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**Biological Resources Assessment – ECORP Consulting Inc.**

# **Biological Resources Assessment for the Bell Avenue Commercial Center Project**

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Sacramento County, California

## **Prepared For:**

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**February 11, 2022**

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## **LIST OF ACRONYMS AND ABBREVIATIONS**

<b>Term</b>	<b>Description</b>
BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
DSH	Diameter standard height
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
F	Fahrenheit
LSA	Lake or Streambed Alteration
MBTA	Migratory Bird Treaty Act
NAD83	North American Datum 1983
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Bell Avenue Commercial Center Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
Study Area	Project Study Area
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

## **1.0 INTRODUCTION**

On behalf of the Milestone Associates Imagineering, ECORP Consulting, Inc. conducted a Biological Resources Assessment (BRA) for the Bell Avenue Commercial Center Project (Project) located in northern Sacramento County, California. For this BRA, the Project Study Area (Study Area) is 2.86 acres. The purpose of the assessment was to collect information on the biological resources present and evaluate the potential for special-status species and their habitats to occur in the Study Area, assess potential biological impacts related to Project activities, and identify potential mitigation measures to inform the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

### **1.1 Project Location**

The Study Area is located in an unsectioned portion of the Del Paso land grant (Mount Diablo Base Meridian) of the "Rio Linda, California" 7.5' topographic quadrangle (U.S. Geological Survey [USGS] 1992 North American Datum 1983 [NAD83]; Figure 1-1). The Study Area is located in the southwestern corner of the intersection between Raley Boulevard and Bell Avenue, California. The approximate center of the Study Area is located at NAD83 coordinates 38.644342° latitude and -121.428174° longitude within the Lower-American Watershed (Hydrologic Unit Code #18020111; Natural Resources Conservation Service [NRCS] et al. 2016).

### **1.2 Project Description**

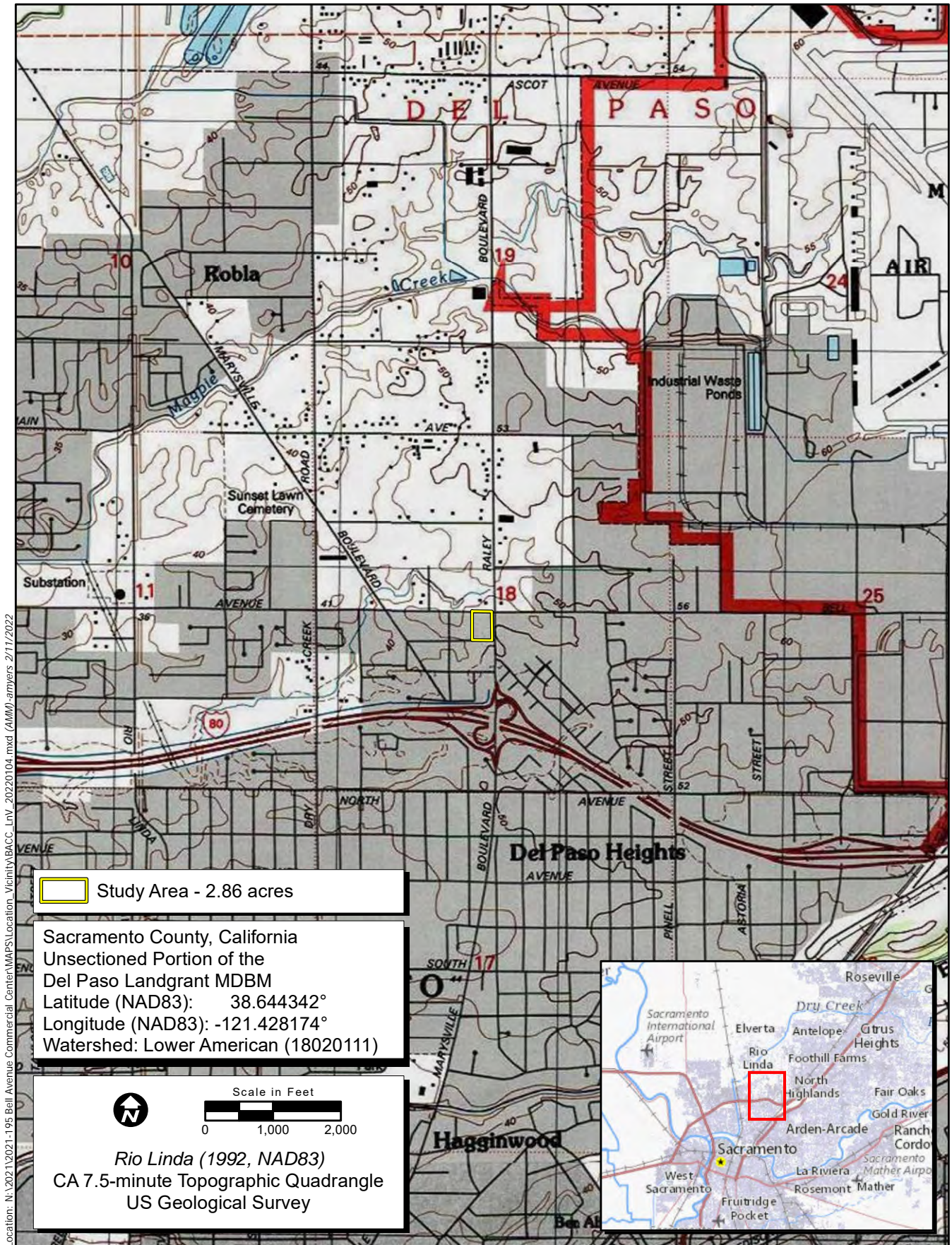
Milestone Associates Imagineering proposes the development of three separate commercial buildings totaling 22,785 square feet on a 2.34-acre Project site spanning six parcels. The Proposed Project would require rezoning of two parcels (Assessor Parcel Numbers 237-0162-007 and 237-0162-0120) from Standard Single Family (R-1) to General Commercial (C-2-R). The Project includes the demolition of the existing 1,500-square-foot residential home and 4,860-square-foot vacant commercial building currently on the Project site in order to facilitate the construction of two drive-thru restaurants spanning 3,150 and 2,670 square feet, respectively; a two-story 16,965-square-foot retail/ office building; 91 parking spaces; and associated features. Additionally, three full-access driveways are proposed as well: one each along Raley Boulevard, Bell Avenue, and Katharine Avenue.

### **1.3 Purpose of this Biological Resources Assessment**

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Study Area.

This assessment includes information generated from literature review and an assessment-level reconnaissance site visit. This BRA does not include determinate field surveys for plant and animal species, and does not include an aquatic resources delineation performed according to U.S. Army Corps of Engineers (USACE) protocol.





**Figure 1-1. Study Area**

This assessment includes a preliminary analysis of impacts on biological resources anticipated to result from the Project, as presently defined. The mitigation recommendations presented in this assessment are based on the preliminary analysis, a review of existing literature, and the results of site reconnaissance surveys.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under Section 15380 of the CEQA Guidelines;
- are identified as a species of special concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- are birds identified as birds of conservation concern (BCC) by the U.S. Fish and Wildlife Service (USFWS);
- are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2), "plants about which more information is needed" (i.e., species with a CRPR of 3), or "plants of limited distribution – a watch list" (i.e., species with a CRPR of 4);
- are plants listed as rare under the California Native Plant Protection Act (NPPA; California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. While other species (i.e., special-status lichens, California Natural Diversity Database [CNDDDB] tracked species with no special status) are sometimes found in database searches or within the literature, these species were not included within this analysis.

## 2.0 REGULATORY SETTING

### 2.1 Federal Regulations

#### 2.1.1 Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of



state law (16 U.S. Code 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a Biological Opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

### **2.1.1.1 Section 7**

Section 7 of ESA mandates that all federal agencies consult with USFWS or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical Habitat for listed species. If direct or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that a project may adversely affect a listed species or its habitat, it prepares a BO, which may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

### **2.1.1.2 Critical Habitat and Essential Habitat**

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential lifecycle needs of the species. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior;
2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
3. Cover or shelter;
4. Sites for breeding, reproduction, or rearing (or development) of offspring;

5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species;

### **2.1.2 Migratory Bird Treaty Act**

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR Part 13 General Permit Procedures and 50 CFR Part 21 Migratory Bird Permits. The State of California has incorporated the protection of non-game birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

### **2.1.3 Federal Clean Water Act**

The purpose of the federal Clean Water Act (CWA) is to “restore and maintain the chemical, physical, and biological integrity of the nation’s waters.” Section 404 of the CWA prohibits the discharge of dredged or fill material into “Waters of the United States” without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas “that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3 7b). The U.S. Environmental Protection Agency also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; in California, this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

## **2.2 State or Local Regulations**

### **2.2.1 California Endangered Species Act**

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in 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.” The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.

### **2.2.2 Fully Protected Species**

The State of California first began to designate species as “fully protected” prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing incidental take permits for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved Natural Community Conservation Plan within which such species are covered.

### **2.2.3 Native Plant Protection Act**

The NPPA of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to “preserve, protect and enhance rare and endangered plants in this state.” The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as “endangered” or “rare.” The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

### **2.2.4 California Fish and Game Code Special Protections for Birds**

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds:

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.

- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.
- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

### **2.2.5 Lake or Streambed Alteration Agreements**

Section 1602 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration (LSA) to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the LSA Agreement.

### **2.2.6 Porter-Cologne Water Quality Act**

The RWQCB implements water quality regulations under the federal CWA and the state Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by the USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirement for these activities.

### **2.2.7 California Environmental Quality Act**

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria parallel the definitions used in the ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under the ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as SSC by CDFW, birds identified as a conservation concern by USFWS, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

### **2.2.7.1 Species of Special Concern**

The CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the ESA, California ESA, or California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding range.
- The species is listed as federally (but not state) threatened or endangered or meets the state definition of threatened or endangered but has not formally been listed.
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status.
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- SSC are typically associated with habitats that are threatened.

Projects that result in substantial impacts to SSC may be considered significant under CEQA.

### **2.2.7.2 U.S. Fish and Wildlife Service Birds of Conservation Concern**

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA.” To meet this requirement, USFWS published a list of BCC (USFWS 2008) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS’ highest conservation priorities. Projects that result in substantial impacts to BCC may be considered significant under CEQA.

### **2.2.7.3 Sensitive Natural Communities**

The CDFW maintains the California Natural Community List (CDFW 2020), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of S1, S2, or S3 are considered sensitive natural communities. Impacts to sensitive natural communities may be considered significant under CEQA.

### **2.2.7.4 California Rare Plant Ranks**

The CNPS maintains the electronic Inventory of Rare and Endangered Plants of California (CNPS 2022), which provides a list of plant species native to California that are threatened with extinction, have limited

distributions, or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private-sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.
- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2022).

Substantial impacts to plants ranked 1A, 1B, 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

### **2.2.7.5 California Environmental Quality Act Significance Criteria**

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of nonlisted species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant.

An evaluation of whether an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

### **2.2.8 City of Sacramento General Plan**

The City of Sacramento adopted the Sacramento 2035 General Plan on March 3, 2015. The Sacramento 2035 General Plan Environmental Resources section contains several goals and policies for the protection and conservation of water resources, biological resources, urban forest, agriculture, mineral resources, air quality, and aesthetic resources within the City of Sacramento (City of Sacramento 2015). Several of these goals and policies are applicable to new development within the City. Specifically, Goal ER2.1 Natural and Open Space Protection aims at the protection and enhancement of open space, natural areas, and significant wildlife and vegetation. Policy ER 2.1.10 Habitat Assessments requires the City to consider the potential impact on sensitive plants and wildlife for each project requiring discretionary approval (City of Sacramento 2015).

### **2.2.9 City of Sacramento Tree Ordinance**

The City of Sacramento Ordinance No. 2016-0026 adopted by the Sacramento City Council on August 4, 2016, pertains to tree protection and requires a tree permit for removal of certain trees (City of Sacramento 2016). The City of Sacramento requires a tree permit to perform regulated work on "City Trees" or "Private Protected Trees." City Trees are characterized as trees partially or completely located in a City park, on City-owned property, or on a public right-of-way including any street, road, sidewalk, park strip, mow strip, or alley. Private protected trees are defined as trees designated to have special historical value, special environmental value, or significant community benefit, and is located on private property. Private protected trees are:

- All native trees at 12-inch diameter standard height (DSH). Native trees include coast live oak, interior live oak, valley oak, blue oak, California sycamore, and buckeye.
- All trees at 32-inch DSH with an existing single family or duplex dwelling.
- All trees at 24-inch DSH on undeveloped land or any other type of property such as commercial, industrial, and apartments (City of Sacramento 2022).



## 3.0 METHODS

### 3.1 Literature Review

The following resources were queried to determine the special-status species that had been documented within or in the vicinity of the Study Area:

- CDFW CNDDDB data for the "Rio Linda, California" 7.5-minute USGS quadrangle (CDFW 2022).
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2021a).
- CNPS electronic Inventory of Rare and Endangered Plants of California for the "Rio Linda, California" 7.5-minute USGS quadrangle and the eight surrounding USGS quadrangles (CNPS 2022).

The results of the database queries are included in Attachment A.

### 3.2 Field Surveys Conducted

This BRA includes a reconnaissance site visit to generally characterize onsite resources including plant communities, wildlife, special-status species, and sensitive natural communities. The field assessment was conducted by ECORP biologists Emily Mecke and Hannah Kang on January 21, 2021. The purpose of this assessment was to identify potential biological resources constraints (e.g., aquatic resources, special-status species) onsite, identify regulatory requirements for development of the site, and assess potential mitigation needs. During the assessment, the following biological resource information was collected:

- Direct observations of special-status species;
- Animal and plant species directly observed;
- Habitat and vegetation communities; and
- Identification of aquatic resources.

To date, no detailed field surveys conducted according to agency protocol have been performed for the Study Area.

### 3.3 Special-Status Species Considered for the Project

Based on species occurrence information from the literature review and field observations, a list of special-status species considered to have the potential to occur within the Study Area was generated (Table 4-1 in Section 4.6). Each of the species that were considered as potentially occurring within the Study Area or vicinity was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDDB or other literature.

- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, or the species is not known to occur within the vicinity of the Study Area based on CNDDDB records and other available documentation.
- **Absent** - No suitable habitat (including soils and elevation requirements), or the species is not known to occur within the Study Area or the vicinity of the Study Area based on CNDDDB records and other documentation or determinate field surveys.

### 3.4 Sensitive Natural Communities

*A Manual of California Vegetation, Second Edition* (Sawyer et al. 2009) was used to describe vegetation communities onsite. Sensitive natural communities are those that are listed in the CNDDDB.

## 4.0 RESULTS

### 4.1 Site Characteristics and Land Use

The Study Area is located on a partially undeveloped property in the southeastern portion of the City of Rio Linda and is situated at an elevation of approximately 40 feet above mean sea level in the Sacramento Valley subregion of the Great Central Valley region of California (Baldwin et al. 2012). The average winter minimum temperature is 50.9 degrees Fahrenheit (°F) and the average summer maximum temperature 74.5°F; the average annual precipitation is approximately 20.27 inches (National Oceanic and Atmospheric Administration 2022).

The Study Area is currently partially developed with a residential building in the northwestern corner and a small office building with a parking lot in the northeastern corner. The Study Area was previously disturbed and graded. There is a small row of ornamental trees in the central portion along the western boundary of the Study Area. Several ornamental palms (*Washingtonia* sp.) are located outside the office building near the eastern boundary of the Study Area. The surrounding lands include commercial and residential developments.

Representative photographs of the Study Area are included as Attachment B.

### 4.2 Vegetation Communities and Land Cover Types

There is one vegetation community (ruderal grassland) and one land cover type (disturbed/developed) in the Study Area (Figure 4-1).

#### 4.2.1 Ruderal Grassland

The ruderal grassland covers the southern portion of the Study Area and most of the grassland has been previously disced. Some portions of the ruderal grassland have loose gravel and is sparsely vegetated. The Study Area has been previously graded and the remaining vegetation is dominated by vetch (*Vicia* sp.),

yellow star-thistle (*Centaurea solstitialis*), and wild radish (*Raphanus* sp.). At the time of the site reconnaissance visit the grasses were too young to identify but were most likely soft chess grass (*Bromus hordeaceus*), wild oats (*Avena fatua*), and Italian ryegrass (*Festuca perennis*), which are common weedy grasses in the area. This vegetation community has no global and state rarity ranking and is not considered a sensitive natural community according to CDFW.

#### **4.2.2 Disturbed/Developed**

The disturbed/developed land cover corresponds to the structures onsite, paved parking areas, and compacted dirt/gravel areas within the northern and central portions of the Study Area. Vegetation present consists of sparse ruderal vegetation such as storksbill (*Erodium* sp.) and nonnative grasses.

### **4.3 Wildlife Observations, Movement Corridors, and Nursery Sites**

The Study Area lacks any significant wildlife habitat elements such as aquatic habitat, emergent wetlands, or woodlands. While portions of the Study Area are currently undeveloped, the surrounding lands are comprised of a matrix of urban development with extensively travelled paved roads. The Study Area is not located within an area mapped in the Essential Habitat Connectivity Project (Spencer et al. 2010). Wildlife observed during the reconnaissance site visit included mourning dove (*Zenaida macroura*), Savanna sparrow (*Passerculus sandwichensis*), California gull (*Larus californicus*), and common raven (*Corvus corax*). There is minimal wildlife use onsite, and no movement/migratory corridors or nursery site are present. No California ground squirrels (*Otospermophilus beecheyi*) or their burrows including burrow surrogates (e.g., debris piles, pipes, or culverts), or other small mammal burrows were found onsite.

### **4.4 Soils**

According to the Web Soil Survey, two soil units have been mapped within the Study Area (Figure 4-1; NRCS 2022). These are:

- 219 - San Joaquin-Urban land complex, 0 to 2 percent slopes
- 220 - San Joaquin-Urban land complex, 0 to 3 percent slopes

None of these soil units are derived from serpentinite or other ultramafic parent materials and none are hydric or contain hydric component or inclusions (NRCS 2022; Attachment C).

### **4.5 Aquatic Resources**

A preliminary aquatic resources assessment was performed to identify potential Waters of the U.S./State concurrent with the BRA site visit. There are no aquatic resources present within the Study Area. The entire Study Area had been previously graded. There are no topographic depressions or other topographic relief onsite that could support pooling water or drainageways to extent that wetland indicators would persist. According to the National Wetlands Inventory, no aquatic resources have been previously mapped onsite (Figure 4-2; San Francisco Estuary Institute 2017).





**Map Features**

Project Area - 2.86 acres

**NRCS Soil Types**

*Series Number - Series Name*

219 - San Joaquin-Urban land complex, 0 to 2 percent slopes

220 - San Joaquin-Urban land complex, 0 to 3 percent slopes

**Natural Resources Conservation Service (NRCS)  
Soil Survey Geographic (gSSURGO) Database for  
Sacramento County/Forest Name, CA**

Sources: NAIP 2020, NRCS Soils





**Map Features**

Project Area - 2.86 acres

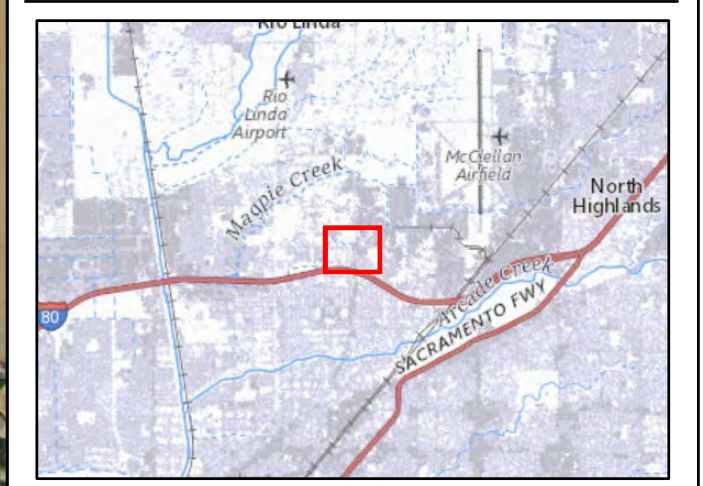
California Aquatics Resources Inventory

*CARI Streams*

Fluvial Natural

Fluvial Unnatural

Sources: NAIP 2020, CARI Data (12/2017)



ECORP: N:\2021\2021-195 Bell Avenue Commercial Center\MAPS\Biological\_Resources\BACC\_CARI\_20220207.mxd (KIT-chinkelman 2/7/2022)

**Figure 4-2. California Aquatics Resources Inventory**  
2021-195 Bell Avenue Commercial Center



ECORP: N:\2021\2021-195 Bell Avenue Commercial Center\MAPS\Vegetation\_and\_LandCover\BACC\_LC\_20220126.mxd (KIT-kturquist 1/26/2022)



#### Map Features

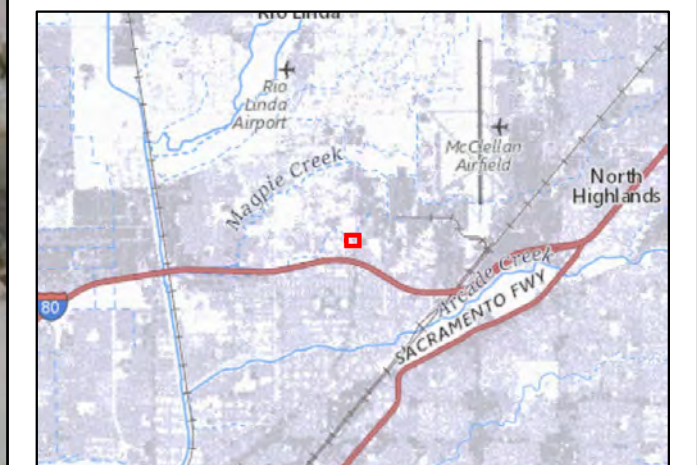
 Project Area - 2.86 acres

#### Land Cover Type

 Disturbed/Developed - 1.80 ac.

 Ruderal Grassland - 1.06 ac.

Sources: Esri World Imagery Clarity



**Figure 4-3. Vegetation Community/Land Cover Types**

2021-195 Bell Ave Commercial Center



#### 4.6 Evaluation of Potentially Occurring Special-Status Species

Table 4-1 lists all the special-status plant and wildlife species (as defined in Section 3.3) identified in the literature review as potentially occurring within the Study Area. Included in this table is the listing status for each species, a brief habitat description, and a determination on the potential to occur within the Study Area. Following the table is a brief description and discussion of each special-status species that is known to occur in the Study Area (from the literature review) or is considered to potentially occur within the Study Area.

Table 4-1. Potentially Occurring Special-Status Species						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Plants						
Ferris' milk-vetch  ( <i>Astragalus tener</i> var. <i>ferrisiae</i> )	–	–	1B.1	Vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (7'–246').	April–May	Absent. There is no suitable habitat onsite.
Valley brodiaea  ( <i>Brodiaea rosea</i> ssp. <i>vallicola</i> )	–	–	4.2	Occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland (33'–1,100').	April–May	Absent. There is no suitable habitat onsite.
Bristly sedge  ( <i>Carex comosa</i> )	–	–	2B.1	Mesic (Jepson eFlora) valley and foothill grassland , coastal prairie, and lake margins of marshes and swamps (0'–2,051').	May– September	Absent. There is no suitable habitat onsite.
Pappose tarplant  ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernally mesic valley and foothill grassland (0'–1,378').	May– November	Absent. There is no suitable habitat onsite.
Parry's rough tarplant  ( <i>Centromadia parryi</i> ssp. <i>rudis</i> )	–	–	4.2	Alkaline, vernally mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'–328').	May– October	Absent. There is no suitable habitat onsite.



**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Peruvian dodder <i>(Cuscuta obtusiflora var. glandulosa)</i>	–	–	2B.2	Freshwater marshes and swamps (49'–919').	July–October	Absent. There is no suitable habitat onsite.
Dwarf downingia <i>(Downingia pusilla)</i>	–	–	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species has also been found in disturbed areas such as tire ruts and scraped depressions (CDFW 2022) (5'–1,460').	March–May	Absent. There is no suitable habitat onsite.
Stinkbells <i>(Fritillaria agrestis)</i>	–	–	4.2	Clay and sometimes serpentinite soils in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (33'–5,102').	March–June	Absent. There is no suitable habitat onsite.
Boggs Lake hedge-hyssop <i>(Gratiola heterosepala)</i>	–	CE	1B.2	Marshes, swamps, lake margins, and vernal pools (33'–7,792').	April–August	Absent. There is no suitable habitat onsite.
Hogwallow starfish <i>(Hesperovax caulescens)</i>	–	–	4.2	Sometimes alkaline in mesic areas with clay soil within valley and foothill grassland and shallow vernal pools (0'–1,657').	March–June	Absent. There is no suitable habitat onsite.
Woolly rose-mallow <i>(Hibiscus lasiocarpus var. occidentalis)</i>	–	–	1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees (0'–394').	June–September	Absent. There is no suitable habitat onsite.
Ahart's dwarf rush <i>(Juncus leiostermus var. ahartii)</i>	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (98'–751').	March–May	Absent. There is no suitable habitat onsite.
Alkali-sink goldfields <i>(Lasthenia chrysantha)</i>	–	–	1B.1	Alkaline vernal pools (0–656').	February–April	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Legenere <i>(Legenere limosa)</i>	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Absent. There is no suitable habitat onsite.
Heckard's pepper-grass <i>(Lepidium latipes var. heckardii)</i>	–	–	1B.2	Alkaline flats within valley and foothill grasslands (7'–656').	March–May	Absent. There is no suitable habitat onsite.
Mason's lilaeopsis <i>(Lilaeopsis masonii)</i>	–	CR	1B.1	Brackish or freshwater marshes or swamps and riparian scrub (0'–33').	April–November	Absent. There is no suitable habitat onsite.
Hoary navarretia <i>(Navarretia eriocephala)</i>	–	–	4.3	Vernally mesic areas in cismontane woodland and valley and foothill grassland (345'–1,312').	May–June	Absent. There is no suitable habitat onsite.
Slender Orcutt grass <i>(Orcuttia tenuis)</i>	FT	CE	1B.1	Vernal pools, often gravelly (115'–5,774').	May–September	Absent. There is no suitable habitat onsite.
Sacramento Orcutt grass <i>(Orcuttia viscida)</i>	FE	CE	1B.1	Vernal pools (98'–328').	April–July	Absent. There is no suitable habitat onsite.
Sanford's arrowhead <i>(Sagittaria sanfordii)</i>	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Absent. There is no suitable habitat onsite.
Suisun marsh aster <i>(Symphyotrichum lentum)</i>	–	–	1B.2	Brackish and freshwater marshes and swamps (0'–10').	May–November	Absent. There is no suitable habitat onsite.
Saline clover <i>(Trifolium hydrophilum)</i>	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland,, and vernal pools (0'–984').	April–June	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Invertebrates						
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	-	-	Seasonal ponds, vernal pools, and swales.	November- April	Absent. There is no suitable habitat onsite.
Valley elderberry longhorn beetle <i>(Desmocerus californicus dimorphus)</i>	FT	-	-	Elderberry shrubs.	Any season	Absent. There is no suitable habitat (elderberry shrubs [ <i>Sambucus</i> sp.]), onsite.
Vernal pool tadpole shrimp <i>(Lepidurus packardi)</i>	FE	-	-	Generally, low- alkalinity seasonal pools in grasslands; vernal pools and seasonal swales are generally underlain by hardpan or sandstone.	November- April	Absent. There is no suitable habitat onsite.
Monarch butterfly <i>(Danaus plexippus)</i>	FC	-	-	Lays eggs on obligate milkweed (primarily <i>Asclepias</i> spp.) host plants. Other requirements include breeding season and migration season nectar sources,	N/A	Absent. There is no suitable habitat ( <i>Asclepias</i> spp.) onsite.
Fish						
Chinook salmon (Central Valley spring- run Evolutionarily Significant Unit [ESU]) <i>(Oncorhynchus tshawytscha)</i>	FT	CT	-	Undammed rivers, streams, creeks.	N/A	Absent. There is no suitable habitat onsite.
Delta smelt <i>(Hypomesus transpacificus)</i>	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent. There is no suitable habitat onsite.
Steelhead (CA Central Valley Distinct Population Segment [DPS]) <i>(Oncorhynchus mykiss irideus)</i>	FT	-	-	Fast-flowing, well- oxygenated rivers and streams	N/A	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Chinook salmon (Sacramento River winter-run ESU)  ( <i>Oncorhynchus tshawytscha</i> )	FE	CE	-	Undammed rivers, streams, creeks.	N/A	Absent. There is no suitable habitat onsite.
Sacramento splittail  ( <i>Pogonichthys macrolepidotus</i> )	-	-	SSC	San Francisco bay estuary. Spawns in upstream floodplains and backwater sloughs.	N/A	Absent. There is no suitable habitat onsite.
Longfin smelt  ( <i>Spirinchus thaleichthys</i> )	FC	CT	SSC	Freshwater and coastal estuaries.	N/A	Absent. There is no suitable habitat onsite.
<b>Amphibians</b>						
California red-legged frog  ( <i>Rana draytonii</i> )	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1- November 1	Absent. There is no suitable habitat onsite.
California tiger salamander (Central California DPS)  ( <i>Ambystoma californiense</i> )	FT	ST	SSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Absent. There is no suitable habitat onsite.
Western spadefoot  ( <i>Spea hammondi</i> )	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Absent. There is no suitable habitat onsite.
<b>Reptiles</b>						
Northwestern pond turtle  ( <i>Actinemys marmorata</i> )	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April- September	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Giant garter snake <i>(Thamnophis gigas)</i>	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent. There is no suitable habitat onsite.
<b>Birds</b>						
Clark's grebe <i>(Aechmophorus clarkii)</i>	-	-	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	June-August (breeding)	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Yellow-billed cuckoo <i>(Coccyzus americanus)</i>	FT	CE	BCC	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15- August 15	Absent. There is no suitable habitat onsite.
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March- September (breeding)	Absent. There is no suitable habitat onsite.
White-tailed kite <i>(Elanus leucurus)</i>	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March- August	Potential to Occur. There is suitable nesting and foraging habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Golden eagle ( <i>Aquila chrysaetos</i> )	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	Nest (February-August); winter CV (October-February)	Absent. There is no suitable habitat onsite.
Cooper's hawk ( <i>Accipiter cooperii</i> )	-	-	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes	March-July	Potential to Occur. There is suitable nesting and foraging habitat onsite.
Swainson's hawk ( <i>Buteo swainsoni</i> )	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Absent. There is no suitable habitat onsite.



**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Ferruginous hawk <i>(Buteo regalis)</i>	-	-	BCC, CDFW WL	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Absent. There is no suitable habitat onsite.
Burrowing owl <i>(Athene cunicularia)</i>	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Absent. There is no suitable habitat (burrows or burrow surrogates) onsite.
Nuttall's woodpecker <i>(Dryobates nuttallii)</i>	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Merlin <i>(Falco columbarius)</i>	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September-April (wintering in the Central Valley); does not breed in California	Absent. There is no suitable habitat onsite.
Olive-sided flycatcher <i>(Contopus cooperi)</i>	-	-	SSC, BCC	Nests in montane and northern coniferous forests, in forest openings, forest edges, semi-open forest stands. In California, nests in coastal forests, Cascade and Sierra Nevada region. Winters in Central to South America.	May-August	Absent. There is no suitable habitat onsite.
Least Bell's vireo <i>(Vireo bellii pusillus)</i>	FE	CE	-	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur.	April 1-July 31	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Yellow-billed magpie <i>(Pica nuttallii)</i>	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Potential to Occur. There is suitable nesting habitat onsite.
Oak titmouse <i>(Baeolophus inornatus)</i>			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree)	March-July	Absent. There is no suitable habitat onsite.
Bank swallow <i>(Riparia riparia)</i>	-	CT	-	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Purple martin <i>(Progne subis)</i>	-	-	SSC	In California, breeds along coast range, Cascade-northern Sierra Nevada region and isolated population in Sacramento. Nesting habitat includes montane forests, Pacific lowlands with dead snags; the isolated Sacramento population nests in weep holes under elevated highways/ bridges. Winters in South America.	May-August	Absent. There is no suitable habitat onsite.
Lawrence's goldfinch <i>(Spinus lawrencei)</i>	-	-	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g. small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.	March-September	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Song sparrow "Modesto"  ( <i>Melospiza melodia heermanni</i> )	-	-	SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Absent. There is no suitable habitat onsite.
Yellow-headed blackbird  ( <i>Xanthocephalus xanthocephalus</i> )	-	-	SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange, Lake counties and locally in the Central Valley. Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes.	April-July	Absent. There is no suitable habitat onsite.
Tricolored blackbird  ( <i>Agelaius tricolor</i> )	-	CT	BCC, SSC	Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Absent. There is no suitable habitat onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Mammals						
Pallid bat <i>(Antrozous pallidus)</i>	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g. basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2017).	April-September	Low Potential to Occur. Marginal habitat (office building) onsite
Western red bat <i>(Lasiurus blossevillii)</i>	-	-	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (WBWG 2017).	April-September	Low Potential to Occur. Marginal habitat (office building) onsite.

**Table 4-1. Potentially Occurring Special-Status Species**

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
American badger <i>(Taxidea taxus)</i>	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent. There is no suitable habitat onsite.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered
FT	FESA listed, Threatened
FC	FESA Candidate Species
BCC	USFWS Bird of Conservation Concern (USFWS 2021b)
CT	CESA or NPPA listed, Threatened
CE	CESA or NPPA listed, Endangered
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, § 5050-reptiles/amphibians)
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
1B	CRPR/Rare or Endangered in California and elsewhere
2B	Plants rare, threatened, or endangered in California but more common elsewhere
3	CRPR/Plants About Which More Information is Needed – A Review List
4	CRPR/Plants of Limited Distribution – A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

#### 4.6.1 Plants

Twenty-two special-status plants have been identified as potentially occurring for the Study Area based on the initial literature review and database queries (Table 4-1). However, upon further analysis and after the site visit, it was determined that all special-status plant species were absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is included in the report.

#### 4.6.2 Invertebrates

Four special-status invertebrates were identified as potentially occurring in the Study Area based on the initial literature review and database queries (Table 4-1). However, upon further analysis and after the site visit, all of these special-status invertebrate species were considered absent due to lack of suitable within the Study Area. No further discussion of these species is provided in this analysis.

#### 4.6.3 Fish

Seven special-status fish were identified as having potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these special-



status fish species were considered absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

#### **4.6.4 Amphibians**

Three special-status amphibians were identified as having potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these special-status amphibian species were considered absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

#### **4.6.5 Reptiles**

Two special-status reptiles were identified as having the potential to occur in the Study Area based on the literature review (Table 4-1). However, upon further analysis and after the site visit, all of these special-status reptile species were considered absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis.

#### **4.6.6 Birds**

Twenty-one special-status bird species were identified as having the potential to occur within the Study Area based on the literature review (Table 4-1). Upon further analysis and after the site visit, 18 special-status bird species were considered absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis. A discussion of the three remaining species is provided below.

##### **4.6.6.1 *White-Tailed Kite***

White-tailed kite is not listed pursuant to either the California or federal Endangered Species Acts; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 2020). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 2020).

There are 11 documented CNDDDB occurrences of white-tailed kite within 5 miles of the Study Area (CDFW 2022). The ruderal grassland and ornamental trees within the Study Area provides suitable nesting and foraging habitat for this species. White-tailed kite has potential to nest and forage onsite.

##### **4.6.6.2 *Cooper's Hawk***

The Cooper's hawk is not listed pursuant to either the California or federal Endangered Species Acts. However, it is a CDFW "watch list" species and is currently tracked in the CNDDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nest throughout California from Siskiyou County to San Diego County and includes the

Central Valley (Rosenfield et al. 2020). Breeding occurs during March through July, with a peak from May through July.

There is one documented CNDDDB occurrence of Cooper's hawk within 5 miles of the Study Area (CDFW 2022). The ruderal grassland and ornamental trees within the Study Area provides suitable nesting and foraging habitat for this species. Cooper's hawk has potential to nest and forage onsite.

#### **4.6.6.3     *Yellow-Billed Magpie***

The yellow-billed magpie is not listed pursuant to either the California or federal Endangered Species Acts but is considered a USFWS bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February, which may take up to 6-8 weeks to complete, with eggs laid during April-May, and fledging during May-June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020).

There are no documented CNDDDB occurrences of yellow-billed magpie within 5 miles of the Study Area (CDFW 2022). However, the ruderal grassland within the Study Area provides marginal suitable nesting habitat this species. Yellow-billed magpie has low potential to nest onsite.

#### **4.6.7        *Mammals***

Three special-status mammal species were identified as having the potential to occur within the Study Area based on the literature review (Table 4-1). Upon further analysis and after the site visit, one special-status mammal species was considered absent due to a lack of suitable habitat within the Study Area. No further discussion of these species is provided in this analysis. A discussion of the two remaining species is provided below.

##### **4.6.7.1     *Pallid Bat***

The pallid bat is not listed pursuant to either the federal or California ESAs; however, this species is considered an SSC by CDFW. The pallid bat is a large, light-colored bat with long, prominent ears and pink, brown, or grey wing and tail membranes. This species ranges throughout North America from the interior of British Columbia, south to Mexico, and east to Texas. The pallid bat inhabits low elevation (below 6,000 feet) rocky arid deserts and canyonlands, shrub-steppe grasslands, karst formations, and higher elevation coniferous forest (above 7,000 feet). This species roosts alone or in groups in the crevices of rocky outcrops and cliffs, caves, mines, trees, and in various human structures such as bridges, and barns. Pallid bats are feeding generalists that glean a variety of arthropod prey from surfaces as well as capturing insects on the wing. Foraging occurs over grasslands, oak savannahs, ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards. Although this species utilizes echolocation to locate prey, often they use only passive acoustic cues. This species is not thought to migrate long distances between summer and winter sites (WBWG 2022).

There are no documented CNDDDB occurrences of pallid bat within 5 miles of the Study Area (CDFW 2022). However, the office buildings within the developed portions of the Study Area provide marginal roosting habitat. Pallid bat has low potential to occur onsite.

#### **4.6.7.2 Western Red Bat**

The western red bat is not listed pursuant to either the California or federal Endangered Species Acts; however, this species is considered a species of special concern by CDFW. The western red bat is easily distinguished from other western bat species by its distinctive red coloration. This species is broadly distributed, its range extending from southern British Columbia in Canada through Argentina and Chile in South America, and including much of the western U.S. This solitary species day roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They may be associated with intact riparian habitat, especially with willows, cottonwoods, and sycamores. This species may occasionally utilize caves for roosting as well. They feed on a variety of insects, and generally begin to forage one to two hours after sunset. This species is considered highly migratory; however the timing of migration and the summer ranges of males and females may be different. Winter behavior of this species is poorly understood (WBWG 2022).

There are no documented CNDDDB occurrences of western red bat within 5 miles of the Study Area (CDFW 2022). However, the office buildings within the Study Area provide marginal roosting habitat for this species. Western red bat has low potential to occur onsite.

### **4.7 Sensitive Natural Communities**

There are no sensitive natural communities present within the Study Area based on literature review and results of the site visit (CDFW 2022). No further discussion of sensitive natural communities is provided within this assessment.

## **5.0 IMPACT ANALYSIS**

This section specifically addresses the questions raised by the CEQA - Appendix G Environmental Checklist Form, IV. Biological Resources. This impact analysis assumes the Project will implement measures that fulfill the intent of recommended measures described in Section 6.0.

### **5.1 Special Status Species**

**Would the Project result in effects, either directly or through habitat modifications, to species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?**

There is potential for three special-status birds and two special-status bats to occur within the Study Area.

### 5.1.1 Special-Status Birds

Suitable nesting or wintering and foraging habitat for three special-status birds is present within the Study Area. If these birds are present, construction including tree removal or other work-related activities could result in harassment to nesting individuals and may temporarily disrupt foraging activities.

In addition to the special-status birds, all native birds including raptors are protected under the California Fish and Game Code and the federal MBTA. As such, to ensure that there are no impacts to protected active nests, the following measures are recommended.

Implementation of BIO-1 described in Section 6.0 would avoid or minimize potential effects to special-status birds and birds protected under the California Fish and Game Code and federal MBTA.

### 5.1.2 Special-Status Bats

The office buildings proposed for removal provide potential roosting habitat for two special-status bat species. Removal of these structures could result in impacts to special-status roosting bats, if present. Implementation of BIO-2 described in Section 6.0 would avoid or minimize potential effects to special-status bat species.

## 5.2 Riparian Habitat and Sensitive Natural Communities

**Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?**

The Study Area supports ruderal grassland habitat. There are no sensitive natural communities as defined by CDFW, and there is no riparian habitat onsite. Therefore, the Project will not impact riparian habitat or sensitive natural communities.

## 5.3 Aquatic Resources, Including Waters of the U.S. and State

**Would the Project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Based on the preliminary aquatic resources assessment, there are no aquatic resources or potential waters of the U.S. or State present within the Study Area. Therefore, the Project will not impact aquatic resources.

## 5.4 Wildlife Movement/Corridors

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

The Study Area provides limited migratory opportunities for terrestrial wildlife because of the developed nature of the surrounding lands and the absence of significant wildlife habitat elements onsite. Project

construction is likely to temporarily disturb and displace some wildlife from the vicinity of the Study Area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume but will likely be more limited as the Project Area will be developed. The Project is not expected to substantially interfere with wildlife movement.

There are no documented nursery sites and no nursery sites were observed within the Study Area during the site reconnaissance. Therefore, the Project is not expected to impact wildlife nursery sites.

## 5.5 Local Policies, Ordinances, and Other Plans

### **Does the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Ornamental trees occur along the boundaries of the Study Area. A formal arborist survey was not conducted for the Study Area; however, these trees likely do not meet the requirements of a Private Protected Tree (greater than 24-inch DSH) as outlined by the City of Sacramento Tree Ordinance (City of Sacramento 2016, 2022). If trees that meet the parameters of a Private Protected Tree a tree permit from the City of Sacramento will be required. The Project will not conflict with any local policies or ordinances.

### **Does the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The Study Area is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

## 6.0 RECOMMENDATIONS

### 6.1.1 BIO-1: Special-Status Birds and Migratory Bird Treaty Act-Protected Birds

The following measure is recommended to minimize impacts to all special-status birds and active nests:

- Conduct a preconstruction nesting bird survey of the Study Area within 14 days of the commencement of construction during the nesting season (February 1 through August 31). Surveys should be conducted within 300 feet of the Study Area for nesting raptors and 100 feet of the Study Area for nesting songbirds. If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a biologist in consultation with CDFW or the CEQA lead agency. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest site, to be determined by a qualified biologist. No further measures are necessary once the young are independent of the nest. Preconstruction nesting surveys are not required for construction activity outside the nesting season.

### **6.1.2 BIO-2: Special-Status Bats**

The following measures are recommended to minimize potential impacts to bats:

- Prior to removal of structures onsite, a qualified biologist shall conduct a habitat assessment to identify suitable bat roosting habitat on the Project site.
- If suitable roosting habitat is identified, a qualified biologist will conduct an evening bat emergence survey that may include acoustic monitoring to determine whether bats are present.
- If any bats are found, consult with CDFW prior to removal of roosting habitat.
- No further measures will be necessary if no suitable roosting habitat is detected or if bats are not found during the emergence survey.

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## **LIST OF ATTACHMENTS**

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Attachment A – Results of Database Queries

Attachment B – Representative Site Photos

Attachment C – Soil Unit Descriptions

**ATTACHMENT A**

Results of Database Queries



# Selected Elements by Element Code

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad<span style='color:Red'> IS </span>(Sacramento East (3812154)<span style='color:Red'> OR </span>Sacramento West (3812155)<span style='color:Red'> OR </span>Rio Linda (3812164)<span style='color:Red'> OR </span>Taylor Monument (3812165)<span style='color:Red'> OR </span>Citrus Heights (3812163)<span style='color:Red'> OR </span>Carmichael (3812153)<span style='color:Red'> OR </span>Elk Grove (3812143)<span style='color:Red'> OR </span>Clarksburg (3812145)<span style='color:Red'> OR </span>Florin (3812144))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABF02020	<i>Spea hammondi</i> western spadefoot	None	None	G2G3	S3	SSC
ABNFD01020	<i>Nannopterum auritum</i> double-crested cormorant	None	None	G5	S4	WL
ABNGA04010	<i>Ardea herodias</i> great blue heron	None	None	G5	S4	
ABNGA04040	<i>Ardea alba</i> great egret	None	None	G5	S4	
ABNGA06030	<i>Egretta thula</i> snowy egret	None	None	G5	S4	
ABNGA11010	<i>Nycticorax nycticorax</i> black-crowned night heron	None	None	G5	S4	
ABNKC06010	<i>Elanus leucurus</i> white-tailed kite	None	None	G5	S3S4	FP
ABNKC12040	<i>Accipiter cooperii</i> Cooper's hawk	None	None	G5	S4	WL
ABNKC19070	<i>Buteo swainsoni</i> Swainson's hawk	None	Threatened	G5	S3	
ABNKC19120	<i>Buteo regalis</i> ferruginous hawk	None	None	G4	S3S4	WL
ABNKC22010	<i>Aquila chrysaetos</i> golden eagle	None	None	G5	S3	FP
ABNKD06030	<i>Falco columbarius</i> merlin	None	None	G5	S3S4	WL
ABNME03041	<i>Laterallus jamaicensis coturniculus</i> California black rail	None	Threatened	G3G4T1	S1	FP
ABNRB02022	<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	<i>Athene cunicularia</i> burrowing owl	None	None	G4	S3	SSC
ABPAU01010	<i>Progne subis</i> purple martin	None	None	G5	S3	SSC
ABPAU08010	<i>Riparia riparia</i> bank swallow	None	Threatened	G5	S2	
ABPBW01114	<i>Vireo bellii pusillus</i> least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBXA3010	<i>Melospiza melodia</i> song sparrow ("Modesto" population)	None	None	G5	S3?	SSC



Selected Elements by Element Code  
California Department of Fish and Wildlife  
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABPBXB0020	<b><i>Agelaius tricolor</i></b> tricolored blackbird	None	Threatened	G1G2	S1S2	SSC
ABPBXB3010	<b><i>Xanthocephalus xanthocephalus</i></b> yellow-headed blackbird	None	None	G5	S3	SSC
AFCHA0205B	<b><i>Oncorhynchus tshawytscha</i> pop. 7</b> chinook salmon - Sacramento River winter-run ESU	Endangered	Endangered	G5T1Q	S1	
AFCHA0205L	<b><i>Oncorhynchus tshawytscha</i> pop. 11</b> chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5T1T2Q	S2	
AFCHA0209K	<b><i>Oncorhynchus mykiss irideus</i> pop. 11</b> steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AFCHB01040	<b><i>Hypomesus transpacificus</i></b> Delta smelt	Threatened	Endangered	G1	S1	
AFCHB03010	<b><i>Spirinchus thaleichthys</i></b> longfin smelt	Candidate	Threatened	G5	S1	
AFCJB34020	<b><i>Pogonichthys macrolepidotus</i></b> Sacramento splittail	None	None	GNR	S3	SSC
AFCQB07010	<b><i>Archoplites interruptus</i></b> Sacramento perch	None	None	G2G3	S1	SSC
AMACC05030	<b><i>Lasiurus cinereus</i></b> hoary bat	None	None	G3G4	S4	
AMAJF04010	<b><i>Taxidea taxus</i></b> American badger	None	None	G5	S3	SSC
ARAAD02030	<b><i>Emys marmorata</i></b> western pond turtle	None	None	G3G4	S3	SSC
ARADB36150	<b><i>Thamnophis gigas</i></b> giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	<b>Northern Hardpan Vernal Pool</b> Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44120CA	<b>Northern Claypan Vernal Pool</b> Northern Claypan Vernal Pool	None	None	G1	S1.1	
CTT44132CA	<b>Northern Volcanic Mud Flow Vernal Pool</b> Northern Volcanic Mud Flow Vernal Pool	None	None	G1	S1.1	
CTT61410CA	<b>Great Valley Cottonwood Riparian Forest</b> Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61430CA	<b>Great Valley Valley Oak Riparian Forest</b> Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63440CA	<b>Elderberry Savanna</b> Elderberry Savanna	None	None	G2	S2.1	
ICBRA03030	<b><i>Branchinecta lynchi</i></b> vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	<b><i>Branchinecta mesoallensis</i></b> midvalley fairy shrimp	None	None	G2	S2S3	



Selected Elements by Element Code  
California Department of Fish and Wildlife  
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA06010	<i>Lindieriella occidentalis</i> California lindieriella	None	None	G2G3	S2S3	
ICBRA10010	<i>Lepidurus packardii</i> vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
ICBRA23010	<i>Dumontia oregonensis</i> hairy water flea	None	None	G1G3	S1	
IICOL02106	<i>Cicindela hirticollis abrupta</i> Sacramento Valley tiger beetle	None	None	G5TH	SH	
IICOL48011	<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	Threatened	None	G3T2	S3	
IICOL5V010	<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	None	None	G2?	S2?	
IIHYM35210	<i>Andrena subapasta</i> An andrenid bee	None	None	G1G2	S1S2	
IMBIV19010	<i>Gonidea angulata</i> western ridged mussel	None	None	G3	S1S2	
PDAP19030	<i>Lilaeopsis masonii</i> Mason's lilaeopsis	None	Rare	G2	S2	1B.1
PDAST4R0P2	<i>Centromadia parryi ssp. parryi</i> pappose tarplant	None	None	G3T2	S2	1B.2
PDAST5L030	<i>Lasthenia chrysantha</i> alkali-sink goldfields	None	None	G2	S2	1B.1
PDASTE8470	<i>Symphyotrichum lentum</i> Suisun Marsh aster	None	None	G2	S2	1B.2
PDBRA1M0K1	<i>Lepidium latipes var. heckardii</i> Heckard's pepper-grass	None	None	G4T1	S1	1B.2
PDCAM060C0	<i>Downingia pusilla</i> dwarf downingia	None	None	GU	S2	2B.2
PDCAM0C010	<i>Legenere limosa</i> legenere	None	None	G2	S2	1B.1
PDCUS01111	<i>Cuscuta obtusiflora var. glandulosa</i> Peruvian dodder	None	None	G5T4?	SH	2B.2
PDFAB0F8R3	<i>Astragalus tener var. ferrisiae</i> Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDFAB400R5	<i>Trifolium hydrophilum</i> saline clover	None	None	G2	S2	1B.2
PDMAL0H0R3	<i>Hibiscus lasiocarpus var. occidentalis</i> woolly rose-mallow	None	None	G5T3	S3	1B.2
PDSCR0R060	<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	None	Endangered	G2	S2	1B.2
PMALI040Q0	<i>Sagittaria sanfordii</i> Sanford's arrowhead	None	None	G3	S3	1B.2



Selected Elements by Element Code  
California Department of Fish and Wildlife  
California Natural Diversity Database



Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PMCYP032Y0	<b><i>Carex comosa</i></b> bristly sedge	None	None	G5	S2	2B.1
PMJUN011L1	<b><i>Juncus leiospermus var. ahartii</i></b> Ahart's dwarf rush	None	None	G2T1	S1	1B.2
PMLILOV010	<b><i>Fritillaria agrestis</i></b> stinkbells	None	None	G3	S3	4.2
PMPOA4G050	<b><i>Orcuttia tenuis</i></b> slender Orcutt grass	Threatened	Endangered	G2	S2	1B.1
PMPOA4G070	<b><i>Orcuttia viscida</i></b> Sacramento Orcutt grass	Endangered	Endangered	G1	S1	1B.1

Record Count: 66

# 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

Sacramento 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

# 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 species<sup>1</sup> 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 Fisheries<sup>2</sup>).

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:

## Reptiles



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

## Amphibians

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

## Fishes

NAME	STATUS
<b>Delta Smelt</b> <i>Hypomesus transpacificus</i> Wherever found There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

## Insects

NAME	STATUS
<b>Monarch Butterfly</b> <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> Wherever found There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## Crustaceans

NAME	STATUS
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> Wherever found There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> Wherever found There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## 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 Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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 <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.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.)

Clark's Grebe *Aechmophorus clarkii*

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

Breeds Jun 1 to Aug 31

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

Lawrence's Goldfinch *Carduelis lawrencei*

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

<https://ecos.fws.gov/ecp/species/9464>

Breeds Mar 20 to Sep 20

**Nuttall's Woodpecker** *Picoides nuttallii*

Breeds Apr 1 to Jul 20

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>

**Oak Titmouse** *Baeolophus inornatus*

Breeds Mar 15 to Jul 15

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

<https://ecos.fws.gov/ecp/species/9656>

**Olive-sided Flycatcher** *Contopus cooperi*

Breeds May 20 to Aug 31

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

<https://ecos.fws.gov/ecp/species/3914>

**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.

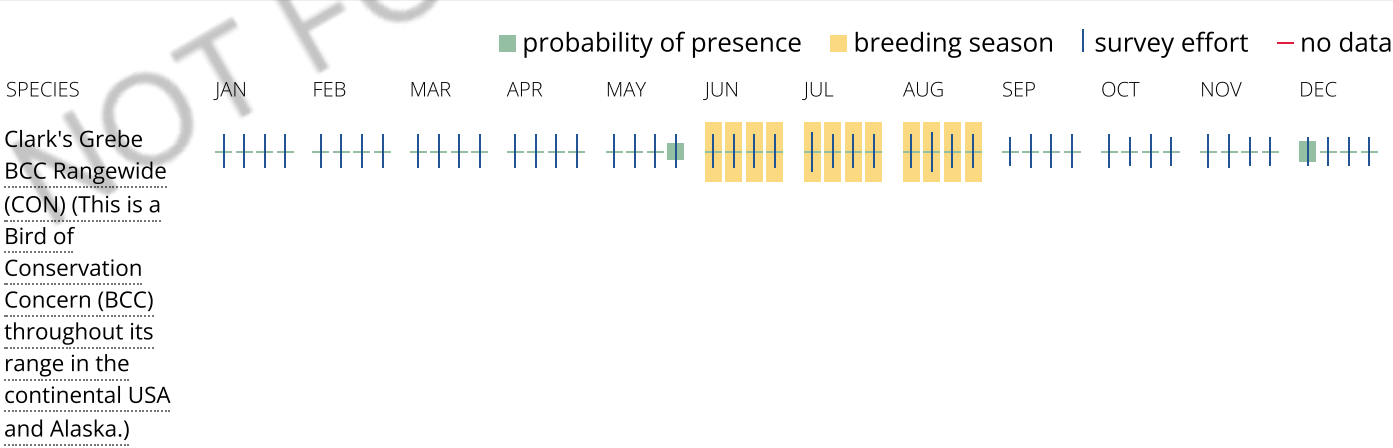
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**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.





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



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 to 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.

Search Results

22 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3812164:3812165:3812163:3812153:3812154:3812155:3812145:3812144:3812143]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
<a href="#">Astragalus tener</a> <a href="#">var. ferrisiae</a>	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	None	None	G2T1	S1	1B.1	No Photo Available
<a href="#">Brodiaea rosea</a> ssp. <a href="#">vallicola</a>	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	None	None	G5T3	S3	4.2	 © 2011 Steven Perry
<a href="#">Carex comosa</a>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	G5	S2	2B.1	 Dean Wm. Taylor 1997
<a href="#">Centromadia parryi</a> ssp. <a href="#">parryi</a>	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	No Photo Available
<a href="#">Centromadia parryi</a> ssp. <a href="#">rudis</a>	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	None	None	G3T3	S3	4.2	No Photo Available
<a href="#">Cuscuta obtusiflora</a> var. <a href="#">glandulosa</a>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	None	None	G5T4?	SH	2B.2	No Photo Available
<a href="#">Downingia pusilla</a>	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2	No Photo Available
<a href="#">Fritillaria agrestis</a>	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G3	S3	4.2	 © 2016 Aaron Schusteff
<a href="#">Gratiola heterosepala</a>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	G2	S2	1B.2	 ©2004 Carol W. Witham
<a href="#">Hesperevax caulescens</a>	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	None	None	G3	S3	4.2	 © 2017 John Doyen

<u><a href="#">Hibiscus lasiocarpus var. occidentalis</a></u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	None	None	G5T3	S3	1B.2	 <div>© 2020 Steven Perry</div>
<u><a href="#">Juncus leiospermus var. ahartii</a></u>	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	None	None	G2T1	S1	1B.2	 <div>© 2004 Carol W. Witham</div>
<u><a href="#">Lasthenia chrysantha</a></u>	alkali-sink goldfields	Asteraceae	annual herb	Feb-Apr	None	None	G2	S2	1B.1	 <div>© 2009 California State University, Stanislaus</div>
<u><a href="#">Legenere limosa</a></u>	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	No Photo Available
<u><a href="#">Lepidium latipes var. heckardii</a></u>	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	None	None	G4T1	S1	1B.2	 <div>2018 Jennifer Buck</div>
<u><a href="#">Lilaeopsis masonii</a></u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	None	CR	G2	S2	1B.1	No Photo Available
<u><a href="#">Navarretia eriocephala</a></u>	hoary navarretia	Polemoniaceae	annual herb	May-Jun	None	None	G4?	S4?	4.3	No Photo Available
<u><a href="#">Orcuttia tenuis</a></u>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	 <div>© 2013 Justy Leppert</div>
<u><a href="#">Orcuttia viscida</a></u>	Sacramento Orcutt grass	Poaceae	annual herb	Apr-Jul(Sep)	FE	CE	G1	S1	1B.1	No Photo Available
<u><a href="#">Sagittaria sanfordii</a></u>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	No Photo Available
<u><a href="#">Symphyotrichum lentum</a></u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	None	None	G2	S2	1B.2	No Photo Available

1/14/22, 4:32 PM

Inventory of Rare and Endangered Plants of California - Search Result

<a href="#">Iriofolium</a>	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	
<a href="#">hydrophilum</a>										No Photo Available

Showing 1 to 22 of 22 entries

**Suggested Citation:**  
California Native Plant Society, Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 1.0). Website <https://www.rareplants.cnps.org> [accessed 15 January 2022].

CONTACT US

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- [The Jepson Flora Project](#)
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**ATTACHMENT B**

Representative Site Photos





Photo 1. Concrete slabs, facing SW, January 21, 2022.



Photo 2. Parking lot, facing N, January 21, 2022.



Photo 3. Ruderal grassland land cover type, facing W, January 21, 2022.



Photo 4. Disturbed/developed land cover type, facing NE, January 21, 2022.



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**ATTACHMENT C**

## Soil Unit Descriptions





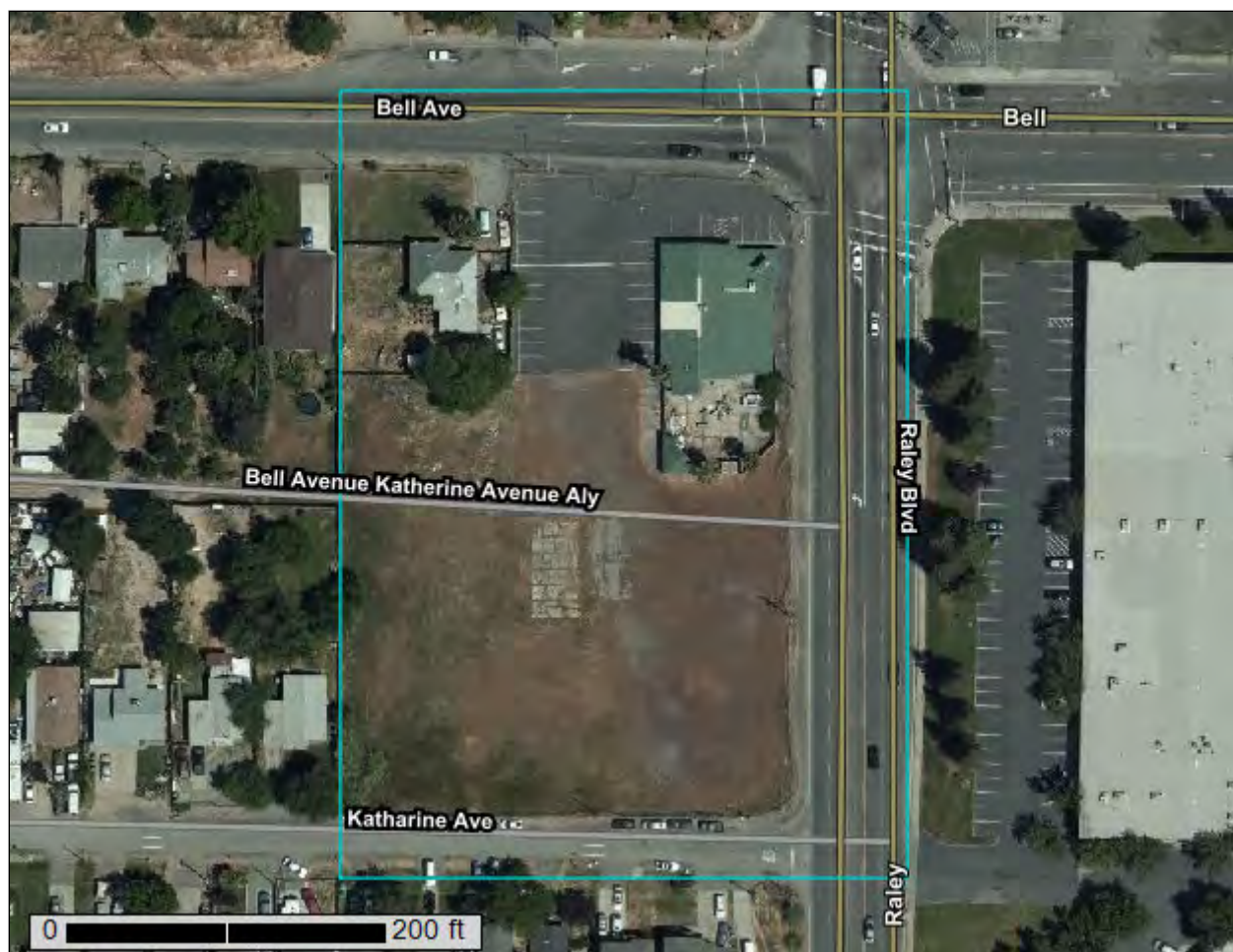
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Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

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

# Custom Soil Resource Report for **Sacramento County, California**



February 8, 2022

# Preface

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

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

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

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

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

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

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# Soil Map

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

## Map Unit Descriptions

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

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

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

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

## Custom Soil Resource Report

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

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

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

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

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

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

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

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

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

## Sacramento County, California

### 214—San Joaquin silt loam, 0 to 3 percent slopes

#### Map Unit Setting

*National map unit symbol:* hhpw

*Elevation:* 20 to 500 feet

*Mean annual precipitation:* 10 to 22 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 250 to 300 days

*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*San joaquin and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of San Joaquin

##### Setting

*Landform:* Terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granite

##### Typical profile

*H1 - 0 to 23 inches:* silt loam

*H2 - 23 to 28 inches:* clay loam

*H3 - 28 to 54 inches:* indurated

*H4 - 54 to 60 inches:* stratified sandy loam to loam

##### Properties and qualities

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches; 28 to 54 inches to duripan

*Drainage class:* Moderately well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

##### Interpretive groups

*Land capability classification (irrigated):* 3s

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* C

*Ecological site:* R017XD045CA - LOAMY

*Hydric soil rating:* No

#### Minor Components

##### Galt

*Percent of map unit:* 4 percent

## Custom Soil Resource Report

*Landform:* Depressions

*Hydric soil rating:* Yes

### **Bruella**

*Percent of map unit:* 4 percent

*Hydric soil rating:* No

### **Kimball**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

### **Hedge**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

### **Unnamed, rarely flooded**

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

## **219—San Joaquin-Urban land complex, 0 to 2 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hhq1

*Elevation:* 20 to 500 feet

*Mean annual precipitation:* 10 to 22 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 250 to 300 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*San joaquin and similar soils:* 50 percent

*Urban land:* 35 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of San Joaquin**

#### **Setting**

*Landform:* Terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granite

#### **Typical profile**

*H1 - 0 to 23 inches:* silt loam

*H2 - 23 to 28 inches:* clay loam

*H3 - 28 to 54 inches:* indurated

*H4 - 54 to 60 inches:* stratified sandy loam to loam



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### Properties and qualities

*Slope:* 0 to 2 percent

*Depth to restrictive feature:* More than 80 inches; 28 to 54 inches to duripan

*Drainage class:* Moderately well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 4s

*Hydrologic Soil Group:* C

*Hydric soil rating:* No

### Description of Urban Land

#### Typical profile

*H1 - 0 to 6 inches:* variable

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

### Minor Components

#### Clear lake

*Percent of map unit:* 4 percent

*Landform:* Basin floors

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Hydric soil rating:* Yes

#### Bruella

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Galt

*Percent of map unit:* 3 percent

*Landform:* Terraces

*Hydric soil rating:* Yes

#### Kimball

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Durixeralfs

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

#### Xerarents

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

## **220—San Joaquin-Urban land complex, 0 to 3 percent slopes**

### **Map Unit Setting**

*National map unit symbol:* hhq2

*Elevation:* 20 to 500 feet

*Mean annual precipitation:* 10 to 22 inches

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 250 to 300 days

*Farmland classification:* Not prime farmland

### **Map Unit Composition**

*San joaquin and similar soils:* 65 percent

*Urban land:* 25 percent

*Minor components:* 10 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### **Description of San Joaquin**

#### **Setting**

*Landform:* Terraces

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from granite

#### **Typical profile**

*H1 - 0 to 13 inches:* fine sandy loam

*H2 - 13 to 30 inches:* sandy clay loam

*H3 - 30 to 35 inches:* clay loam

*H4 - 35 to 60 inches:* indurated

*H5 - 60 to 67 inches:* stratified sandy loam to loam

#### **Properties and qualities**

*Slope:* 0 to 3 percent

*Depth to restrictive feature:* More than 80 inches; 35 to 60 inches to duripan

*Drainage class:* Moderately well drained

*Runoff class:* High

*Capacity of the most limiting layer to transmit water (Ksat):* Very low (0.00 to 0.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* None

*Frequency of ponding:* None

*Available water supply, 0 to 60 inches:* Low (about 4.4 inches)

#### **Interpretive groups**

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 3s

*Hydrologic Soil Group:* C

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*Hydric soil rating:* No

### Description of Urban Land

#### Typical profile

*H1 - 0 to 6 inches:* variable

#### Interpretive groups

*Land capability classification (irrigated):* None specified

*Land capability classification (nonirrigated):* 8

*Hydric soil rating:* No

### Minor Components

#### Dierssen

*Percent of map unit:* 4 percent

*Hydric soil rating:* No

#### Bruella

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### Durixeralfs

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

#### Xerarents

*Percent of map unit:* 1 percent

*Hydric soil rating:* No

#### Unnamed, clayey subsoil

*Percent of map unit:* 1 percent

*Hydric soil rating:* No