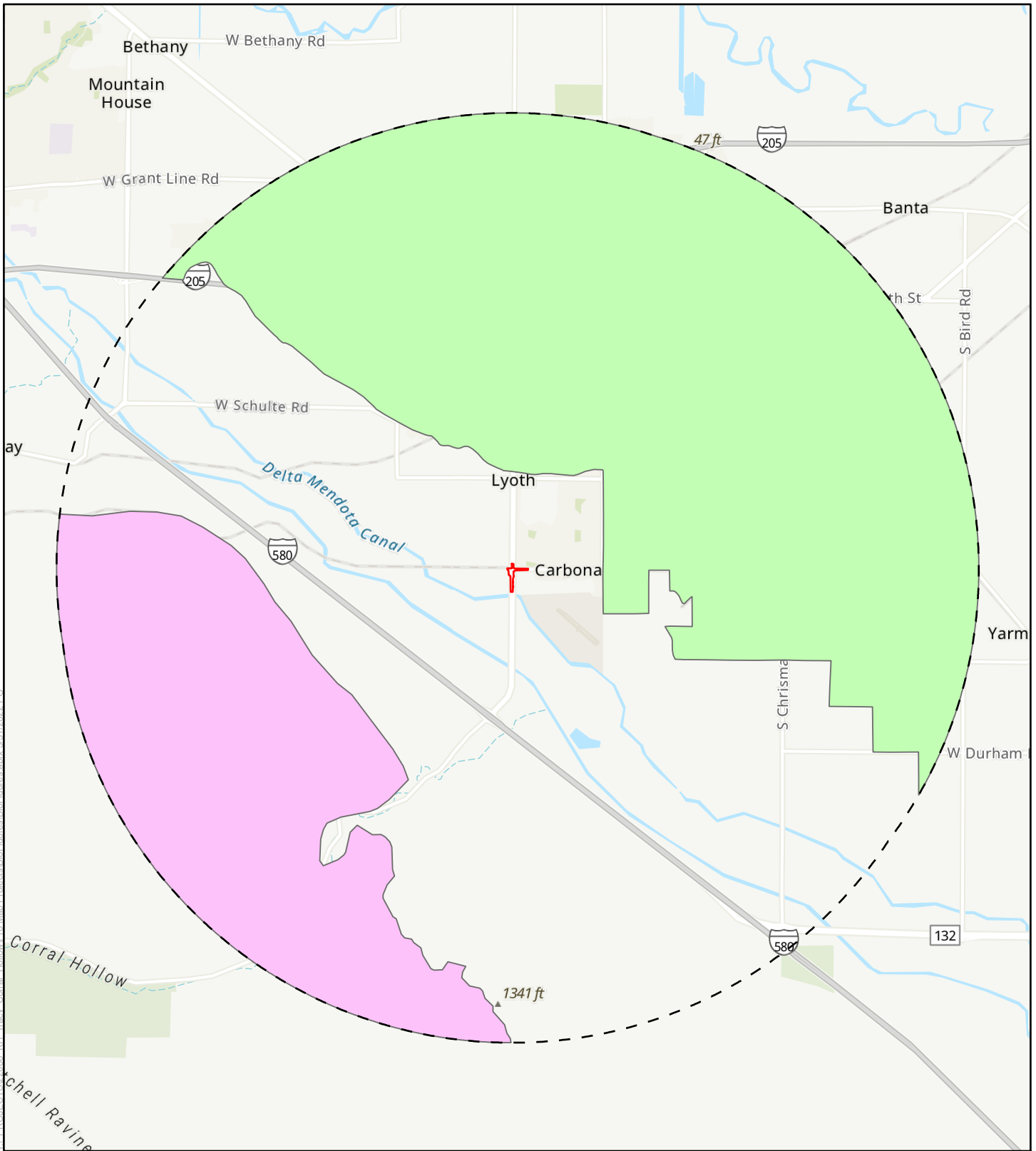
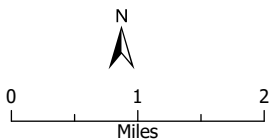


Figure 4
Critical Habitat





- Project Area
- 5-mile Buffer
- Critical Habitat
 - California red-legged frog
 - Delta smelt

Appendix A

Site Photographs



Appendix A. Site Photographs

Photo No. 1	Date: 5/2/2022	
Photo No. 2	Date: 5/2/2022	

Appendix A. Site Photographs

Photo No. 3	Date: 5/2/2022	Description: BSA, facing west and on the north side of W. Linne Road. Photo taken from the the BSA northeastern boundary line. Developed land cover dominates this area with sparse opportunistic weedy herbaceous species (not pictured) further east.	
Photo No. 4	Date: 5/2/2022	Description: BSA, facing west and on the south side of W. Linne Road. View from from near the BSA southeastern boundary line. Landscaped area of the BSA pictured here on the left.	

Appendix A. Site Photographs

Photo No. 5	Date: 5/2/2022	
Description: BSA, facing west and to the northwest of the intersection. This photo shows a rock-lined constructed detention basin visible in the foreground, just outside the BSA limits. No aquatic resources were present within the BSA.		
Photo No. 6	Date: 5/2/2022	
Description: BSA, facing west. An almond (<i>Prunus dulcis</i>) orchard visible on the left runs along the southwestern portion of the BSA, and north of the intersection.		

Appendix B

USFWS, CNPS, and CNDDB Species Lists

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

San Joaquin County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

-
1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. [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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
San Joaquin Kit Fox <i>Vulpes macrotis mutica</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
------	--------

Delta Smelt *Hypomesus transpacificus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/321>

Insects

NAME

STATUS

Monarch Butterfly *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/7850>

Crustaceans

NAME

STATUS

Vernal Pool Fairy Shrimp *Branchinecta lynchi*

Threatened

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/2246>

Flowering Plants

NAME

STATUS

Large-flowered Fiddleneck *Amsinckia grandiflora*

Endangered

Wherever found

There is **final** critical habitat for this species. The location of the critical habitat is not available.

<https://ecos.fws.gov/ecp/species/5558>

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your

project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

Common Yellowthroat *Geothlypis trichas sinuosa*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/2084>

Breeds May 20 to Jul 31

Golden Eagle *Aquila chrysaetos*

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.

<https://ecos.fws.gov/ecp/species/1680>

Breeds Jan 1 to Aug 31

Nuttall's Woodpecker *Picoides nuttallii*

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

<https://ecos.fws.gov/ecp/species/9410>

Breeds Apr 1 to Jul 20

Tricolored Blackbird *Agelaius tricolor*

Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/3910>

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9726>

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

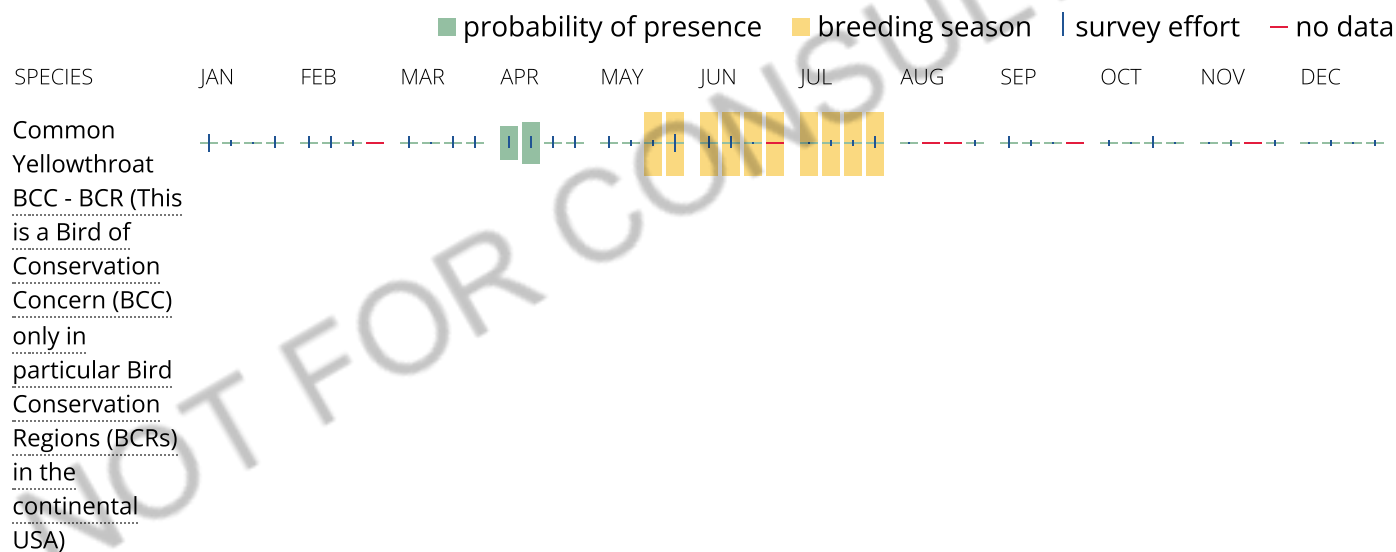
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Yellow-billed
Magpie
BCC Rangewide
(CON) (This is a
Bird of
Conservation
Concern (BCC)
throughout its
range in the
continental
USA and
Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad< IS (Tracy (3712164)< OR Vernalis (3712163)< OR Lathrop (3712173)< OR Union Island (3712174)< OR Clifton Court Forebay (3712175)< OR Midway (3712165)< OR Cedar Mtn. (3712155)< OR Lone Tree Creek (3712154)< OR Solyo (3712153))< OR Taxonomic Group< OR Fish< OR Amphibians< OR Reptiles< OR Birds< OR Mammals< OR Mollusks< OR Arachnids< OR Crustaceans< OR Insects< OR Ferns< OR Gymnosperms< OR Monocots< OR Dicots< OR Lichens< OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Allium sharsmithiae</i> Sharsmith's onion	PMLIL02310	None	None	G2	S2	1B.3
<i>Ambystoma californiense</i> pop. 1 California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	PDBOR01050	Endangered	Endangered	G1	S1	1B.1
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Anthicus sacramento</i> Sacramento anthicid beetle	IICOL49010	None	None	G1	S1	
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G4	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Arizona elegans occidentalis</i> California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	PDCHE040B0	None	None	G3T2	S2	1B.2
<i>Blepharizonia plumosa</i> big tarplant	PDAST1C011	None	None	G1G2	S1S2	1B.1
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G2	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	



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
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Branchinecta mesoavallensis</i> midvalley fairy shrimp	ICBRA03150	None	None	G2	S2S3	
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Campanula exigua</i> chaparral harebell	PDCAM020A0	None	None	G2	S2	1B.2
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	PDBRA0M0E0	None	None	G3	S3	1B.2
<i>Chlorogalum pomeridianum var. minus</i> dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium crassicaule</i> slough thistle	PDAST2E0U0	None	None	G1	S1	1B.1
<i>Cirsium fontinale var. campylon</i> Mt. Hamilton thistle	PDAST2E163	None	None	G2T2	S2	1B.2
<i>Clarkia concinna ssp. automixa</i> Santa Clara red ribbons	PDONA050A1	None	None	G5?T3	S3	4.3
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Delphinium californicum ssp. interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Delphinium recurvatum</i> recurved larkspur	PDRAN0B1J0	None	None	G2?	S2?	1B.2
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Eriastrum tracyi</i> Tracy's eriastrum	PDPLM030C0	None	Rare	G3Q	S3	3.2
<i>Eryngium racemosum</i> Delta button-celery	PDAP10Z0S0	None	Endangered	G1	S1	1B.1



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
<i>Eryngium spinosepalum</i> spiny-sepaled button-celery	PDAP10Z0Y0	None	None	G2	S2	1B.2
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	PDPAP0A0D0	None	None	G1	S1	1B.1
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G4G5T4	S3S4	SSC
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco columbarius</i> merlin	ABNKD06030	None	None	G5	S3S4	WL
<i>Fritillaria falcata</i> talus fritillary	PMLIL0V070	None	None	G2	S2	1B.2
<i>Gonidea angulata</i> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<i>Helianthella castanea</i> Diablo helianthella	PDAST4M020	None	None	G2	S2	1B.2
<i>Hesperolinon breweri</i> Brewer's western flax	PDLIN01030	None	None	G2	S2	1B.2
<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<i>Hoita strobilina</i> Loma Prieta hoita	PDFAB5Z030	None	None	G2?	S2?	1B.1
<i>Hygrotus curvipes</i> curved-foot hygrotus diving beetle	IICOL38030	None	None	G1	S1	
<i>Hypomesus transpacificus</i> Delta smelt	AFCHB01040	Threatened	Endangered	G1	S1	
<i>Lanius ludovicianus</i> loggerhead shrike	ABPBR01030	None	None	G4	S4	SSC
<i>Leptosyne hamiltonii</i> Mt. Hamilton coreopsis	PDAST2L0C0	None	None	G2	S2	1B.2
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAP119030	None	Rare	G2	S2	1B.1
<i>Limosella australis</i> Delta mudwort	PDSCR10030	None	None	G4G5	S2	2B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Madia radiata</i> showy golden madia	PDAST650E0	None	None	G3	S3	1B.1
<i>Malacothamnus hallii</i> Hall's bush-mallow	PDMAL0Q0F0	None	None	G2	S2	1B.2
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	ARADB21021	None	None	G5T2T3	S2?	SSC



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
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	ARADB21031	Threatened	Threatened	G4T2	S2	
<i>Melospiza melodia pop. 1</i> song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5TNRQ	S3?	SSC
<i>Navarretia nigelliformis ssp. radians</i> shining navarretia	PDPLM0C0J2	None	None	G4T2	S2	1B.2
<i>Neotoma fuscipes riparia</i> riparian (=San Joaquin Valley) woodrat	AMAFF08081	Endangered	None	G5T1Q	S1	SSC
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Perognathus inornatus</i> San Joaquin pocket mouse	AMAFD01060	None	None	G2G3	S2S3	
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	PDHYD0C3Q0	None	None	G2	S2	1B.2
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Endangered	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Sylvilagus bachmani riparius</i> riparian brush rabbit	AMAE01021	Endangered	Endangered	G5T1	S1	
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thaleichthys pacificus</i> eulachon	AFCHB04010	Threatened	None	G5	S2	
<i>Trichocoronis wrightii var. wrightii</i> Wright's trichocoronis	PDAST9F031	None	None	G4T3	S1	2B.1
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	PDBRA2R010	None	None	G1	S1	1B.1
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	



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
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	AMAJA03041	Endangered	Threatened	G4T2	S2	
<i>Xanthocephalus xanthocephalus</i> yellow-headed blackbird	ABPBXB3010	None	None	G5	S3	SSC






Record Count: 82











Search Results


56 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3712173:3712153:3712163:3712174:3712175:3712154:3712155:3712164:3712165]



▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<u>Acanthomintha lanceolata</u>	Santa Clara thorn-mint	Lamiaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	<div><p>© 2005 Barry Breckling</p></div>
<u>Allium sharsmithiae</u>	Sharsmith's onion	Alliaceae	perennial bulbiferous herb	Mar-May	None	None	G2	S2	1B.3	<div><p>© 2017 John Doyen</p></div>
<u>Amsinckia grandiflora</u>	large-flowered fiddleneck	Boraginaceae	annual herb	(Mar)Apr-May	FE	CE	G1	S1	1B.1	<div><p>© 2015 Zoya Akulova</p></div>
<u>Androsace elongata ssp. acuta</u>	California androsace	Primulaceae	annual herb	Mar-Jun	None	None	G5? T3T4	S3S4	4.2	<div><p>© 2008 Aaron Schusteff</p></div>
<u>Aspidotis carlotta-halliae</u>	Carlotta Hall's lace fern	Pteridaceae	perennial rhizomatous herb	Jan-Dec	None	None	G3	S3	4.2	No Photo Available
<u>Astragalus tener var. tener</u>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	No Photo Available
<u>Atriplex cordulata var. cordulata</u>	heartscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G3T2	S2	1B.2	<div><p>© 1994 Robert E. Preston, Ph.D.</p></div>

<i>Atriplex coronata</i> <i>var. coronata</i>	crownscale	Chenopodiaceae	annual herb	Mar-Oct	None	None	G4T3	S3	4.2	 © 1994 Robert E. Preston, Ph.D.
<i>Blepharizonia plumosa</i>	big tarplant	Asteraceae	annual herb	Jul-Oct	None	None	G1G2	S1S2	1B.1	No Photo Available
<i>Campanula exigua</i>	chaparral harebell	Campanulaceae	annual herb	May-Jun	None	None	G2	S2	1B.2	No Photo Available
<i>Caulanthus lemmonii</i>	Lemmon's jewelflower	Brassicaceae	annual herb	Feb-May	None	None	G3	S3	1B.2	No Photo Available
<i>Centromadia parryi</i> ssp. <i>congdonii</i>	Congdon's tarplant	Asteraceae	annual herb	May- Oct(Nov)	None	None	G3T2	S2	1B.1	No Photo Available
<i>Chlorogalum pomeridianum</i> <i>var. minus</i>	dwarf soaproot	Agavaceae	perennial bulbiferous herb	May-Aug	None	None	G5T3	S3	1B.2	No Photo Available
<i>Cirsium crassicaule</i>	slough thistle	Asteraceae	annual/perennial herb	May-Aug	None	None	G1	S1	1B.1	No Photo Available
<i>Cirsium fontinale</i> <i>var. campylon</i>	Mt. Hamilton thistle	Asteraceae	perennial herb	(Feb)Apr- Oct	None	None	G2T2	S2	1B.2	No Photo Available
<i>Clarkia breweri</i>	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	None	None	G4	S4	4.2	No Photo Available
<i>Clarkia concinna</i> <i>ssp. automixa</i>	Santa Clara red ribbons	Onagraceae	annual herb	(Apr)May- Jun(Jul)	None	None	G5?T3	S3	4.3	No Photo Available
<i>Convolvulus simulans</i>	small-flowered morning-glory	Convolvulaceae	annual herb	Mar-Jul	None	None	G4	S4	4.2	No Photo Available
<i>Delphinium californicum</i> ssp. <i>interius</i>	Hospital Canyon larkspur	Ranunculaceae	perennial herb	Apr-Jun	None	None	G3T3	S3	1B.2	No Photo Available
<i>Delphinium recurvatum</i>	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	No Photo Available
<i>Eriastrum tracyi</i>	Tracy's eriastrum	Polemoniaceae	annual herb	May-Jul	None	CR	G3Q	S3	3.2	 © 2012 Neal Kramer
<i>Eriogonum</i>	bay buckwheat	Polygonaceae	perennial herb	Jul-Sep	None	None	G5T3	S3	4.2	

<u>umbellatum</u> var. <u>bahiiforme</u>											No Photo Available
<u>Eriophorum gracile</u>	slender cottongrass	Cyperaceae	perennial rhizomatous herb (emergent)	May-Sep	None	None	G5	S4	4.3	 ©2011 Steven Perry	
<u>Eriophyllum jepsonii</u>	Jepson's woolly sunflower	Asteraceae	perennial herb	Apr-Jun	None	None	G3	S3	4.3	No Photo Available	
<u>Eryngium racemosum</u>	Delta button-celery	Apiaceae	annual/perennial herb	(May)Jun-Oct	None	CE	G1	S1	1B.1	No Photo Available	
<u>Eryngium spinosepalum</u>	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	No Photo Available	
<u>Eschscholzia hyppecoides</u>	San Benito poppy	Papaveraceae	annual herb	Mar-Jun	None	None	G4	S4	4.3	No Photo Available	
<u>Eschscholzia rhombipetala</u>	diamond-petaled California poppy	Papaveraceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	No Photo Available	
<u>Extriplex joaquinana</u>	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.2	No Photo Available	
<u>Fritillaria agrestis</u>	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	 © 2016 Aaron Schusteff	
<u>Fritillaria falcata</u>	talus fritillary	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	G2	S2	1B.2	 © 2013 Aaron Schusteff	
<u>Galium andrewsii</u> ssp. <u>gatense</u>	phlox-leaf serpentine bedstraw	Rubiaceae	perennial herb	Apr-Jul	None	None	G5T3	S3	4.2	 © 2021 Steve Matson	
<u>Helianthella castanea</u>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	 © 2013 Christopher Bronny	
<u>Hesperevax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2		

											
											© 2017 John Doyen
<u>Hesperolinon breweri</u>	Brewer's western flax	Linaceae	annual herb	May-Jul	None	None	G2	S2	1B.2		
											© 2014 Neal Kramer
<u>Hibiscus lasiocarpus</u> var. <u>occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2		
											© 2020 Steven Perry
<u>Hoita strobilina</u>	Loma Prieta hoita	Fabaceae	perennial herb	May-Jul(Aug-Oct)	None	None	G2?	S2?	1B.1		
											© 2004 Janell Hillman
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Asteraceae	annual herb	Feb-May	None	None	G3	S3	4.2		
											© 2009 Zoya Akulova
<u>Leptosiphon ambiguus</u>	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2		
											© 2010 Aaron Schusteff
<u>Leptosyne hamiltonii</u>	Mt. Hamilton coreopsis	Asteraceae	annual herb	Mar-May	None	None	G2	S2	1B.2		
											©2012 Aaron Schusteff
<u>Lessingia tenuis</u>	spring lessingia	Asteraceae	annual herb	May-Jul	None	None	G4	S4	4.3		
											© 2020 Keir Morse
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	No Photo Available	
<u>Limosella australis</u>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	May-Aug	None	None	G4G5	S2	2B.1		
											© 2020 Richard Sage
<u>Madia radiata</u>	showy golden madia	Asteraceae	annual herb	Mar-May	None	None	G3	S3	1B.1	No Photo Available	
<u>Malacothamnus hallii</u>	Hall's bush-mallow	Malvaceae	perennial deciduous shrub	(Apr)May-Sep(Oct)	None	None	G2	S2	1B.2		

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<i>Micropus amphibolus</i>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	G3G4	S3S4	3.2	 © 2008 Aaron Arthur
<i>Microseris sylvatica</i>	sylvan microseris	Asteraceae	perennial herb	Mar-Jun	None	None	G4	S4	4.2	No Photo Available
<i>Myosurus minimus ssp. apus</i>	little mousetail	Ranunculaceae	annual herb	Mar-Jun	None	None	G5T2Q	S2	3.1	No Photo Available
<i>Navarretia nigelliformis ssp. radians</i>	shining navarretia	Polemoniaceae	annual herb	(Mar)Apr-Jul	None	None	G4T2	S2	1B.2	No Photo Available
<i>Phacelia phacelioides</i>	Mt. Diablo phacelia	Hydrophyllaceae	annual herb	Apr-May	None	None	G2	S2	1B.2	 ©2019 Steve Matson
<i>Piperia michaelii</i>	Michael's rein orchid	Orchidaceae	perennial herb	Apr-Aug	None	None	G3	S3	4.2	No Photo Available
<i>Puccinellia simplex</i>	California alkali grass	Poaceae	annual herb	Mar-May	None	None	G3	S2	1B.2	No Photo Available
<i>Senecio aphanactis</i>	chaparral ragwort	Asteraceae	annual herb	Jan- Apr(May)	None	None	G3	S2	2B.2	No Photo Available
<i>Spergularia macrotheca var. longistyla</i>	long-styled sand-spurrey	Caryophyllaceae	perennial herb	Feb-May	None	None	G5T2	S2	1B.2	No Photo Available
<i>Trichocoronis wrightii var. wrightii</i>	Wright's trichocoronis	Asteraceae	annual herb	May-Sep	None	None	G4T3	S1	2B.1	No Photo Available
<i>Tropidocarpum capparideum</i>	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	None	None	G1	S1	1B.1	No Photo Available

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Appendix C

Special-status Species Tables

Appendix C: Special-status Species Tables

Table C-1: Special-status Plants

Scientific/Common Name	Status (Federal/ State/CRPR)	Habitat	Potential to Occur in the Project Area
<i>Amsinckia grandiflora</i> large-flowered fiddleneck	FE/SE/1B.1	Cismontane woodland, valley and foothill grassland. Annual grassland in various soils. 275-550 meters.	None. Suitable habitat is not present in the BSA
<i>Allium sharsmithiae</i> Sharsmith's onion	-/-/1B.3	Chaparral, Cismontane woodland, ultramafic. Rocky, serpentine slopes. 425-975 meters.	None. Suitable habitat is not present in the BSA
<i>Atriplex cordulata</i> var. <i>cordulata</i> heartscale	-/-/1B.2	Chenopod scrub, valley and foothill grassland, meadows. Alkaline flats and scalds in the Central Valley, sandy soils. 0-560 meters. Blooms April to October.	None. Suitable habitat is not present in the BSA
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	-/-/1B.2	Alkali playa, valley and foothill grassland, vernal pools. Low ground, alkali flats, and flooded lands; in annual grassland or in playas or vernal pools. 0-170 meters.	None. Suitable habitat is not present in the BSA
<i>Blepharizonia plumosa</i> big tarplant	-/-/1B.1	Valley and foothill grassland. Dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas. 30-505 meters. Blooms July to October.	Not expected. Marginally suitable habitat is present in the BSA.
<i>Campanula exigua</i> chaparral harebell	-/-/1B.2	Chaparral. Rocky sites, usually on serpentine in chaparral. 90-1375 m.	None. Suitable habitat is not present in the BSA.
<i>Caulanthus lemmonii</i> Lemmon's jewelflower	-/-/1B.2	Pinyon and juniper woodland, valley and foothill grassland. 75-1,585 meters. Blooms February to May.	None. Suitable habitat is not present in the BSA.
<i>Centromadia parryi</i> ssp. <i>Congdonii</i> Congdon's tarplant	-/-/1B.1	Valley & foothill grassland. Alkaline soils, sometimes described as heavy white clay. 0-245 m.	None. Suitable habitat is not present in the BSA.

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Scientific/Common Name	Status (Federal/ State/CRPR)	Habitat	Potential to Occur in the Project Area
<i>Chlorogalum pomeridianum</i> var. <i>minus</i> dwarf soaproot	-/-/1B.2	Chaparral. Serpentine. 120-1220 m.	None. Suitable habitat is not present in the BSA.
<i>Cirsium crassicaule</i> slough thistle	-/-/1B.1	Chenopod scrub, marshes and swamps, riparian scrub. Sloughs, riverbanks, and marshy areas. 3-95 m.	None. Suitable habitat is not present in the BSA.
<i>Cirsium fontinale</i> var. <i>campylon</i> Mt. Hamilton thistle	-/-/1B.2	Cismontane woodland, chaparral, valley and foothill grassland. In seasonal and perennial drainages on serpentine. 75-890 m.	None. Suitable habitat is not present in the BSA.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	-/-/1B.2	Cismontane woodland, chaparral, coastal scrub. In wet, boggy meadows, openings in chaparral and in canyons. 195-1095 m.	None. Suitable habitat is not present in the BSA.
<i>Delphinium recurvatum</i> Recurved larkspur	-/-/1B.2	Chenopod scrub, valley and foothill grassland, cismontane woodland. On alkaline soils; often in valley saltbush or valley chenopod scrub. 3-790 m.	None. Suitable habitat is not present in the BSA.
<i>Eriastrum tracyi</i> Tracy's eriastrum	-/SR/3.2	Chaparral, cismontane woodland, valley and foothill grassland. Gravelly shale or clay; often in open areas. 315-2400 m.	None. Suitable habitat is not present in the BSA.
<i>Eryngium racemosum</i> Delta button-celery	-/SE/1B.1	Riparian scrub. Seasonally inundated floodplain on clay. 3-75 meters. Blooms June to October.	None. Suitable habitat is not present in the BSA.
<i>Eryngium spinosepalum</i> Spiny-sepaled button-celery	-/-/1B.2	Vernal pools, valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grassland. 15-1270 m.	None. Suitable habitat is not present in the BSA.
<i>Eschscholzia rhombipetala</i> diamond-petaled California poppy	-/-/1B.1	Valley and foothill grassland. Alkaline, clay slopes and flats. 30-625 meters. Blooms March to April.	None. Suitable habitat is not present in the BSA.

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Scientific/Common Name	Status (Federal/ State/CRPR)	Habitat	Potential to Occur in the Project Area
<i>Extriplex joaquinana</i> San Joaquin spearscale	-/-/1B.2	Chenopod scrub, alkali meadow, playas, valley and foothill grassland. In seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. 0-800 m.	None. Suitable habitat is not present in the BSA.
<i>Fritillaria falcata</i> Talus fritillary	-/-/1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. Mostly on serpentine talus, but occasionally found on granitics. 425-1435 m.	None. Suitable habitat is not present in the BSA.
<i>Helianthella castanea</i> Diablo helianthella	-/-/1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Usually in chaparral/oak woodland interface in rocky, azonal soils. Often in partial shade. 45-1070 m.	None. Suitable habitat is not present in the BSA.
<i>Hesperolinon breweri</i> Brewer's western flax	-/-/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Often in rocky serpentine soil in serpentine chaparral and serpentine grassland. 195-910 m.	None. Suitable habitat is not present in the BSA.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	-/-/1B.2	Marshes and swamps (freshwater). Moist, freshwater-soaked river banks and low peat islands in sloughs; can also occur on riprap and levees. In California, known from the delta watershed. 0-155 m.	None. Suitable habitat is not present in the BSA.
<i>Hoita strobilina</i> Loma Prieta hoita	-/-/1B.1	Chaparral, cismontane woodland, riparian woodland. Serpentine; mesic sites. 60-975 m.	None. Suitable habitat is not present in the BSA.
<i>Leptosyne hamiltonii</i> Mt. Hamilton coreopsis	-/-/1B.2	Cismontane woodland. On steep shale talus with open southwestern exposure. 535-1280 m.	None. Suitable habitat is not present in the BSA.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	-/-/1B.1	Marshes and swamps, riparian scrub. Tidal zones, in muddy or silty soil formed through river deposition or river bank erosion. In brackish or freshwater. 0-10 m.	None. Suitable habitat is not present in the BSA.

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Scientific/Common Name	Status (Federal/ State/CRPR)	Habitat	Potential to Occur in the Project Area
<i>Limosella australis</i> Delta mudwort	-/-/2B.1	Riparian scrub, marshes and swamps. Usually on mud banks of the Delta in marshy or scrubby riparian associations; often with <i>Lilaeopsis masonii</i> . 0-5 m.	None. Suitable habitat is not present in the BSA.
<i>Madia radiata</i> showy golden madia	-/-/1B.1	Valley and foothill grassland, cismontane woodland. Mostly on adobe clay in grassland or among shrubs. 75-1220 m.	None. Suitable habitat is not present in the BSA.
<i>Malacothamnus hallii</i> Hall's bush-mallow	-/-/1B.2	Chaparral, coastal scrub. Some populations on serpentine. 10-735 m.	None. Suitable habitat is not present in the BSA.
<i>Micropus amphibolus</i> Mt. Diablo cottonweed	-/-/3.2	Valley and foothill grassland, cismontane woodland, chaparral, broadleafed upland forest. Bare, grassy or rocky slopes. 45-825 m.	None. Suitable habitat is not present in the BSA.
<i>Navarretia nigelliformis</i> ssp. <i>radians</i> shining navarretia	-/-/1B.2	Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. 60-975 m.	None. Suitable habitat is not present in the BSA.
<i>Phacelia phacelioides</i> Mt. Diablo phacelia	-/-/1B.2	Chaparral, cismontane woodland. Adjacent to trails, on rock outcrops and talus slopes; sometimes on serpentine. 605-1345 m.	None. Suitable habitat is not present in the BSA.
<i>Puccinellia simplex</i> California alkali grass	-/-/1B.2	Meadows and seeps, chenopod scrub, valley and foothill grasslands, vernal pools. Alkaline, vernal mesic. Sinks, flats, and lake margins. 1-915 meters. Blooms March to May	None. Suitable habitat is not present in the BSA.
<i>Senecio aphanactis</i> Chaparral ragwort	-/-/2B.2	Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. 20-1020 m.	None. Suitable habitat is not present in the BSA.
<i>Spergularia macrotheca</i> var. <i>longistyla</i> Long-styled sand-spurrey	-/-/1B.2	Marshes and swamps, meadows and seeps. Alkaline. 0-220 m.	None. Suitable habitat is not present in the BSA.

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Scientific/Common Name	Status (Federal/ State/CRPR)	Habitat	Potential to Occur in the Project Area
<i>Trichocoronis wrightii</i> var. <i>wrightii</i> Wright's trichocoronis	-/-/2B.1	Marshes and swamps, riparian forest, meadows and seeps, vernal pools. Mud flats of vernal lakes, drying river beds, alkali meadows. 5-435 m.	None. Suitable habitat is not present in the BSA.
<i>Tropidocarpum capparideum</i> Caper-fruited tropidocarpum	-/-/1B.1	Valley and foothill grassland. Alkaline clay. 0-360 m.	None. Suitable habitat is not present in the BSA.
Status Legend <div> Federal: FE = federally listed as endangered FT = federally listed as threatened - = no listing status </div> <div> State: SE = state listed as endangered SR = state designated as rare </div> <div> CRPR (California Rare Plant Rank): 1B = Plants Rare, Threatened, or Endangered in California and Elsewhere 2B = Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere 3 = Plants about which more information is needed, a review list Threat Ranks = 0.1 = Seriously threatened in California 0.2 = Moderately threatened in California </div>			

Appendix C: Special-status Species Tables

Table C-2. Special-status Animal Species

Scientific/Common Name	Status (Federal/State)	Habitat	Potential to Occur in the Project Area
Invertebrates			
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/-	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None. Suitable habitat is not present in the BSA.
<i>Danaus plexippus</i> monarch butterfly	SC	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. Closed-cone coniferous forest.	None. Suitable habitat is not present in the BSA.
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	FT/-	Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i>). Prefers to lay eggs in elderberries 2-8 inches in diameter; some preference shown for "stressed" elderberries.	None. Suitable habitat is not present in the BSA. No elderberry plants are present.
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	FE/-	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass-bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	None. Suitable habitat is not present in the BSA.
Amphibians and Reptiles			
<i>Ambystoma californiense</i> California tiger salamander	FT/ST, SSC	Central Valley distinct population segment (DPS) federally listed as threatened. Santa Barbara and Sonoma County DPS federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	Not expected. Suitable aquatic habitat is not present in the BSA. The BSA is greater than 1.3 miles (migratory distance) from known occurrences of this species.
<i>Anniella pulchra</i> Northern California legless lizard	-/SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None. Suitable habitat is not present in the BSA.
<i>Arizona elegans occidentalis</i> California glossy snake	SSC	Patchily distributed from the eastern portion of San Francisco Bay, southern San Joaquin Valley, and the Coast, Transverse, and Peninsular	None. Suitable habitat is not present in the BSA.

Appendix C: Special-status Species Tables

Scientific/Common Name	Status (Federal/ State)	Habitat	Potential to Occur in the Project Area
		ranges, south to Baja California. Generalist reported from a range of scrub and grassland habitats, often with loose or sandy soils.	
<i>Emys marmorata</i> western pond turtle	-/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, below 1,830 meters elevation. Need basking sites and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 kilometer from water for egg-laying.	None. Suitable habitat is not present in the BSA.
<i>Masticophis flagellum ruddocki</i> San Joaquin coachwhip	-/-/SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	Not expected. Marginally suitable habitat is present in the BSA.
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT/ST	Typically found in chaparral and scrub habitats but will also use adjacent grassland, oak savanna and woodland habitats. Mostly south-facing slopes and ravines, with rock outcrops, deep crevices or abundant rodent burrows, where shrubs form a vegetative mosaic with oak trees and grasses.	None. Suitable habitat is not present in the BSA.
<i>Phrynosoma blainvillii</i> Coast horned lizard	SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Not Expected. Marginally suitable habitat is present in the BSA.
<i>Rana draytonii</i> California red-legged frog	FT/SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	None. Suitable habitat is not present in the BSA.
<i>Spea hammondi</i> Western spadefoot toad	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	None. Suitable habitat is not present in the BSA.
<i>Thamnophis gigas</i> giant garter snake	FT/ST	Prefers freshwater marsh and low-gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	None. Suitable habitat is not present in the BSA.

Appendix C: Special-status Species Tables

Scientific/Common Name	Status (Federal/ State)	Habitat	Potential to Occur in the Project Area
Birds			
<i>Agelaius tricolor</i> Tricolored Blackbird	-/SC, SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Not expected. Marginally suitable foraging habitat is present in the vicinity of the BSA. Suitable nesting habitat is not present. CNDDDB known occurrences within 5 miles of the BSA (CDFW 2022).
<i>Athene cunicularia</i> burrowing owl	-/SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably the California ground squirrel.	Possible. Potentially suitable foraging habitat is present and there are known CNDDDB occurrences within 5 miles of the BSA (CDFW 2022). The BSA is not anticipated to provide suitable nesting habitat due to the lack of burrows observed during May 2022 reconnaissance survey.
<i>Ammodramus savannarum</i> Grasshopper sparrow	SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	None. Suitable habitat is not present in the BSA.
<i>Asio flammeus</i> Short-eared owl	SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	None. Suitable habitat is not present in the BSA.
<i>Buteo swainsoni</i> Swainson's Hawk	-/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Present. Potentially suitable foraging habitat is present in the vicinity of the BSA. This species is not anticipated to nest within the BSA, but may nest in the

Appendix C: Special-status Species Tables

Scientific/Common Name	Status (Federal/ State)	Habitat	Potential to Occur in the Project Area
			vicinity. No suitable nest trees are present within the BSA. Observed one individual during reconnaissance survey May 2022.
<i>Circus hudsonius</i> Northern harrier	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	None. Suitable habitat is not present in the BSA.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed cuckoo	FT/SE	Riparian forest nester along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	None. Suitable habitat is not present in the BSA.
<i>Elanus leucurus</i> White-tailed kite	FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Not expected. Marginally suitable foraging habitat is present in the vicinity of the BSA. Suitable nesting habitat is not present.
<i>Lanius ludovicianus</i> loggerhead shrike	-/SSC	Broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.	Not expected. Marginally suitable foraging habitat is present in the BSA.
<i>Melospiza melodia</i> Song Sparrow ("Modesto" population)	-/SSC	Emergent freshwater marshes, riparian willow thickets, riparian forests, and vegetated irrigation. Inhabits cattails (<i>Typha</i> spp.), bulrush (<i>Schoenoplectus</i> spp.) and other sedges; also known to frequent tangles bordering sloughs.	None. Suitable habitat is not present in the BSA.
<i>Vireo bellii pusillus</i> Least Bell's Vireo	FE/SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 610 meters (2,000 feet). Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, <i>Baccharis</i> , mesquite.	None. Suitable habitat is not present in the BSA.
Fish			

Appendix C: Special-status Species Tables

Scientific/Common Name	Status (Federal/ State)	Habitat	Potential to Occur in the Project Area
<i>Hypomesus transpacificus</i> Delta smelt	FT/SE	Sacramento–San Joaquin River Delta. Seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay. Seldom found at salinities > 10 parts per thousand; most often at salinities < 2 parts per thousand.	None. Suitable habitat is not present in the BSA.
<i>Oncorhynchus mykiss irideus</i> steelhead – Central Valley DPS	FT/-	Populations in the Sacramento and San Joaquin Rivers and their tributaries.	None. Suitable habitat is not present in the BSA.
Mammals			
<i>Antrozous pallidus</i> Pallid bat	-/SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Possible. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	-/SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. This species generally roosts in caves, abandoned mines, and occasionally buildings and is extremely sensitive to human disturbance (Pierson and Rainey 1998).	Possible. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
<i>Eumops perotis californicus</i> western mastiff bat	-/SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Possible. Suitable roosting habitat is not present in the BSA. This species may forage in the BSA.
<i>Neotoma fuscipes riparia</i> riparian (=San Joaquin Valley) woodrat	FE/SSC	Riparian areas along the San Joaquin, Stanislaus, and Tuolumne Rivers. Needs areas with mix of brush and trees. Needs suitable nesting sites in trees, snags, or logs.	None. Suitable habitat is not present in the BSA.
<i>Sylvilagus bachmani riparius</i> riparian brush rabbit	FE/SE	Riparian areas on the San Joaquin River in northern Stanislaus County. Dense thickets of wild rose, willows, and blackberries.	None. Suitable habitat is not present in the BSA.
<i>Taxidea taxus</i> American badger	-/SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not Expected. Marginally suitable habitat is present in the BSA. No dens were observed during the reconnaissance survey.

Appendix C: Special-status Species Tables

Scientific/Common Name	Status (Federal/ State)	Habitat	Potential to Occur in the Project Area
<i>Vulpes macrotis mutica</i> San Joaquin kit fox	FE/ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing and suitable prey base.	Possible. No dens were observed during the May 2022 reconnaissance survey; however, this species is known from the vicinity of the BSA.
Status Legend Federal: FE = federally listed as endangered FT = federally listed as threatened - = no listing status State: SC = state candidate for listing as threatened or endangered SE = state listed as endangered SSC = California species of special concern ST = state listed as threatened FP = fully protected			