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June 13, 2022

Sheridon Evans  
Buzz Oates Construction, Inc.  
555 Capitol Mall, Suite 900  
Sacramento, CA 98514

## **Raley Boulevard and Diesel Drive Biological Resources Evaluation**

Dear Mr. Evans:

In 2014, SWCA (formerly Sycamore Environmental Consultants) surveyed the project parcel (APN 238-022-0019) located at Raley Boulevard and Diesel Drive in Sacramento, California for special status species and sensitive natural communities. Results from the survey were documented in a biological resources evaluation (BRE). The survey found that the biological study area (BSA) contains seasonal wetlands that may provide marginal habitat for federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and federally endangered vernal pool tadpole shrimp (*Lepidurus packardii*). Habitat for vernal pool crustaceans is marginal because of frequent site disturbance. The BSA does not provide habitat for any other federally listed species. The BSA provides potential nesting habitat for birds protected under the Migratory Bird Treaty Act including California Department of Fish and Wildlife (CDFW) species of special concern burrowing owl (*Athene cunicularia*). The BSA provides marginal foraging habitat for State threatened Swainson's hawk (*Buteo swainsoni*). Superior foraging habitat exists locally on the east side of Raley Boulevard, and regionally at the Hansen Ranch Park site 2 miles to the northwest (Dry Creek corridor) and McClellan Airport approximately 1 mile to the northeast. No special-status species were observed during the survey in 2014. The BSA does not provide habitat for special-status plants. The seasonal wetlands that occur in the BSA are sensitive natural communities.

On January 11, 2022, SWCA conducted a survey to confirm that current site conditions are consistent with the findings in the 2014 BRE. The survey found that the BSA provides potential habitat for those species identified in the 2014 BRE (see attachment). One new seasonal wetland was identified (seasonal marsh 1) but does not provide suitable habitat for any new special-status species. Vernal pool crustaceans are not likely to occur in seasonal marsh 1. The source of inundation for the marsh is generally from runoff of the adjacent parcel and the vegetation is dominated by typical marsh species including nutsedge (*Cyperus eragrostis*). The BSA does not provide suitable habitat for any new special-status species. The 2014 BRE provides sufficient information and can be used to support the CEQA review process and permit applications.

Sincerely,

Jeffery Little  
Director, Sacramento

**Attachments:** 2014 Biological Resource Evaluation

6355 Riverside Blvd., Suite C, Sacramento, CA 95831 | 916.427.0703

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# Biological Resources Evaluation

for

APN 238-022-0019

City of Sacramento, CA

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***Prepared by:***

***Sycamore Environmental Consultants, Inc.***

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Sacramento, CA 95831

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8615 Elder Creek Road

Sacramento, CA 95828

Phone: 916/ 379-3827

Contact: Mr. Jacob Lares, Development Project Manager

15 January 2014

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# Biological Resources Evaluation

for

APN 238-022-0019

City of Sacramento, CA

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## **I. SUMMARY OF FINDINGS AND CONCLUSIONS**

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This Biological Resources Evaluation Report was prepared for Assessor's Parcel Number (APN) 238-022-0019 in the City of Sacramento, CA. The Biological Study Area (BSA) is approximately 4.94 acres at the southeastern intersection of Raley Boulevard and Diesel Drive. Site visits were conducted on 14 February and 7 November 2013.

The BSA contains two seasonal wetlands comprising 0.01 acre that may provide habitat for federally threatened vernal pool fairy shrimp (*Branchinecta lynchi*) and federally endangered vernal pool tadpole shrimp (*Lepidurus packardii*). The BSA does not provide habitat for any other federally listed species.

The BSA provides potential nesting habitat for birds protected under the Migratory Bird Treaty Act including California Department of Fish and Wildlife (CDFW) species of special concern burrowing owl (*Athene cunicularia*). The BSA provides potential foraging habitat for State threatened Swainson's hawk (*Buteo swainsoni*). No Swainson's hawks or burrowing owls were observed during surveys.

The BSA does not provide habitat for special-status plants. The seasonal wetlands are sensitive natural communities that occur in the BSA.

## **II. INTRODUCTION**

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### **A. Purpose of Report**

The purpose of this report is to document baseline biological conditions and any special-status biological resources. This report is intended to be used in support of the California Environmental Quality Act (CEQA) review process and in permit applications. Project impacts and mitigation are not included in this report and may be identified once project design has been finalized.

### **B. Project Location**

The 4.94-acre BSA is located in the Raley Industrial Park neighborhood in the City of Sacramento, CA. The BSA is bordered by Diesel Drive on the north, Raley Boulevard on the west, Bell Avenue on the south, and light industrial development on the east. A vacant parcel without street frontage on the east side of the parcel is a planned SMUD substation. A gas station is located on the northeast corner of Raley Boulevard and Bell Avenue. The BSA is on the Rio Linda, USGS topographic quadrangle (Figure 1). The BSA is in the Lower American Watershed (Hydrologic Unit Code 18020111). The approximate center is 38.6484° north, 121.4279° west (WGS84), and the UTM coordinates are 636,904 meters E, 4,278,736 meters N, Zone 10S (WGS84). Figure 2 is an aerial photograph of the BSA.

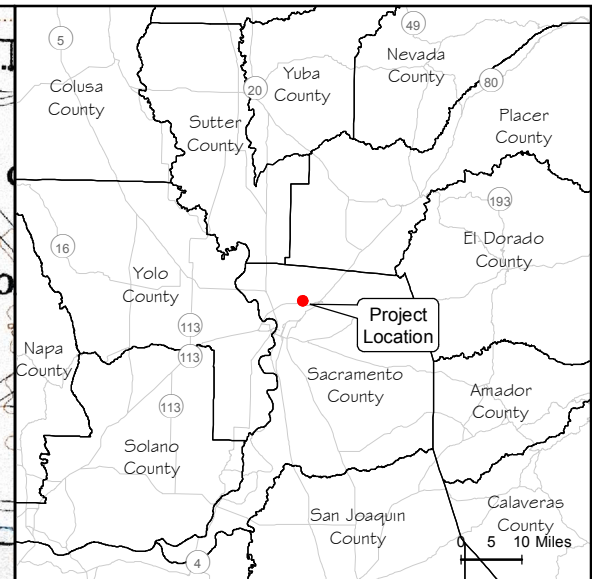
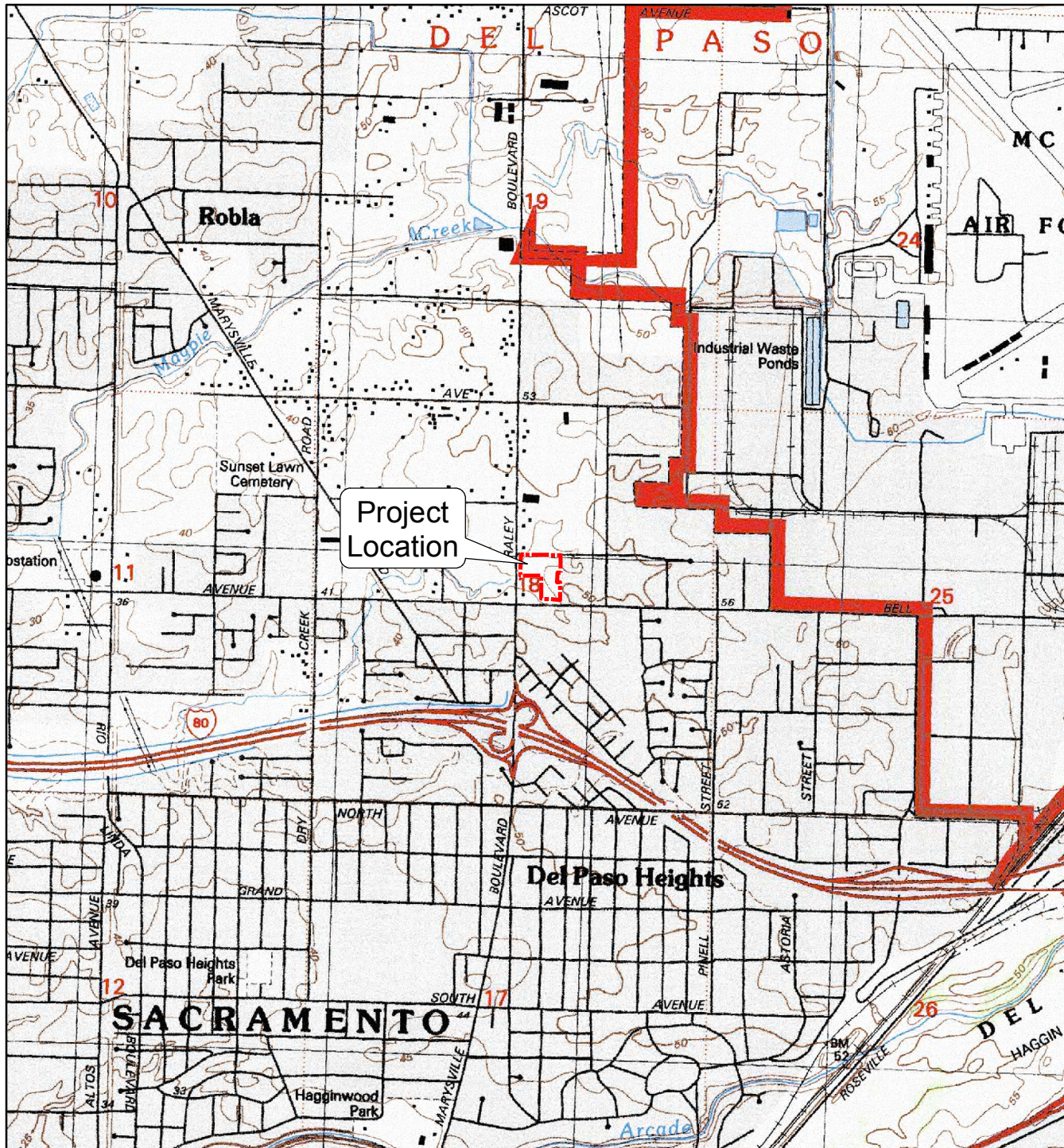
### **C. Project Applicant**

The Buzz Oates Group of Companies  
8615 Elder Creek Road  
Sacramento, CA 95828  
Phone: 916/ 379-3827  
Contact: Mr. Jacob Lares, Development Project Manager

## **D. Project Description**


The applicant intends to develop this parcel for industrial or commercial use. The project design is not finalized.

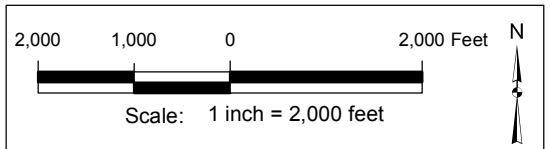
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 18 December 2013

Figure 1. Location Map

 Project Location



Rio Linda, CA (1992)  
 USGS 7.5' Quadrangle Topographic DRG  
 7.5 Minute (C) Series, Albers Nad83 Mosaics (MrSID)  
 CA Spatial Library (CASIL)



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 Project Location



Aerial Photograph:  
 2 February 2012, UC-G  
 US-CA-Sacramento  
 ESRI ArcGIS Basemap Layer  
 Road Centerline (12 Oct. 2009)  
 Sac County Road GIS

Figure 2. Aerial Photograph

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### **III. STUDY METHODS**

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#### **A. Studies Conducted**

An evaluation of biological resources was conducted to determine whether any special-status plant or wildlife species, their habitat, or other sensitive habitats occur in the BSA. Data on special-status species and habitats known in the area was obtained from state and federal agencies. Maps and aerial photographs of the BSA and surrounding areas were reviewed. Field surveys were conducted to determine the habitats present. The field survey, map review, and a review of the biology of evaluated species and habitats were used to determine the special-status species and sensitive habitats that could occur in the BSA.

Special-status species in this report are those listed (or candidate or proposed) under the federal or state endangered species acts, under the California Native Plant Protection Act, as a California species of special concern or fully protected by the California Department of Fish and Wildlife (CDFW), or that are Rank 1 or 2 in the California Native Plant Society's Inventory of Rare and Endangered Plants of California (CNPS 2013). Special-status natural communities are waters, wetlands, riparian communities, and any natural community ranked S1, S2, or S3 by CDFW (2010).

#### **B. Survey Dates and Personnel**

An initial reconnaissance visit of the BSA from the property boundary by Chuck Hughes and Jeffery Little occurred on 11 January 2013. Fieldwork for the biological resources evaluation was conducted by Chuck Hughes and Noosheen Pouya on 14 February 2013 and 7 November 2013.

#### **C. Problems Encountered and Limitations That May Influence Results**

No problems or limitations were encountered that may influence the results.

#### **D. Literature Search**

The BSA is on the Rio Linda USGS quad. The California Natural Diversity Database (CNDDDB) was queried for known occurrences of special-status species near the BSA (Rio Linda Quad and the eight surrounding quads; Appendix B).

An official letter and list were obtained from the U.S. Fish and Wildlife Service (USFWS), Sacramento Field Office on 25 November 2013 (Appendix C). The list identifies federal-listed, candidate, or proposed species that potentially occur in or could be affected by projects on the Rio Linda Quad or in Sacramento County.

#### **E. Field Survey Methods**

Biological surveys consisted of walking through the BSA to assess potential habitat for special-status species and sensitive communities. Plant and animal species and biological communities were identified and recorded. A list of plant and wildlife species observed is in Appendix A.

#### **F. Mapping**

Biological features observed by Sycamore Environmental were mapped using a Trimble GeoXT™ sub-meter accurate GPS. The 2 February 2012 aerial photo in Figure 2 and Figure 4 was downloaded from

Google Earth®. GPS data were exported to AutoCAD® and overlaid on the aerial photo to create Figure 4. Biological communities were mapped based on field observations.

## IV. ENVIRONMENTAL SETTING

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The BSA is located in a mostly developed area of the City of Sacramento. The BSA is bordered by Diesel Drive on the north, Raley Boulevard on the west, Bell Avenue on the south, and light industrial development on the east. A vacant parcel without street frontage on the east side of the parcel is a planned SMUD substation. A gas station is located on the northeast corner of Raley Boulevard and Bell Avenue. Land use surrounding the BSA consists of commercial and light industrial development, primarily north of Bell Avenue, and single-family residences primarily south of Bell Avenue. The region surrounding the BSA is also scattered with several vacant parcels similar to the BSA.

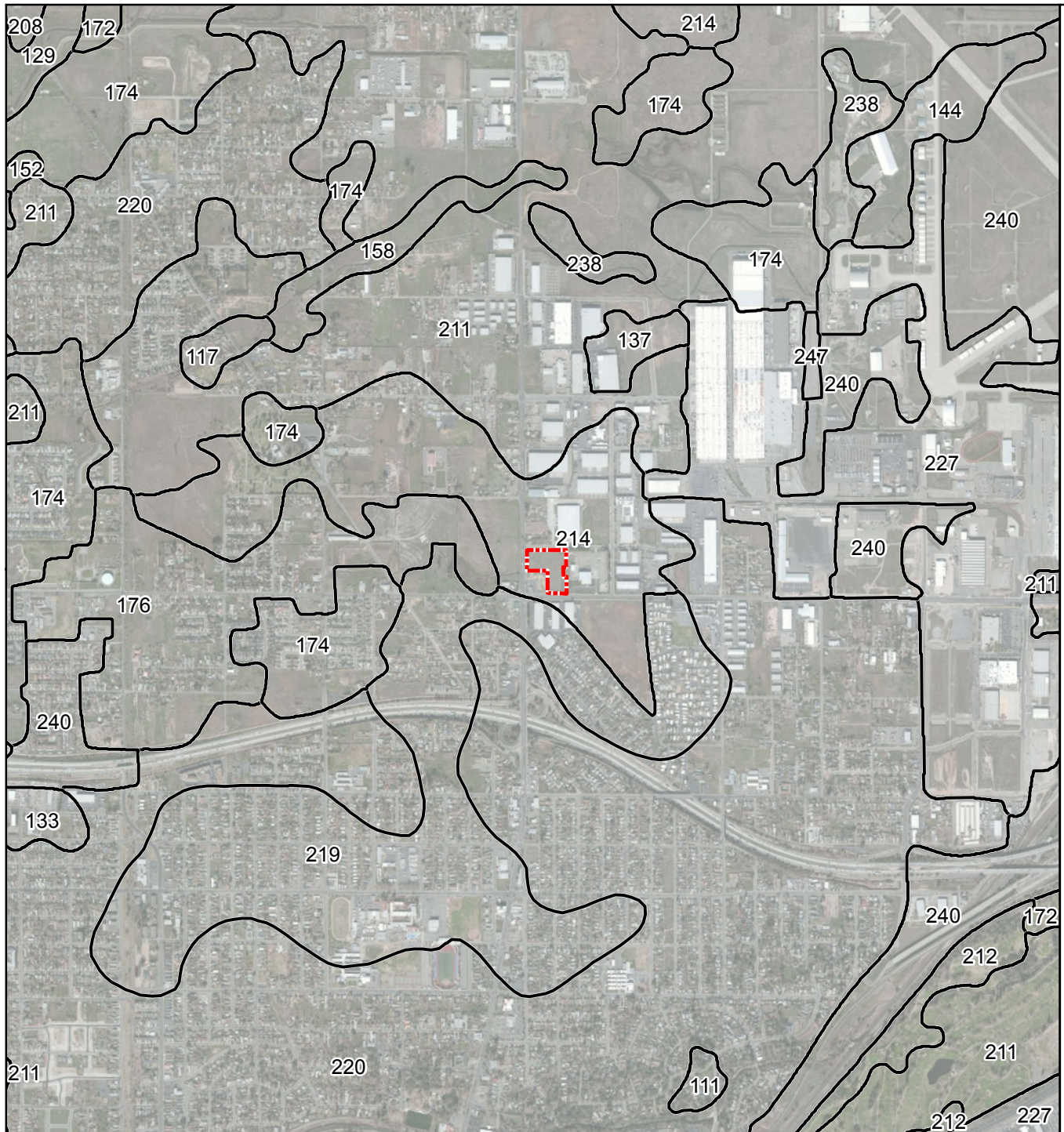
The BSA is an open field of approximately 3 feet of topographic variation consisting of ruderal vegetation, with a few piles of dumped asphalt, concrete, and brick. Elevation in the BSA is approximately 50 feet above sea level. The site is routinely disked. Historically the surrounding landscape supported vernal pools.

### A. Soils

The soil mapping unit in the BSA is San Joaquin silt loam, 0-3% slopes (NRCS 1993). About 4% of the mapping unit consists of hydric Galt series soils in depressions (USDA 2012). Figure 3 is a soils map. The following description is summarized from NRCS (1993). Reported colors are for moist soil.

#### San Joaquin silt loam, 0-3% slopes:

San Joaquin silt loam, 0-3% slopes, is a moderately deep, moderately well-drained soil on low terraces. This soil formed in alluvium derived from dominantly granitic rocks. A typical profile has moderately to slightly acid brown (7.5YR 4/4) silt loam from 0 to 23 inches, neutral yellowish red (5YR 4/6) clay loam from 23 to 28 inches, neutral yellowish red (5YR 4/6) indurated duripan from 28 to 39 inches, mildly alkaline dark yellowish brown (10YR 4/4) strongly cemented duripan from 39 to 54 inches, and mildly alkaline dark yellowish brown (10YR 4/4) loam from 54 to 60 inches. Permeability is very slow and water may perch above the claypan for short periods after heavy rainfall in winter and early spring and when the soil is over irrigated. Runoff is slow, the erosion hazard is slight, and the shrink-swell potential is high.

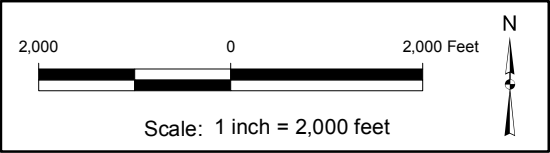


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Figure 3. Soils Map

 Project Location

214: San Joaquin fine silt loam,  
 0 to 3 percent slopes



Aerial Photograph:  
 2 February 2012, UC-G  
 US-CA-Sacramento  
 ESRI ArcGIS Basemap Layer  
 Soil data:  
 Soil Survey Geographic (SSURGO) database  
 for Sacramento County, Ca. (8 Jan. 2007)  
 U.S.D.A., N.R.C.S.  
<http://SoilDataMart.nrcs.usda.gov/>

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## B. Biological Communities in the BSA

Biological communities are defined by species composition and relative abundance. Biological communities are mapped in Figure 4 and their acreages are in Table 2. Photographs of the BSA are in Appendix D.

Table 1. Biological Communities in the BSA

| Biological Community | Acreage <sup>1</sup> |
|----------------------|----------------------|
| Ruderal Vegetation   | 4.91                 |
| Seasonal Wetland     | 0.01                 |
| <b>Total:</b>        | <b>4.92</b>          |

<sup>1</sup> Acreages calculated using AutoCAD<sup>®</sup> functions.

### 1. Ruderal Vegetation

Ruderal vegetation comprises almost all of the BSA, occupying 4.91 acres. The vegetation in this community is dominated by the nonnative annual grasses Italian ryegrass (*Lolium perenne*), wild oat (*Avena* sp.), and bromes (*Bromus* sp.).

### 2. Seasonal Wetlands

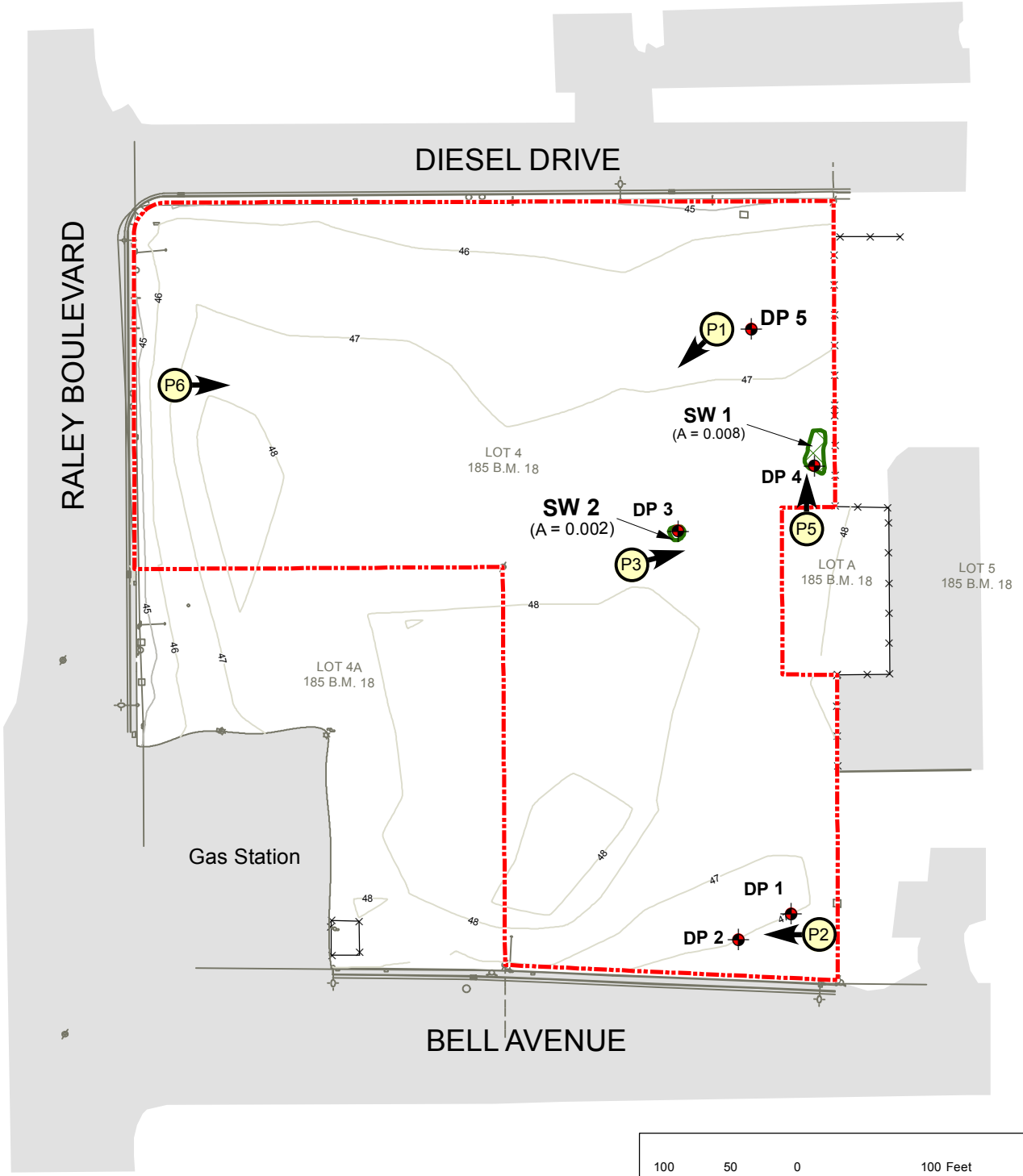
Two small seasonal wetlands (SW 1 and SW 2) occur in the BSA (0.01 acre total). Both seasonal wetlands are dominated by Italian rye grass, a facultative species that may occur in wetlands or uplands. Both seasonal wetlands lacked vernal pool plant indicator species. The wetlands receive hydrology only from direct precipitation and runoff from surrounding uplands, there is no other water source. The wetlands were completely dry during the November fieldwork, which is normal for seasonal features in Mediterranean-climate California. Soil was moist but not saturated during the February fieldwork, although a few soil peds were saturated in the interior. The January-February 2013 time period was unusually dry, and the seasonal wetlands had not likely contained saturated soils since heavy rains in November-December 2012. Seasonal wetlands are generally considered sensitive natural communities.

## C. The Existing Level of Disturbance

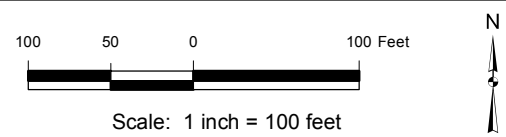
The BSA is a routinely disked vacant lot in a partially developed area, with several spoils piles. The BSA does not appear to have been leveled in the past and small topographic features remain. There is landscaping irrigation runoff from a lawn on the adjacent property in the southeast corner of the parcel. The area was dry during the February fieldwork, but wet during the November fieldwork prior to any substantial precipitation.







Lat: 38°38'58.55"N  
 Long: 121°25'35.54"W



Lat: 38°38'48.86"N  
 Long: 121°25'46.29"W



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-  Biological Study Area (BSA)
-  Seasonal Wetland (SW)
-  Data point and Number
-  Photopoint Location and Direction



| Date      | Submittal | Delineator(s) | Agency/Company         |
|-----------|-----------|---------------|------------------------|
| 18 Dec 13 | Original  | C. Hughes     | Sycamore Environmental |

Figure 4.  
 Jurisdictional Delineation Map

Topographic Basemap: Tentative Parcel Map  
 Parcel 4, I-80 Industrial Park  
 130022-S1-TB01.dwg (July 2013) by Morton & Pitalo, Inc.  
 13001RaleyBellNorthSite\_Fig4DelinMap.mxd

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## V. BIOLOGICAL RESOURCES IN THE BIOLOGICAL STUDY AREA

### A. Determination of Special-Status Species in the Biological study area

File data from USFWS and CNDDDB were used to determine the special-status species that could occur in the area. A CNDDDB summary report for the Rio Linda and 8 surrounding USGS quads is in Appendix B. The USFWS list of special-status species that could occur in or be affected by the project is in Appendix C. Field surveys were conducted to determine if special-status species or their habitats are present in the BSA. Special-status species with suitable habitat in the BSA are listed in Table 3.

**Table 2. Special-Status Species with the Potential to Occur in the BSA**

| Special-Status Species     | Common Name              | Federal Status <sup>a</sup> <sub>b</sub> | State Status <sup>a</sup> & Other Codes <sup>b</sup> | Source <sup>c</sup> | Habitat Present? / Species Observed? |
|----------------------------|--------------------------|--|--|---------------------|--------------------------------------|
| <b>Invertebrates</b>       |                          |  |  |                     |                                      |
| <i>Branchinecta lynchi</i> | Vernal pool fairy shrimp | T, CH                                    | --   | 1, 2                | Yes / No                             |
| <b>Birds</b>               |                          |  |  |                     |                                      |
| Nesting Birds              | --                       | --                                       | --   | 3                   | Yes / Yes                            |
| <i>Athene cunicularia</i>  | Burrowing owl            | --                                       | SC   | 2                   | Yes / No                             |
| <i>Buteo swainsoni</i>     | Swainson's hawk          | --                                       | T  | 2                   | Yes / No                             |
| <i>Elanus leucurus</i>     | White-tailed kite        | --                                       | FP   | 2                   | Yes / Yes                            |

<sup>a</sup> **Listing Status** : **E** = Endangered; **T** = Threatened; **P** = Proposed; **C** = Candidate; **R** = California Rare.

<sup>b</sup> **Other Codes**: **SC** = CDFW Species of Special Concern; **FP** = CDFW Fully Protected; **CH** = Critical habitat designated.

<sup>c</sup> **Sources** **1** = From USFWS list. **2** = From CNDDDB. **3** = Observed or included by Sycamore Environmental.

### B. Special-Status Species not in the Biological study area

Special-status species for which suitable habitat is not present, or whose distributional limits preclude the possibility of their occurrence in the BSA, are evaluated in Appendix E and are not discussed further.

### C. Evaluation of Special-Status Wildlife Species

#### 1. Invertebrates

#### Vernal pool fairy shrimp (VPFS; *Branchinecta lynchi*)

**HABITAT AND BIOLOGY:** VPFS inhabit a wide variety of vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. They are most commonly found in small (less than 0.05 ac), clear to tea-colored vernal pools with mud, grass, or basalt bottoms in unplowed grasslands (USFWS 2013). VPFS have been collected in water temperatures from 40 to 73° fahrenheit. Although there are many observations of the environmental conditions where vernal pool fairy shrimp have been found, there have been no experimental studies investigating the specific habitat requirements of this species (USFWS 2005).

VPFS have rarely been collected from the same pools as other fairy shrimp species. When coexistence does occur, it has been in longer lived pools and the VPFS are often less abundant than other fairy shrimp

species. It is possible that the absence of the VPFS in certain habitats is explained by competitive exclusion by other fairy shrimp. VPFS tends to occur in smaller pools than other *Branchinecta* sp. (USFWS 2005).

VPFS requires vernal pools or other areas of similar hydrology that pool for sufficient continuous duration for individuals to reach maturity and produce eggs. Helm (1998) reported an average reproductive period of 43 days. VPFS may reach maturity in 18 days at optimal water temperature of 68° F, but more commonly takes longer such as 41 days at 59° F. Populations exist within and are defined by entire vernal pool complexes, rather than individual vernal pools (USFWS 2005). VPFS do not occur in perennial waters or creeks.

**RANGE:** VPFS are known to occur from Shasta County south through the Central Valley, and in the Coast range from Solano County south to San Benito County. Other populations are known from San Luis Obispo, Santa Barbara, and Riverside counties (USFWS 1994).

**KNOWN RECORDS:** The two closest CNDDDB records for VPFS are about 1.4 miles east of the BSA. One 2007 record is to the southeast in a disturbed roadside ditch surrounded by relatively undisturbed nonnative grassland within an industrial area of the former McClellan Air Force Base. The second 1996 record is to the northeast also at the former McClellan Air Force Base. Habitat consists of a small (15 ft wide x 25 ft long x 10 inches deep) vernal pool with an algae and grass bottom. The surrounding area is annual grassland.

Sycamore Environmental conducted protocol branchiopod surveys at a site approximately 400 ft southeast of the BSA in 2005. The site did not support VPFS, but did support the unlisted California linderiella, a different species of fairy shrimp.

**HABITAT PRESENT IN THE BSA:** The seasonal wetlands in the BSA may provide potential habitat if they inundate for sufficient duration in at least some years for VPFS to complete its life cycle. The BSA is not in critical habitat for VPFS designated under the Endangered Species Act.

**DISCUSSION:** The seasonal wetlands in the BSA are small and unlikely to inundate for long periods on the order of months. They may inundate for weeks in at least some years. VPFS are adapted to smaller wetlands with relatively brief inundation periods. The seasonal wetlands were dry in mid-February 2013, after about six weeks of unusually low precipitation during the middle of the winter wet season. Surveys conducted according to USFWS (1996) protocol for vernal pool branchiopods could establish whether VPFS occur in the BSA.

## 2. Birds

### Nesting Birds

CA Fish and Game Code 3503 protects most birds and their nests. CA Fish and Game Code 3503.5 further protects all birds in the orders Falconiformes and Strigiformes (collectively known as birds of prey). Birds of prey include raptors, falcons, and owls. The federal Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) further most birds and their nests, including most non-migratory birds in California. The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10 including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations. Any disturbance that causes direct injury, death, nest abandonment, or forced fledging of migratory birds, is restricted under the MBTA. Any removal of active nests during the breeding season or any disturbance that results in the abandonment of nestlings is considered a 'take' of the species under federal law.

**HABITAT PRESENT IN THE BSA:** The BSA provides potential nesting habitat for some ground nesting birds. Trees and structures in the vicinity of the BSA provide potential nesting habitat for many species of birds.

**DISCUSSION:** The fieldwork was conducted outside of the nesting season. No evidence of ground nesting birds was observed. No large remnant nests were observed in nearby trees. A medium-sized stick nest was observed in a tree across Diesel Drive to the north of the BSA.

### **Burrowing owl (*Athene cunicularia*)**

**HABITAT AND BIOLOGY:** Burrowing owls primarily inhabit open, dry grassland and desert habitats, such as grasses, forbs, and open shrub stages of pinyon-juniper and ponderosa pine habitats. Main habitat components include burrows for roosting and nesting, and relatively short vegetation with sparse shrubs and taller vegetation. Burrowing owls typically use ground squirrel burrows, but they may also use badger, coyote, and fox holes or dens; or human-made structures such as culverts, piles of concrete rubble, pipes and nest boxes. An active nest chamber is often lined with excrement, pellets, debris, grass and feathers. Burrowing owls thrive in highly altered human landscapes. In agricultural areas, owls nest along roadsides, under water conveyance structures, and near and under runways and similar structures. In urban areas, burrowing owls persist in low numbers in highly developed parcels, busy urban parks, and adjacent to roads with heavy traffic. In the Imperial Valley, owls are able to excavate their own burrows in soft earthen banks of ditches and canals (CWHR 2013, Shuford and Gardali 2008).

Burrowing owls are a semi-colonial species that breeds in California from March through August, with peak in April and May, though breeding can begin as early as February and extend into December. The female typically lays two to 10 eggs and young emerge from the burrow in about two weeks. The young are able to fly by week four. A large proportion of adults show strong nest site fidelity, though both young and adults have a high dispersal rate. Burrowing owls will perch in open sunlight in the early morning, and move to shade or the burrow when hot. Owls typically feed on a broad range of arthropods, but also feed on small rodents, birds, amphibians, reptiles, and carrion. Foraging usually occurs close to their burrow (CWHR 2013, Shuford and Gardali 2008).

**RANGE:** Burrowing owls are a year round resident in most of the state, particularly in the Central Valley, San Francisco Bay region, Carrizo Plain, and Imperial Valley. They are generally absent from the humid coastal counties north of Marin and mountainous areas above 5,300 feet. This species has declined along the central and southern coast, but large populations remain in agricultural areas in the Central and Imperial valleys (CWHR 2013, Shuford and Gardali 2008).

**KNOWN RECORDS:** The closest CNDDDB record for burrowing owl is approximately 1.7 miles south of the BSA in what is now the Hagginwood neighborhood of Sacramento. Burrowing owl eggs were collected from this site in May 1901.

**HABITAT PRESENT IN THE BSA:** No burrows suitable for burrowing owl use were observed in the BSA. No ground squirrels were observed. Burrowing owls could become established on the site in the future.

**DISCUSSION:** No burrowing owls or burrows were observed in the BSA during biological surveys. Burrowing owls do not currently occupy the BSA.

## **Swainson's hawk (*Buteo swainsoni*)**

**HABITAT AND BIOLOGY:** Swainson's hawks breed from late March to late August, with peak activity late May through July. Between two to four eggs are incubated for 25 to 28 days (CWHR 2013). In a typical year, post-fledging occurs between 10 June and 30 July. At that time, Swainson's hawk young are active and visible, and relatively safe without parental protection (Swainson's Hawk TAC 2000).

Throughout its range, Swainson's hawks nest almost exclusively in trees. Nesting habitat includes stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Nests are built on a platform of sticks, bark, and fresh leaves in a tree, bush, or utility pole from 4 to 100 feet above the ground (CWHR 2013). Swainson's hawk will often return to areas where they nested the previous year (NatureServe 2011).

Swainson's hawk forage in grasslands or suitable grain or alfalfa fields, or livestock pastures adjacent to nesting areas. They feed on mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and rarely, fish (CWHR 2013).

**RANGE:** Swainson's hawk is a breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert with very limited breeding reported from Lanfair Valley, Owens Valley, Fish Lake Valley, and Antelope Valley. Migrating individuals move south through the southern and central interior of California in September and October, and north through March and May.

**KNOWN RECORDS:** The closest CNDDDB record for Swainson's hawk is approximately 2.1 miles northwest of the BSA in Rio Linda. Habitat at this site consists of a narrow valley oak riparian corridor along Dry Creek, surrounded by open grassland and nearby residences. An active nest was observed at this site in 2001 and 2002.

**HABITAT PRESENT IN THE BSA:** There is no suitable Swainson's hawk nesting habitat in the BSA. Large trees in the vicinity of the BSA may provide potential nesting habitat for Swainson's hawk. The BSA provides marginal foraging habitat for Swainson's hawk due to the relatively small size and surrounding development.

**DISCUSSION:** No potential Swainson's hawk nests were observed in or near the BSA. CDFW (2004) recommends that no project disturbance which may cause nest abandonment or force premature fledging occur within 0.5 mile around an active Swainson's hawk nest between 1 March and 15 September.

### **White-tailed kite (*Elanus leucurus*)**

**HABITAT AND BIOLOGY:** White-tailed kite roosts in trees with dense canopies. They also roost in saltgrass and Bermuda grass in southern California. Roosting sites can be communal during nonbreeding seasons. Nests are typically located near the top of dense oak, willow, or other tree stands from 20 to 100 ft above the ground (CWHR 2013). Nests are often located near a marsh (NatureServe 2011). The nests are made out of loosely piled sticks and twigs lined with grass, straw, or rootlets, and located near open foraging areas with herbaceous lowlands and variable tree growth. White-tailed kite breeds from February to October, with peak activity occurring from May through August. Between four and five eggs are incubated for 28 days, and the young fledge in 35 to 40 days (CWHR 2013). White-tailed kite is fully protected, and nesting sites are of particular concern to CDFW (2011).

**RANGE:** White-tailed kite is a yearlong resident in coastal and valley lowlands, and is rarely found far from agricultural areas. This species typically inhabits herbaceous and open stages of most habitats, mainly in cismontane California (CWHR 2013).

**KNOWN RECORDS:** The nearest CNNDDB record is of a nest in a tree along Don Julio Creek approximately one mile northeast of the BSA.

**HABITAT PRESENT IN THE BSA:** There is no suitable white-tailed kite nesting habitat in the BSA. Large trees in the vicinity of the BSA may provide potential nesting habitat for white-tailed kite.

**DISCUSSION:** A white-tailed kite was observed foraging in and around the BSA during the November fieldwork. No potential white-tailed kite nests were observed in or near the BSA.

## **D. Evaluation of Special-Status Plant Species**

The BSA is disked at least annually, and contains ruderal vegetation. There are no native vegetation communities, and the seasonal wetlands did not contain characteristic vernal pool vegetation. The BSA does not provide habitat for special-status plant species. No special-status plants were observed in the BSA.

## **E. Evaluation of Sensitive Natural Communities**

### **Seasonal Wetlands**

**HABITAT PRESENT IN THE BSA:** The seasonal wetlands in the BSA are sensitive natural communities.

**DISCUSSION:** Two small seasonal wetlands, totalling 0.01 acre, are present in the BSA. The seasonal wetlands are not connected to other wetlands or waters, and are disturbed by disking of the BSA. Nevertheless, they meet the Corps' 3-parameter criteria for wetlands. The seasonal wetlands are further described in Section IV.B.2 and in the jurisdictional delineation report (Sycamore Environmental 2014).

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## VII. PREPARERS

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**Chuck Hughes, M.S.**, Plant Biology, Michigan State University, East Lansing, MI. Over 13 years experience preparing biological/botanical resource evaluations, wetland delineations, arborist reports, impact analyses, and mitigation and restoration plans. He is a Professional Wetland Scientist (#2029), an ISA Certified Arborist (WE-6885A), holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-12-16-V), is a Principal Scientific Investigator on the CDFW Scientific Collecting Permit (SC-7617), and is an authorized individual on a USFWS recovery permit for listed vernal pool branchiopods (TE799564-3). His B.S. degree from UC Davis is in environmental horticulture and urban forestry, with an emphasis in plant biodiversity.

Responsibilities: Fieldwork and report preparation.

**Noosheen Pouya, B.S.**, Environmental Science and Management (emphasis Ecology, Conservation, and Biology), UC Davis. Ms. Pouya conducts preconstruction and construction monitoring, assists with plant and wildlife surveys, and assists with preparation of biological resource evaluations, Caltrans Natural Environment Studies, permit applications, and documents used in the CEQA/NEPA process. She holds a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-13-096-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617). She uses GIS to prepare figures for biological and permitting documents and other supporting graphics.

Responsibilities: Fieldwork and report preparation.

**Jessica Orsolini, B.S.**, Wildlife Biology, University of Montana, Missoula, MT. Over 9 years experience as a professional biologist. Conducts plant and wildlife surveys, CA red-legged frog protocol surveys, jurisdictional delineations, biological resource evaluations, worker awareness training, and construction monitoring; prepares impact/mitigation analyses, and assists with permit application preparation. She prepares reports used in the CEQA/NEPA process that document resources, identify impacts, recommend mitigation measures, and assist with permit application preparation. She is an ISA Certified Arborist (WE-7845A), holds a USFWS recovery permit for California tiger salamander (TE43610A-0), a California Department of Fish and Wildlife Rare, Threatened and Endangered Plant Voucher Collecting Permit (2081(a)-10-06-V), and is an authorized individual on the CDFW Scientific Collecting Permit (SC-7617). She has received advanced training in the biology and survey techniques for California red-legged frog (*Rana draytonii*), California tiger salamander (*Ambystoma californiense*), and bats.

Responsibilities: Report preparation

**Aramis Respall, GIS Analyst/ CAD Operator.** Over 20 years experience in drafting and spatial analysis using AutoCAD map and ArcGIS for public and private projects. He prepares figures for biological and permitting documents such as project location maps, aerial photograph exhibits, biological resource maps, CNDDDB proximity maps, wetlands/waters delineation maps, impact analysis maps, tree location maps and other supporting graphics. Mr. Respall provides geospatial analysis and support for projects involving geodesy, hydrology, watershed studies, project impact analysis, CNDDDB species, and critical habitat and mitigation information. Primary experience evolved from conventional surveying and civil engineering practices to advanced GPS and GIS based technology.

Responsibilities: Figure preparation and spatial analysis.

**Cynthia Little**, Principal, Sycamore Environmental.

Responsibilities: Senior editor, quality control.

## APPENDIX A.

### Plant and Wildlife Species Observed

APN 238-022-0019  
 City of Sacramento, CA

#### Plant Species Observed <sup>1</sup>

| FAMILY                 | SCIENTIFIC NAME                                   | COMMON NAME          | N/I <sup>2</sup> | CAL-IPC RATING <sup>3</sup> |
|------------------------|---|----------------------|------------------|-----------------------------|
| <b>EUDICOTS</b>        |   |                      |                  |                             |
| <b>Asteraceae</b>      | <i>Lactuca serriola</i>                           | Prickly lettuce      | I                |                             |
| <b>Caryophyllaceae</b> | <i>Spergula arvensis</i>                          | Stickwort, starwort  | I                |                             |
| <b>Fabaceae</b>        | <i>Lupinus</i> sp.                                | Lupine               | N                |                             |
|                        | <i>Medicago polymorpha</i>                        | California burclover | I                | Limited                     |
|                        | <i>Vicia</i> sp.                                  | Vetch                | I                |                             |
| <b>Geraniaceae</b>     | <i>Erodium botrys</i>                             | Stork's bill         | I                |                             |
|                        | <i>Erodium moschatum</i>                          | Greenstem filaree    | I                |                             |
|                        | <i>Geranium dissectum</i>                         | Cranesbill           | I                | Limited                     |
| <b>Lythraceae</b>      | <i>Lythrum hyssopifolia</i>                       | Hyssop               | I                | Limited                     |
| <b>Polygonaceae</b>    | <i>Polygonum aviculare</i>                        | Prostrate knotweed   | I                |                             |
| <b>MONOCOTS</b>        |   |                      |                  |                             |
| <b>Cyperaceae</b>      | <i>Cyperus eragrostis</i>                         |                      | N                |                             |
| <b>Juncaceae</b>       | <i>Juncus bufonius</i>                            |                      | N                |                             |
| <b>Poaceae</b>         | <i>Avena fatua</i>                                | Common wild oat      | I                | Moderate                    |
|                        | <i>Bromus diandrus</i>                            | Ripgut grass         | I                | Moderate                    |
|                        | <i>Cynodon dactylon</i>                           | Bermuda grass        | I                | Moderate                    |
|                        | <i>Festuca perennis</i>                           | Rye grass            | I                | Moderate                    |
|                        | <i>Hordeum marinum</i> ssp.<br><i>gussoneanum</i> | Mediterranean barley | I                | Moderate                    |

<sup>1</sup> Taxonomy and nomenclature follow Baldwin et al. (2012).

<sup>2</sup> N = Native; I = Introduced.

<sup>3</sup> High/Moderate/Limited = CA-IPC Inventory; reflects level of each species' negative ecological impact in California.

#### Wildlife Species Observed

| COMMON NAME       | SCIENTIFIC NAME               |
|-------------------|-------------------------------|
| <b>BIRDS</b>      |                               |
| American crow     | <i>Corvus brachyrhynchos</i>  |
| Rock dove         | <i>Columbia livia</i>         |
| Western scrub-jay | <i>Aphelocoma californica</i> |
| White-tailed kite | <i>Elanus leucurus</i>        |

## **APPENDIX B.**

CNDDDB Summary Report  
(Rio Linda and 8 surrounding quads)

APN 238-022-0019  
City of Sacramento, CA

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Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



| Species  | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|--|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <b><i>Accipiter cooperii</i></b><br>Cooper's hawk                                    | ABNKC12040   | None           | None         | G5          | S3         | WL                             |
| <b><i>Agelaius tricolor</i></b><br>tricolored blackbird                              | ABPBXB0020   | None           | None         | G2G3        | S2         | SSC                            |
| <b><i>Alkali Meadow</i></b><br>Alkali Meadow   | CTT45310CA   | None           | None         | G3          | S2.1       |                                |
| <b><i>Alkali Seep</i></b><br>Alkali Seep   | CTT45320CA   | None           | None         | G3          | S2.1       |                                |
| <b><i>Ammodramus savannarum</i></b><br>grasshopper sparrow                           | ABPBXA0020   | None           | None         | G5          | S2         | SSC                            |
| <b><i>Andrena subapasta</i></b><br>vernal pool andrenid bee                          | IIHYM35210   | None           | None         | G1G3        | S1S3       |                                |
| <b><i>Aquila chrysaetos</i></b><br>golden eagle                                      | ABNKC22010   | None           | None         | G5          | S3         | FP                             |
| <b><i>Archoplites interruptus</i></b><br>Sacramento perch                            | AFCQB07010   | None           | None         | G2G3        | S1         | SSC                            |
| <b><i>Ardea alba</i></b><br>great egret  | ABNGA04040   | None           | None         | G5          | S4         |                                |
| <b><i>Ardea herodias</i></b><br>great blue heron                                     | ABNGA04010   | None           | None         | G5          | S4         |                                |
| <b><i>Astragalus tener var. ferrisiae</i></b><br>Ferris' milk-vetch                  | PDFAB0F8R3   | None           | None         | G2T1        | S1         | 1B.1                           |
| <b><i>Athene cunicularia</i></b><br>burrowing owl                                    | ABNSB10010   | None           | None         | G4          | S2         | SSC                            |
| <b><i>Balsamorhiza macrolepis</i></b><br>big-scale balsamroot                        | PDAST11061   | None           | None         | G2          | S2         | 1B.2                           |
| <b><i>Branchinecta lynchi</i></b><br>vernal pool fairy shrimp                        | ICBRA03030   | Threatened     | None         | G3          | S2S3       |                                |
| <b><i>Branchinecta mesovallensis</i></b><br>midvalley fairy shrimp                   | ICBRA03150   | None           | None         | G2          | S2         |                                |
| <b><i>Buteo regalis</i></b><br>ferruginous hawk                                      | ABNKC19120   | None           | None         | G4          | S3S4       | WL                             |
| <b><i>Buteo swainsoni</i></b><br>Swainson's hawk                                     | ABNKC19070   | None           | Threatened   | G5          | S2         |                                |
| <b><i>Chloropyron molle ssp. hispidum</i></b><br>hispid bird's-beak                  | PDSCR0J0D1   | None           | None         | G2T2        | S2.1       | 1B.1                           |
| <b><i>Cicindela hirticollis abrupta</i></b><br>Sacramento Valley tiger beetle        | IICOL02106   | None           | None         | G5TH        | SH         |                                |
| <b><i>Desmocerus californicus dimorphus</i></b><br>valley elderberry longhorn beetle | IICOL48011   | Threatened     | None         | G3T2        | S2         |                                |
| <b><i>Downingia pusilla</i></b><br>dwarf downingia                                   | PDCAM060C0   | None           | None         | G2          | S2         | 2B.2                           |



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



| Species  | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|--|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <b><i>Dumontia oregonensis</i></b><br>hairy water flea   | ICBRA23010   | None           | None         | G1G3        | S1         |                                |
| <b><i>Egretta thula</i></b><br>snowy egret   | ABNGA06030   | None           | None         | G5          | S4         |                                |
| <b><i>Elanus leucurus</i></b><br>white-tailed kite   | ABNKC06010   | None           | None         | G5          | S3         | FP                             |
| <b><i>Elderberry Savanna</i></b><br>Elderberry Savanna   | CTT63440CA   | None           | None         | G2          | S2.1       |                                |
| <b><i>Emys marmorata</i></b><br>western pond turtle  | ARAAD02030   | None           | None         | G3G4        | S3         | SSC                            |
| <b><i>Fritillaria agrestis</i></b><br>stinkbells   | PMLIL0V010   | None           | None         | G3          | S3.2       | 4.2                            |
| <b><i>Gratiola heterosepala</i></b><br>Boggs Lake hedge-hyssop                                   | PDSCR0R060   | None           | Endangered   | G2          | S2         | 1B.2                           |
| <b><i>Great Valley Cottonwood Riparian Forest</i></b><br>Great Valley Cottonwood Riparian Forest | CTT61410CA   | None           | None         | G2          | S2.1       |                                |
| <b><i>Hibiscus lasiocarpus var. occidentalis</i></b><br>woolly rose-mallow                       | PDMAL0H0R3   | None           | None         | G5T2        | S2         | 1B.2                           |
| <b><i>Hydrochara rickseckeri</i></b><br>Ricksecker's water scavenger beetle                      | IICOL5V010   | None           | None         | G1G2        | S1S2       |                                |
| <b><i>Juncus leiospermus var. ahartii</i></b><br>Ahart's dwarf rush                              | PMJUN011L1   | None           | None         | G2T1        | S1         | 1B.2                           |
| <b><i>Juncus leiospermus var. leiospermus</i></b><br>Red Bluff dwarf rush                        | PMJUN011L2   | None           | None         | G2T2        | S2         | 1B.1                           |
| <b><i>Lasiurus cinereus</i></b><br>hoary bat   | AMACC05030   | None           | None         | G5          | S4?        |                                |
| <b><i>Legenere limosa</i></b><br>legenere  | PDCAM0C010   | None           | None         | G2          | S2.2       | 1B.1                           |
| <b><i>Lepidurus packardi</i></b><br>vernal pool tadpole shrimp                                   | ICBRA10010   | Endangered     | None         | G3          | S2S3       |                                |
| <b><i>Linderiella occidentalis</i></b><br>California linderiella                                 | ICBRA06010   | None           | None         | G3          | S2S3       |                                |
| <b><i>Melospiza melodia</i></b><br>song sparrow ("Modesto" population)                           | ABPBXA3010   | None           | None         | G5          | S3?        | SSC                            |
| <b><i>Northern Claypan Vernal Pool</i></b><br>Northern Claypan Vernal Pool                       | CTT44120CA   | None           | None         | G1          | S1.1       |                                |
| <b><i>Northern Hardpan Vernal Pool</i></b><br>Northern Hardpan Vernal Pool                       | CTT44110CA   | None           | None         | G3          | S3.1       |                                |
| <b><i>Northern Volcanic Mud Flow Vernal Pool</i></b><br>Northern Volcanic Mud Flow Vernal Pool   | CTT44132CA   | None           | None         | G1          | S1.1       |                                |
| <b><i>Nycticorax nycticorax</i></b><br>black-crowned night heron                                 | ABNGA11010   | None           | None         | G5          | S3         |                                |



Selected Elements by Scientific Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



| Species  | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|--|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <b><i>Oncorhynchus tshawytscha</i></b><br>chinook salmon - Central Valley spring-run ESU   | AFCHA0205A   | Threatened     | Threatened   | G5          | S1         |                                |
| <b><i>Oncorhynchus tshawytscha</i></b><br>chinook salmon - Sacramento River winter-run ESU | AFCHA0205B   | Endangered     | Endangered   | G5          | S1         |                                |
| <b><i>Orcuttia viscida</i></b><br>Sacramento Orcutt grass                                  | PMPOA4G070   | Endangered     | Endangered   | G1          | S1         | 1B.1                           |
| <b><i>Pogonichthys macrolepidotus</i></b><br>Sacramento splittail                          | AFCJB34020   | None           | None         | G2          | S2         | SSC                            |
| <b><i>Progne subis</i></b><br>purple martin  | ABPAU01010   | None           | None         | G5          | S3         | SSC                            |
| <b><i>Riparia riparia</i></b><br>bank swallow  | ABPAU08010   | None           | Threatened   | G5          | S2S3       |                                |
| <b><i>Sagittaria sanfordii</i></b><br>Sanford's arrowhead                                  | PMALI040Q0   | None           | None         | G3          | S3         | 1B.2                           |
| <b><i>Spea hammondi</i></b><br>western spadefoot   | AAABF02020   | None           | None         | G3          | S3         | SSC                            |
| <b><i>Spirinchus thaleichthys</i></b><br>longfin smelt                                     | AFCHB03010   | None           | Threatened   | G5          | S1         | SSC                            |
| <b><i>Symphotrichum lentum</i></b><br>Suisun Marsh aster                                   | PDASTE8470   | None           | None         | G2          | S2         | 1B.2                           |
| <b><i>Taxidea taxus</i></b><br>American badger   | AMAJF04010   | None           | None         | G5          | S4         | SSC                            |
| <b><i>Thamnophis gigas</i></b><br>giant garter snake                                       | ARADB36150   | Threatened     | Threatened   | G2G3        | S2S3       |                                |
| <b><i>Vireo bellii pusillus</i></b><br>least Bell's vireo                                  | ABPBW01114   | Endangered     | Endangered   | G5T2        | S2         |                                |

Record Count: 55



## **APPENDIX C.**

USFWS Species List

APN 238-022-0019  
City of Sacramento, CA

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**United States Department of the Interior**  
**FISH AND WILDLIFE SERVICE**

Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, California 95825



November 25, 2013

Document Number: 131125011052

R. John Litte Ph.D.  
Sycamore Environmental Consultants Inc.  
6355 Riverside Blvd. Suite C  
Sacramento, CA 95831

Subject: Species List for Assessor's Parcel Number 238-022-0019

Dear: Dr. Little

We are sending this official species list in response to your November 25, 2013 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be February 23, 2014.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found [here](#).

Endangered Species Division

**U.S. Fish & Wildlife Service**  
**Sacramento Fish & Wildlife Office**  
**Federal Endangered and Threatened Species that Occur in**  
**or may be Affected by Projects in the Counties and/or**  
**U.S.G.S. 7 1/2 Minute Quads you requested**  
Document Number: 131125011052  
Database Last Updated: September 18, 2011

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**Quad Lists**

Listed Species

Invertebrates

- Branchinecta lynchi*  
vernal pool fairy shrimp (T)
- Desmocerus californicus dimorphus*  
valley elderberry longhorn beetle (T)
- Lepidurus packardii*  
vernal pool tadpole shrimp (E)

Fish

- Hypomesus transpacificus*  
delta smelt (T)
- Oncorhynchus mykiss*  
Central Valley steelhead (T) (NMFS)  
Critical habitat, Central Valley steelhead (X) (NMFS)
- Oncorhynchus tshawytscha*  
Central Valley spring-run chinook salmon (T) (NMFS)  
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense*  
California tiger salamander, central population (T)
- Rana draytonii*  
California red-legged frog (T)

Reptiles

- Thamnophis gigas*  
giant garter snake (T)

Quads Containing Listed, Proposed or Candidate Species:

RIO LINDA (512B)

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**County Lists**

Listed Species

Invertebrates

- Apodemia mormo langei*  
Lange's metalmark butterfly (E)

S

*Branchinecta conservatio*

Conservancy fairy shrimp (E)

S

*Branchinecta lynchi*

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

S

*Desmocerus californicus dimorphus*

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

S

*Elaphrus viridis*

delta green ground beetle (T)

S

*Lepidurus packardi*

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

S

## Fish

*Acipenser medirostris*

green sturgeon (T) (NMFS)

S

*Hypomesus transpacificus*

Critical habitat, delta smelt (X)

delta smelt (T)

S

*Oncorhynchus mykiss*

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

S

*Oncorhynchus tshawytscha*

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)

Critical habitat, winter-run chinook salmon (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

S

## Amphibians

*Ambystoma californiense*

California tiger salamander, central population (T)

Critical habitat, CA tiger salamander, central population (X)

S

*Rana draytonii*

California red-legged frog (T)

S

## Reptiles

*Thamnophis gigas*

giant garter snake (T)

S

## Birds

*Charadrius alexandrinus nivosus*

western snowy plover (T)

S

*Rallus longirostris obsoletus*

California clapper rail (E)

S

*Sternula antillarum (=Sterna, =albifrons) browni*

California least tern (E)

S

*Vireo bellii pusillus*

Least Bell's vireo (E)

S

## Mammals

*Reithrodontomys raviventris*

salt marsh harvest mouse (E)

S

*Sylvilagus bachmani riparius*

riparian brush rabbit (E)

S

*Vulpes macrotis mutica*

San Joaquin kit fox (E)

S

## Plants

*Arctostaphylos myrtifolia*

Ione manzanita (T)

S

*Calystegia stebbinsii*

Stebbins's morning-glory (E)

S

*Castilleja campestris ssp. succulenta*

Critical habitat, succulent (=fleshy) owl's-clover (X)

succulent (=fleshy) owl's-clover (T)

S

*Ceanothus roderickii*

Pine Hill ceanothus (E)

S

*Cordylanthus mollis ssp. mollis*

soft bird's-beak (E)

S

*Cordylanthus palmatus*

palmate-bracted bird's-beak (E)

S

*Eriogonum apricum var. apricum*

Ione buckwheat (E)

S

*Eriogonum apricum var. prostratum*

Irish Hill buckwheat (E)

S

*Erysimum capitatum ssp. angustatum*

Contra Costa wallflower (E)

Critical Habitat, Contra Costa wallflower (X)

S

*Fremontodendron californicum ssp. decumbens*

Pine Hill flannelbush (E)

S

*Galium californicum ssp. sierrae*

El Dorado bedstraw (E)

S

*Lasthenia conjugens*

Contra Costa goldfields (E)

S

*Neostapfia colusana*  
Colusa grass (T)  
S

*Oenothera deltooides ssp. howellii*  
Antioch Dunes evening-primrose (E)  
Critical habitat, Antioch Dunes evening-primrose (X)  
S

*Orcuttia tenuis*  
Critical habitat, slender Orcutt grass (X)  
slender Orcutt grass (T)  
S

*Orcuttia viscida*  
Critical habitat, Sacramento Orcutt grass (X)  
Sacramento Orcutt grass (E)  
S

*Senecio layneae*  
Layne's butterweed (=ragwort) (T)  
S

*Sidalcea keckii*  
Keck's checker-mallow (=checkerbloom) (E)  
S

## Candidate Species

### Birds

*Coccyzus americanus occidentalis*  
Western yellow-billed cuckoo (C)  
S

## Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the [National Oceanic & Atmospheric Administration Fisheries](#)  
Consult with them directly about these species.

*Critical Habitat* - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) *Vacated* by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

## Important Information About Your Species List

### How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geologic Survey 7½ minute quads. The United States is divided into these quads, which are size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed a quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area are carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds county list should be considered regardless of whether they appear on a quad list.

## Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online [Inventory of Rare and Endangered Plants](#).

## Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

## Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit taking of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of the following procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service. During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation will result in a biological opinion by the Service addressing the anticipated effect of the project on the proposed species. The opinion may authorize a limited level of incidental take.



- If no Federal agency is involved with the project, and federally listed species may be impacted as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the project that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area likely to be affected by the project, we recommend that you work with this office and California Department of Fish and Game to develop a plan that minimizes the project's indirect impacts to listed species and compensates for project-related loss of habitat. Include the plan in any environmental documents you file.

## Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered critical to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination, and seed dispersal.

Although critical habitat may be designated on private or State lands, activities on those lands are not restricted unless there is Federal involvement in the activities or direct effects on listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat are found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

## Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose listing as threatened or endangered. By considering these species early in your project process you may be able to avoid the problems that could develop if one of these species was listed before the end of your project.

## Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation. [More info](#)

## Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters regulated by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetlands and riparian habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

## Updates

Our database is constantly updated as species are proposed, listed and delisted. If address proposed and candidate species in your planning, this should not be a pro However, we recommend that you get an updated list every 90 days. That would t February 23, 2014.

## **APPENDIX D.**

### Photographs

APN 238-022-0019  
City of Sacramento, CA

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Photo 1. View looking southwest across the BSA from the northeast corner.  
(14 February 2013)



Photo 2. View looking west across the south end of the BSA. Bell Avenue is on the left.  
(14 February 2013)



Photo 3. View of seasonal wetland 2 in a small depression. (14 February 2013)



Photo 4. View looking south along the west side of the BSA. Raley Blvd occurs along the right side of the photo. A gas station (visible in the background) is located outside the BSA at the northeast corner of Raley Blvd and Bell Ave. (11 November 2013)



Photo 5. View looking north at seasonal wetland 1 (located around the shovel).  
(14 February 2013)



Photo 6. View looking east across the BSA from near Raley Boulevard.  
(7 November 2013)

## APPENDIX E.

### Species Evaluated Table

APN 238-022-0019

City of Sacramento, CA

| Special-Status Species/<br>Common Name  | Federal<br>Status <sup>a,b</sup> | State<br>Status <sup>a,b</sup> | Source <sup>c</sup> | Habitat Requirements   | Potential to Occur<br>within the Biological<br>study area?  |
|---|----------------------------------|--------------------------------|---------------------|--|---|
| <b>Invertebrates</b>  |                                  |                                |                     |  |   |
| <i>Apodemia mormo langei</i><br>Lange's metalmark butterfly                   | E                                | --                             | 1                   | Requires host plant (naked buckwheat, <i>Eriogonum nudum</i> var. <i>auriculatum</i> ) for reproduction; larvae feed only on this species. Known only from two populations in the Antioch Dunes in Contra Costa Co. (Black and Vaughan 2005).  | No. Suitable habitat does not occur. The BSA is outside the geographic range.                       |
| <i>Branchinecta conservatio</i><br>Conservancy fairy shrimp                   | E, CH                            | --                             | 1                   | Occurs in swales in grassland communities and in large turbid vernal pools, where rooted vegetation is absent (USFWS 1994a). Habitat must provide continuous pooling for a duration sufficient to support reproduction (46 days to reproduce) (Helm 1998). Known from eight populations in California: Vina Plains, Butte and Tehama counties; Sacramento National Wildlife Refuge, Glenn County; Yolo Bypass Wildlife Area, Yolo County; Jepson Prairie, Solano County; Mapes Ranch, Stanislaus County; University of California, Merced, Merced County; Grasslands Ecological Area, Merced County; and Los Padres National Forest, Ventura County (USFWS 2007b). | No. Suitable habitat does not occur in the BSA. There is no designated critical habitat in the BSA. |
| <i>Branchinecta lynchi</i><br>Vernal pool fairy shrimp                        | T, CH                            | --                             | 1,2                 | Inhabits a wide variety of vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Most commonly found in small (< 0.05 ac), clear to tea-colored vernal pools with mud, grass, or basalt bottoms in unplowed grasslands (USFWS 2013).   | Yes. See Text.  |
| <i>Desmocerus californicus dimorphus</i><br>Valley elderberry longhorn beetle | T, CH                            | --                             | 1,2                 | Requires an elderberry shrub ( <i>Sambucus mexicana</i> or <i>Sambucus racemosa</i> var. <i>microbotrys</i> ) as a host plant (USFWS 1999b).   | No. There are no elderberry shrubs in the BSA. There is no designated critical habitat in the BSA.  |
| <i>Elaphrus viridis</i><br>Delta green ground beetle                          | T, CH                            | --                             | 1                   | Found primarily on sandy-clay soils along the shorelines of vernal pools and on bare ground or areas of sparse and short vegetation in the adjacent valley grasslands. Known only from the greater Jepson Prairie area in south-central Solano Co. (USFWS 2009).   | No. The BSA is outside the geographic range. There is no designated critical habitat in the BSA.    |

|  |       |    |      |  |   |
|--|-------|----|------|--|---|
| <i>Lepidurus packardii</i><br>Vernal pool tadpole shrimp                           | E, CH | -- | 1, 2 | Occurs in a variety of vernal pool habitats. Usually inhabits large, deep vernal pools (USFWS 2005), but can also make use of smaller pools that are present as part of a larger vernal pool complex (Helm 1998).  | No, the seasonal wetlands in the BSA are too small to support tadpole shrimp, and are not part of a larger complex. |
| <b>Fish</b>  |       |    |      |  |   |
| <i>Acipenser medirostris</i><br>Green sturgeon–Southern DPS                        | T, CH | SC | 1    | Anadromous fish that spawns in the main stem of large rivers (McGinnis 1984). In CA, spawning occurs in the Sacramento and Klamath Rivers and possibly in the lower San Joaquin River (Moyle 2002).  | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                            |
| <i>Archoplites interruptus</i><br>Sacramento perch                                 | --    | SC | 2    | Freshwater sloughs, slow-moving rivers, lakes, reservoirs, and farm ponds. Often found near submerged or emergent vegetation. Tolerates variable conditions, including a wide range of turbidity, temperature, salinity, and pH. Occurs mainly in inshore areas of larger lakes (Moyle 2002).  | No. Suitable habitat does not occur.  |
| <i>Hypomesus transpacificus</i><br>Delta smelt                                     | T, CH | E  | 1    | Euryhaline (tolerant of a wide salinity range) species that is confined to the San Francisco Estuary, principally in the Delta and Suisun Bay. Currently found only from the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo cos. Can be washed into San Pablo Bay during high-outflow periods, but do not establish permanent populations there (Moyle 2002).   | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                            |
| <i>Oncorhynchus mykiss</i><br>Central Valley steelhead DPS                         | T, CH | -- | 1    | Anadromous salmonid historically distributed throughout the Sacramento and San Joaquin river drainages. While steelhead are found elsewhere in the Sacramento River system, the principal remaining wild populations are a few hundred fish that spawn annually in Deer and Mill Creeks in Tehama Co. and a population of unknown size in the lower Yuba River. Spawning occurs in small tributaries on coarse gravel beds in riffle areas (Busby et al. 1996). With the possible exception of a small population in the lower Stanislaus River, steelhead appear to have been extirpated from the San Joaquin basin (Moyle 2002).   | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                            |
| <i>Oncorhynchus tshawytscha</i><br>Central Valley spring-run<br>Chinook salmon ESU | T, CH | T  | 1, 2 | Extant populations of this ESU spawn in the Sacramento River and its tributaries. Populations in the San Joaquin River are believed to be extirpated (NMFS 1998). Though historically found in Sacramento, San Joaquin, Klamath and Eel Rivers and their larger tributaries, today populations are only known to exist in the Sacramento and Klamath drainages (Moyle 2002). Enters the Sacramento River from March to July and spawns from late August through early October. Requires streams with suitable gravel composition, water depth, and velocity for spawning (McGinnis 1984). The Federal listing includes populations spawning in the Sacramento River and its tributaries (CDFW 2011). | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                            |



|  |       |       |   |   |   |
|--|-------|-------|---|---|---|
| <i>Oncorhynchus tshawytscha</i><br>Winter-run Chinook salmon<br>ESU                  | E, CH | E     | 1 | Once found throughout the upper Sacramento River basin, the winter-run chinook salmon ESU is now confined to the mainstem Sacramento River below Keswick Dam. Adults enter the Sacramento River from December through July and spawn from late April to early August (Moyle 2002). Adult female chinook will prepare a spawning bed in a stream with suitable gravel composition, water depth, and velocity (McGinnis 1984). This ESU is believed to be extirpated from the San Joaquin River Basin. However, an intermittent run has been reported in the lower Calaveras River (NMFS 1998).   | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.  |
| <i>Pogonichthys macrolepidotus</i><br>Sacramento splittail                           | --    | SC    | 2 | A minnow of the backwater slough areas. Spawns on shorelines of brackish water habitats, inundated floodplains, and slow-moving, shallow reaches of large rivers (USFWS 2003b, 2010c)   | No. Suitable habitat does not occur.  |
| <i>Spirinchus thaleichthys</i><br>Longfin smelt                                      | --    | T, SC | 2 | Spawns from November to June in freshwater over sandy-gravel substrates, rocks, or aquatic plants. After hatching, larvae move up into surface waters and are transported downstream into brackish-water nursery areas. In the San Francisco estuary, longfin smelt are usually found downstream of Rio Vista on the Sacramento River and from the vicinity of Medford Island downstream on the San Joaquin River. They are occasionally found upstream of these locations (Moyle 2002).  | No. Suitable habitat does not occur.  |
| <b>Amphibians</b>  |       |       |   |   |   |
| <i>Ambystoma californiense</i><br>California tiger salamander,<br>central population | T, CH | T, SC | 1 | Frequents grassland, oak savannah, and edges of mixed woodland and lower elevation coniferous forest. Spends much time underground in mammal burrows. Usually breeds in temporary ponds such as vernal pools but may also breed in slower parts of streams and some permanent waters (Stebbins 2003). Ponds with large populations of California tiger salamander larvae usually contain very few larvae of other amphibian species (CWHR 2013). Requires long-lasting vernal pools to complete larval development of a minimum of approximately 10 weeks (Jennings and Hayes 1994). The state listing refers to the entire range of the species. The federal threatened listing is only for the Central Valley population. The Sonoma and Santa Barbara populations are federally listed as endangered (CDFW 2013c). | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.  |
| <i>Rana draytonii</i><br>California red-legged frog                                  | T, CH | SC    | 1 | Inhabits quiet pools of streams, marshes, and occasionally ponds with dense, shrubby, or emergent vegetation. Requires permanent or nearly permanent pools for larval development (CWHR 2013; USFWS 2010b). The range of CA red-legged frog extends from near sea level to approximately 5,200 ft, though nearly all sightings have occurred below 3,500 ft. CRLF was probably extirpated from the floor of the Central Valley before 1960 (USFWS 2002).  | No. Suitable habitat does not occur. The BSA is outside the geographic range. There is no designated critical habitat in the BSA. |

|  |    |    |      |  |                                      |
|--|----|----|------|--|--------------------------------------|
| <i>Spea hammondi</i><br>Western spadefoot        | -- | SC | 2    | Ranges throughout the Central Valley and adjacent foothills, and is usually quite common where it occurs. Occurs primarily in grasslands, but occasionally occurs in valley-foothill hardwood woodlands (CWHR 2013). Primarily found in the lowlands frequenting washes, floodplains of rivers, alluvial fans, playas, and alkali flats. Also ranges into foothills and mountains. Prefers areas of open vegetation and short grasses with sandy or gravelly soil (Stebbins 2002). Spends most of the year in underground burrows up to 36 inches deep, which they generally construct themselves. Most surface movements by adults are associated with rains or high humidity at night. Breeding and egg laying occur almost exclusively in shallow, temporary pools formed by heavy winter rains (CWHR 2013) In nature, larval development occurs in 4-11 weeks, depending on availability of resources. If pools do not last at least 35 days, there is substantial desiccation of larvae (Morey 1998). | No. Suitable habitat does not occur. |
| <b>Reptiles</b>                                  |    |    |      |  |                                      |
| <i>Emys marmorata</i><br>Western pond turtle     | -- | SC | 2    | Prefers aquatic habitats with abundant vegetative cover and exposed basking sites such as logs and rocks or mud banks. Associated with permanent or nearly permanent water in a wide variety of habitats, normally in ponds, lakes, streams, irrigation ditches or permanent pools along intermittent streams. Hatchlings may be subject to rapid death by desiccation if exposed to hot, dry conditions (CWHR 2013).  | No. Suitable habitat does not occur. |
| <i>Thamnophis gigas</i><br>Giant garter snake    | T  | T  | 1, 2 | Endemic to the Central Valley of California, where they occupy a variety of agricultural, managed, and natural wetlands, including their waterways and adjacent upland habitats. Agricultural wetlands include irrigation and drainage canals, ricelands, marshes, sloughs, ponds, small lakes, and low gradient streams. Essential habitat consists of the following: 1) adequate water during the snake's active season (early spring through mid-fall); 2) emergent, herbaceous wetland vegetation, such as cattails and bulrushes; 3) upland habitat with grassy banks and openings in waterside vegetation for basking; and 4) higher elevation uplands for cover and refuge during the snake's inactive season in winter. Inhabits small mammal burrows during winter dormancy (USFWS 1999a).  | No. Suitable habitat does not occur. |
| <b>Birds</b>                                     |    |    |      |  |                                      |
| <i>Agelaius tricolor</i><br>Tricolored blackbird | -- | SC | 2    | Forages on ground in cropland, grassland, and on pond edges. Nests near freshwater, preferably in emergent marsh densely vegetated with cattails or tules, but also in thickets of willow, blackberry, and wild rose. Highly colonial; nesting area must be large enough to support a minimum colony of about 50 pairs (CWHR 2013). Range of this species includes the Sacramento and San Joaquin valleys, the foothills of the Sierra Nevada south to Kern County, the coastal slope from Sonoma County south to the Mexican border, and sporadically, the Modoc Plateau (Shuford and Gardali 2008). Nesting colonies are of concern to CDFW (2011).  | No. Suitable habitat does not occur. |

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| <i>Ammodramus savannarum</i><br>Grasshopper sparrow            | --    | SC | 2 | An uncommon and local summer resident and breeder in foothills and lowlands west of Cascade-Sierra Nevada crest from Mendocino and Trinity cos, south to San Diego Co. Occurs in dry, dense grasslands, especially with scattered shrubs for sitting perches. A thick cover of grasses and forbs is essential for concealment. Nests are built of grasses and forbs in slight depression in ground hidden by a clump of grasses or forbs. Usually nests solitarily from early April to mid-July. May form semicolonial breeding groups of 3-12 pairs (CWHR 2013). Nesting sites are of concern to CDFW (2011).  | No. Suitable habitat does not occur.   |
| <i>Aquila chrysaetos</i><br>Golden eagle                       | --    | FP | 2 | Uncommon permanent resident and migrant throughout CA, except center of Central Valley. Ranges from sea level to 11,500 ft (Grinnell and Miller 1944). Typically inhabits rolling foothills, mountain areas, sage-juniper flats, and deserts. Uses secluded cliffs with overhanging ledges and large trees for cover. Nest on cliffs of all heights and in large trees in open areas. Rugged, open habitats with canyons and escarpments used most frequently for nesting. Needs open terrain for hunting (CWHR 2013). Nesting and wintering sites are of concern to CDFW (2011).   | No. Suitable habitat does not occur.   |
| <i>Athene cunicularia</i><br>Burrowing owl                     | --    | SC | 2 | Forages day and night in open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats. Nests in old burrows of ground squirrels or other small mammals (CWHR 2013). Burrow sites and some wintering sites are of concern to CDFW (2011).  | Yes. See text.   |
| <i>Buteo swainsoni</i><br>Swainson's hawk                      | --    | T  | 2 | Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen Co., and Mojave Desert. Nests in stands with few trees in juniper-sage flats, in riparian areas and in oak savannah in the Central Valley. Forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures. Feeds on small birds, rodents, mammals, reptiles, large arthropods, amphibians, and, rarely, fish (CWHR 2013). Nesting sites are of concern to CDFW (2011).   | Suitable foraging habitat occurs in the BSA. See text.                                   |
| <i>Charadrius alexandrinus nivosus</i><br>Western snowy plover | T, CH | SC | 1 | Nests, feeds, and takes cover on sandy or gravelly beaches along the Pacific coast including sand pits, dune-backed beaches at creek and river mouths, salt pans at lagoons and estuaries, and alkali lakes (USFWS 2007a; CWHR 2013). Common on sandy marine and estuarine shores in fall and winter. Inland nesting areas occur at the Salton Sea, Mono Lake, and at isolated sites on the shores of alkali lakes in northeastern CA, in the Central Valley, and southeastern CA deserts. Requires sandy, gravelly or friable soil substrates for nesting (CWHR 2012). Nesting sites are of concern to CDFW. Federal status applies only to the Pacific coastal population; CDFW 'species of special concern' designation refers to both the coastal and interior populations (CDFW 2011). | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA. |

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| <p><i>Coccyzus americanus occidentalis</i><br/>         Western yellow-billed cuckoo</p> | <p>C</p>  | <p>E</p>  | <p>1</p> | <p>Uncommon to rare summer resident of valley, foothill, and desert riparian habitats in scattered locations in CA. Breeding populations known from the Colorado River (southeast CA border), Sacramento and Owens valleys, along the South Fork of the Kern River (Kern Co.), along the Santa Ana River (Riverside Co.), and along the Amargosa River (Inyo &amp; San Bernardino cos). They may also nest along San Luis Rey River (San Diego Co.). Requires densely foliated deciduous trees and shrubs, especially willows, which usually abut a slow-moving watercourse, backwater or seep, for roosting. Also utilizes adjacent orchards, especially walnuts, in the Central Valley. Prey consists of grasshoppers, cicadas, caterpillars, other insects, and occasionally frogs, lizards, or fruit. Eggs are laid mid-June to mid-July (CWHR 2013). Nesting sites are of concern to CDFW (2011).</p>   | <p>No. Suitable habitat does not occur.</p> |
| <p><i>Elanus leucurus</i><br/>         White-tailed kite</p>                             | <p>--</p> | <p>FP</p> | <p>2</p> | <p>Yearlong resident in coastal and valley lowlands; rarely found away from agricultural areas. Inhabits herbaceous and open stages of most habitats mostly in cismontane CA. Substantial groves of dense, broad-leafed deciduous trees are used for nesting and roosting. Nest placed near top of dense oak, willow, or other tree stand located near open foraging area. Forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands (CWHR 2013). Nesting sites are of concern to CDFW (2011).</p>  | <p>Yes, see text.</p>                       |
| <p><i>Melospiza melodia</i><br/>         Song sparrow ("Modesto" population)</p>         | <p>--</p> | <p>SC</p> | <p>2</p> | <p>A year-round resident that prefers emergent freshwater marshes dominated by tules and cattails as well as riparian willow thickets. Modesto song sparrows also nest in riparian forests of valley oak with sufficient understory of blackberry, along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites. The Modesto song sparrow is restricted to California where it is locally numerous in the Sacramento Valley, Sacramento-San Joaquin River Delta, and the northern San Joaquin Valley. The Modesto song sparrow remains locally numerous in areas where, by today's standards, extensive wetlands remain. Hence, highest densities occur in the Butte Sink area of the Sacramento Valley and in the Sacramento-San Joaquin River Delta. Immediately adjacent to the Butte Sink, song sparrows breed in sparsely vegetated irrigation canals, yet are almost entirely absent from the main stem and tributaries of the Sacramento River above Sacramento (Shuford and Gardali 2008).</p> | <p>No. Suitable habitat does not occur.</p> |
| <p><i>Progne subis</i><br/>         Purple martin</p>                                    | <p>--</p> | <p>SC</p> | <p>2</p> | <p>Found throughout nearly the entire U.S. east of the Rockies. In the western U.S. it is in isolated areas of OR, WA, CA, UT, CO, AZ, and NM. Winters in South America. Arrives in central California in late March and leaves in late September, with breeding occurring April into August. Generally, they inhabit open areas with an open water source nearby. Purple martins nest colonially or singly in cavities, both natural and man-made. Purple martins are not as likely to use nest boxes in CA as they are in the eastern U.S. All current known nesting sites in Sacramento are in vertical weep holes beneath bridges built of steel and concrete box girders over urban areas and railroad tracks (Airola &amp; Grantham 2003). They return to the same nesting site year after year (CWHR 2013) and nesting sites are of concern to CDFW (2011).</p>   | <p>No. Suitable habitat does not occur.</p> |

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|--|----|-------|------|---|---|
| <i>Rallus longirostris obsoletus</i><br>California clapper rail  | E  | E, FP | 1    | Found in coastal wetlands and brackish areas around San Francisco, Monterey, and Morro bays. Prefers emergent wetland dominated by pickleweed, cordgrass, and/or bulrush. Nests mostly in lower zones, where cordgrass is abundant and tidal sloughs are nearby (CWHR 2013).  | No. Suitable habitat does not occur.  |
| <i>Riparia riparia</i><br>Bank swallow   | -- | T     | 2    | Found primarily in riparian and other lowland habitats in CA west of the deserts during the spring-fall period. In summer, restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine textured sandy soils, into which it digs nesting holes. Approx. 75% of breeding population in CA occurs along banks of the Sacramento and Feather rivers in the northern Central Valley. Other colonies are known from the central coast from Monterey to San Mateo cos., and northeastern CA in Shasta, Siskiyou, Lassen, Plumas, and Modoc cos. Colonial breeder, with 10 to 1,500, typically 100-200, nesting pairs (CWHR 2013). Nesting sites are of concern to CDFW (2011). | No. Suitable habitat does not occur.  |
| <i>Sternula antillarum</i> (= <i>Sterna</i> ,<br>= <i>albifrons</i> ) <i>browni</i><br>California least tern | E  | E, FP | 1    | Breeding colonies are located in southern CA and in the San Francisco Bay in abandoned salt ponds and along estuarine shores. Feeds in nearby shallow, estuarine waters or lagoons where small fish are abundant. California least terns nest in colonies on relatively open beaches kept free of vegetation by natural scouring from tidal action (CWHR 2013). Nesting colonies are of concern to CDFW (2011).   | No. Suitable habitat does not occur.  |
| <i>Vireo belli pusillus</i><br>Least Bell's vireo  | E  | E     | 1, 2 | Inhabits willows and other low, dense, riparian habitat below approximately 2,000 ft. Currently known from canyons in San Benito and Monterey cos., coastal areas from Santa Barbara Co. south, and western edges of southern California deserts. Usually found near water or intermittent streams. Winters in Mexico from September to the end of March. Peak egg-laying May into early June (CWHR 2013). Nesting sites are of concern to CDFW (2011).   | No. Suitable habitat does not occur. The BSA is outside the geographic range. |
| <b>Mammals</b>   |    |       |      |   |   |
| <i>Reithrodontomys raviventris</i><br>Salt marsh harvest mouse   | E  | E, FP | 1    | Found only in saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed saline emergent wetland is preferred habitat. Grasslands adjacent to pickleweed marsh are used, but only when new grass growth affords suitable cover in spring and summer months (CWHR 2013).  | No. Suitable habitat does not occur. The BSA is outside the geographic range. |
| <i>Sylvilagus bachmani riparius</i><br>Riparian brush rabbit   | E  | E     | 1    | Found in brushy understory of valley riparian forests. Habitat has a mix of roses, blackberries, marsh baccharis, and grape vines, with high volumes of roses and coyote bushes. Fewer willows in the canopy and understory are preferred. Tunnels through vegetation (USFWS 1998). The only known extant populations of this subspecies are located in Caswell Memorial State Park on the Stanislaus River (USFWS 1998) and in Paradise Cut and Stewart Tract in San Joaquin Co. (Williams and Hamilton 2002).   | No. Suitable habitat does not occur. The BSA is outside the geographic range. |
| <i>Taxidea taxus</i><br>American badger  | -- | SC    | 2    | Found throughout most of the state, except in the northern North Coast. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Feeds on fossorial rodents and some reptiles, insects, earthworms, bird eggs, and carrion (CWHR 2013).   | No. No badger dens were observed in the BSA. Suitable habitat does not occur. |

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| <i>Vulpes macrotis mutica</i><br>San Joaquin kit fox  | E     | T                   | 1   | This species is found in grasslands, saltbush scrub, open woodlands, foothills, and alkaline sink valley floor habitats in the southern half of the state (CWHR 2013). Typically occurs in desert like habitats characterized by sparse or absent shrub cover, sparse ground cover, and short vegetative structure. Uses underground dens which may extend to 6 feet or more below ground surface, for shelter and for reproduction (USFWS 2010a). | No. Suitable habitat does not occur. The BSA is outside the geographic range.   |
| <b>Plants</b>   |       | / CNPS <sup>d</sup> |     |  |   |
| <i>Astragalus tener</i> var. <i>ferrisiae</i><br>Ferris' milk-vetch   | --    | --/ 1B.1            | 2   | Annual herb found in vernal mesic meadows and seeps and subalkaline flats within valley and foothill grassland from 6 to 245 ft. Known from Butte, Colusa, Glenn, Solano, Sutter, and Yolo cos. Blooms April to May (CNPS 2013).   | No. Suitable habitat does not occur.  |
| <i>Arctostaphylos myrtifolia</i><br>Ione Manzanita  | T     | --/ 1B.2            | 1   | Perennial evergreen shrub found on clay or sandy acidic and Ione soil, in chaparral and cismontane woodland from 200 to 1,900 ft. Known from Amador and Calaveras cos. Blooms November through March (CNPS 2013).  | No. Suitable habitat does not occur.  |
| <i>Balsamorhiza macrolepis</i><br>Big-scale balsamroot  | --    | --/ 1B.2            | 2   | Perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland from 295 to 5,100 ft. Sometimes found on serpentine soil. No collections reported from Sacramento County or areas near the bottom of the Central Valley (CCH 2013). Blooms March through June (CNPS 2013).   | No. Suitable habitat does not occur. The BSA is outside the geographic range.   |
| <i>Calystegia stebbinsii</i><br>Stebbins' morning-glory   | E     | E/ 1B.1             | 1   | Perennial rhizomatous herb found on serpentine or gabbroic soils in chaparral openings and cismontane woodland from 600 to 3,575 ft. Known from El Dorado and Nevada cos. Blooms April through July (CNPS 2013).   | No. Suitable habitat does not occur.  |
| <i>Castilleja campestris</i> ssp. <i>succulenta</i><br>Fleshy owl's clover  | T, CH | E/ 1B.2             | 1   | Annual hemiparasitic herb found in vernal pools (often acidic) from 160 to 2,460 ft. Known from Fresno, Madera, Merced, Mariposa, San Joaquin, and Stanislaus cos. Blooms April through May (CNPS 2013).   | No. Suitable habitat does not occur.  |
| <i>Ceanothus roderickii</i><br>Pine Hill ceanothus  | E     | R/ 1B.2             | 1,2 | Perennial evergreen shrub found on serpentine or gabbroic soils in chaparral and cismontane woodland from 800 to 2,070 ft. Known from approximately ten occurrences in El Dorado Co. Blooms April through June (CNPS 2013).  | No. Suitable habitat does not occur.  |
| <i>Chloropyron molle</i> ssp. <i>hispidum</i><br>(= <i>Cordylanthus mollis</i> ssp. <i>hispidus</i> )<br>Hispid bird's beak | --    | --/ 1B.1            | 2   | Annual hemiparasitic annual herb found on alkaline soils in meadows and seeps, playas, and valley and foothill grasslands from 3 to 510 ft. Known from Alameda, Fresno, Kern, Merced, Placer, and Solano cos. Blooms June through September (CNPS 2013).   | No. There are no alkaline soils in the BSA.   |
| <i>Choropyron molle</i> ssp. <i>molle</i><br>(= <i>Cordylanthus mollis</i> ssp. <i>mollis</i> )<br>Soft bird's beak         | E, CH | R/ 1B.2             | 1   | Annual hemiparasitic herb found in coastal salt marshes and swamps from 0 to 10 ft. Known from fewer than 15 occurrences in Contra Costa, Napa, and Solano cos. Presumed extirpated from Marin, Sacramento, and Sonoma cos. Blooms July through November (CNPS 2013).  | No. Suitable habitat does not occur. The BSA is outside the geographic range. There is no designated critical habitat in the BSA. |

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| <i>Chloropyron palmatum</i><br>(= <i>Cordylanthus palmatus</i> )<br>Palmate-bracted bird's-beak             | E     | E/ 1B.1  | 1 | Annual hemiparasitic herb found on alkaline soils in chenopod scrub and valley and foothill grassland from 15 to 510 ft. Known from Alameda, Colusa, Fresno, Glenn (introduced), Madera, and Yolo cos. Presumed extirpated from San Joaquin Co. Blooms May through October (CNPS 2013).                                    | No. There are no alkaline soils in the BSA.  |
| <i>Downingia pusilla</i><br>Dwarf downingia   | --    | --/ 2B.2 | 2 | Annual herb found on mesic soils in valley and foothill grassland and vernal pools from 3 to 1,460 ft. Known from Amador, Fresno, Merced, Napa, Placer, Sacramento, San Joaquin, Solano, Sonoma, Stanislaus, Tehama, and Yuba cos. Blooms March through May (CNPS 2013).   | No. Suitable habitat for this species does not occur in the BSA.   |
| <i>Eriogonum apricum</i> var. <i>apricum</i><br>Ione buckwheat  | E     | E / 1B.1 | 1 | Perennial herb found in chaparral openings in Ione soil from 190 to 475 ft. Known from 6 occurrences near Ione, CA in Amador and Sacramento cos. Blooms July through October (CNPS 2013).  | No. There are no Ione soils in the BSA. Suitable habitat does not occur.   |
| <i>Eriogonum apricum</i> var. <i>prostratum</i><br>Irish Hill buckwheat                                     | E     | E / 1B.1 | 1 | Perennial herb found in chaparral openings in Ione soil from 295 to 395 ft. Known from two occurrences near Irish Hill and Carbondale Mesa in Amador County. Blooms June through July (CNPS 2013).   | No. There are no Ione soils in the BSA. The BSA is outside the geographic range.                                     |
| <i>Erysimum capitatum</i> ssp. <i>angustatum</i><br>Contra Costa wallflower                                 | E, CH | E/ 1B.1  | 1 | Perennial herb found on inland dunes from 10 to 65 ft. Known only from the Antioch Dunes in Contra Costa Co. Blooms March through July (CNPS 2013).  | No. There are no dunes. The BSA is outside the geographic range. There is no designated critical habitat in the BSA. |
| <i>Fremontodendron decumbens</i> (= <i>F. californicum</i> ssp. <i>decumbens</i> )<br>Pine Hill flannelbush | E     | R/ 1B.2  | 1 | Perennial evergreen shrub found in rocky areas of serpentine or gabbroic soils in chaparral and cismontane woodland from 1,400 to 2,500 ft. Known from 10 occurrences in the Pine Hill area, and from one occurrence near Grass Valley. Known from El Dorado, Nevada, and Yuba cos. Blooms April through July (CNPS 2013). | No. Suitable substrates do not occur. The BSA is outside the geographic range.                                       |
| <i>Galium californicum</i> ssp. <i>sierrae</i><br>El Dorado bedstraw  | E     | R/ 1B.2  | 1 | Perennial herb found on gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest from 330 to 1,920 ft. Known from fewer than 20 occurrences in El Dorado Co. Blooms May through June (CNPS 2013).   | No. There are no serpentine or gabbroic soils. The BSA is outside the geographic range.                              |
| <i>Gratiola heterosepala</i><br>Boggs Lake hedge-hyssop   | --    | E/ 1B.2  | 2 | Annual herb found on clay soils in vernal pools and along lake margins from 30 to 7,800 ft. Known from Fresno, Lake, Lassen, Madera, Merced, Modoc, Placer, Sacramento, Shasta, Siskiyou, San Joaquin, Solano, Sonoma and Tehama cos. Blooms April through August (CNPS 2013).   | No. Suitable habitat does not occur.   |
| <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i><br>Woolly rose-mallow                                  | --    | --/ 1B.2 | 2 | Perennial rhizomatous herb often found in riprap on the sides of levees and freshwater marshes and swamps from 0 to 400 ft. Known from Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter and Yolo cos. Blooms June through September (CNPS 2013).  | No. Suitable habitat does not occur.   |
| <i>Juncus leiospermus</i> var. <i>ahartii</i><br>Ahart's dwarf rush   | --    | --/ 1B.2 | 2 | Annual herb found in mesic valley and foothill grassland from 100 to 750 ft. Known from Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba cos. Blooms March through May (CNPS 2013).  | No. Suitable habitat for this species does not occur in the BSA.   |

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| <i>Juncus leiospermus</i> var. <i>leiospermus</i><br>Red Bluff dwarf rush         | --    | --/ 1B.1 | 2    | Annual herb found on vernal mesic substrates in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools from 110 to 4,100 ft. Known from Butte, Placer, Shasta, and Tehama cos. Blooms March through June (CNPS 2013).   | No. Suitable habitat does not occur.  |
| <i>Lasthenia conjugens</i><br>Contra Costa goldfields                             | E, CH | --/ 1B.1 | 1    | Annual herb found on mesic soils in cismontane woodland, alkaline playas, valley and foothill grassland, and vernal pools from 0 to 1,550 ft. Known from Alameda, Contra Costa, Monterey, Marin, Napa, Solano, and Sonoma cos. Presumed extirpated from Mendocino, Santa Barbara, and Santa Clara cos. Blooms March through June (CNPS 2013).   | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                  |
| <i>Legenere limosa</i><br>Legenere  | --    | --/ 1B.1 | 2    | Annual herb found in vernal pools from 3 to 2,900 ft. Known from Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, Shasta, San Joaquin, San Mateo, Solano, Sonoma, Tehama, and Yuba cos. Presumed extirpated from Stanislaus Co. Blooms April through June (CNPS 2013).   | No. Suitable habitat does not occur.  |
| <i>Neostapfia colusana</i><br>Colusa grass  | T, CH | E/ 1B.1  | 1    | Annual herb found in large, adobe vernal pools from 15 to 660 ft. Known from Glenn, Merced, Solano, Stanislaus, and Yolo cos. Presumed extirpated from Colusa Co. Blooms May through August (CNPS 2013). Typically grows in large, deep pools that have long periods of inundation (USFWS 2003a).   | No. There are no large, deep vernal pools in the BSA. There is no designated critical habitat in the BSA. |
| <i>Oenothera deltoides</i> ssp. <i>howellii</i><br>Antioch Dunes evening-primrose | E, CH | E/ 1B.1  | 1    | Perennial herb found on inland dunes from 0 to 100 ft. Known from Contra Costa and Sacramento cos. Some populations are introduced. Blooms March through September (CNPS 2013).   | No. There are no dunes. There is no designated critical habitat in the BSA.                               |
| <i>Orcuttia tenuis</i><br>Slender Orcutt grass                                    | T, CH | E/ 1B.1  | 1    | Annual herb found in gravelly vernal pools from 115 to 5,775 ft. Known from Butte, Lake, Lassen, Modoc, Plumas, Sacramento, Shasta, Siskiyou, and Tehama cos. Blooms May through October (CNPS 2013). Found primarily in northern volcanic ash flow or mudflow vernal pools, but also found on Redding soils in Sacramento Co. Typically occurs in the deepest part of large (> 0.2 ac) pools exceeding 11.8 inches in depth (USFWS 2003a). | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                  |
| <i>Orcuttia viscida</i><br>Sacramento Orcutt grass                                | E, CH | E/ 1B.1  | 1, 2 | Annual herb found in vernal pools from 100 to 330 ft. Known from 12 occurrences in Sacramento co. Blooms April through July (CNPS 2013). Found in large northern hardpan and volcanic mudflow vernal pools (USFWS 2003a).   | No. Suitable habitat does not occur. There is no designated critical habitat in the BSA.                  |
| <i>Packera layneae</i> (= <i>Senecio layneae</i> )<br>Layne's ragwort             | T     | R/ 1B.2  | 1    | Perennial herb found in rocky areas on serpentine or gabbroic soils in chaparral and cismontane woodland from 650 to 3,280 ft. Known from Butte, El Dorado, Placer, Tuolumne, and Yuba cos. Blooms April through August (CNPS 2013).  | No. There are no serpentine or gabbroic soils. The BSA is below the elevation range of this species.      |
| <i>Sagittaria sanfordii</i><br>Sanford's arrowhead                                | --    | --/ 1B.2 | 2    | Emergent, rhizomatous perennial herb found in shallow freshwater marshes and swamps from 0 to 2,140 ft. Known from Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Orange, Placer, Sacramento, San Bernardino, Shasta, San Joaquin, Solano, Tehama, Ventura, and Yuba cos. Blooms May through October (CNPS 2013).   | No. Suitable habitat does not occur.  |



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|--|-------|----------|---|---|--|
| <i>Sidalcea keckii</i><br>Keck's checker-mallow    | E, CH | --/ 1B.1 | 1 | Annual herb found on serpentine, clay soils in cismontane woodland and valley and foothill grassland from 245 to 2,140 ft. Known from Fresno and Merced, and Tulare cos. and possibly from Colusa, Napa, Solano, and Yolo cos. Blooms April through June (CNPS 2013).   | No. There are no serpentine soils. There is no designated critical habitat in the BSA.     |
| <i>Symphyotrichum lentum</i><br>Suisun Marsh aster | --    | --/ 1B.2 | 2 | Perennial rhizomatous herb found in brackish and freshwater marshes and swamps from 0 to 10 ft. Known from Contra Costa, Napa, Sacramento, San Joaquin, Solano and Yolo cos. Blooms May through November (CNPS 2013).   | No. Suitable habitat does not occur. The BSA is above the elevation range of this species. |
| <b>Natural Communities</b>                         |       |          |   |   |  |
| Alkali Meadow                                      | --    | --/ --   | 2 | Gradations of dense to fairly open growth of relatively few species of perennial grasses and sedges. Most often low growing, but occasional tufts of <i>Sporobolus airoides</i> up to 1m high occur. Growing and flowering season is from late spring to early fall. Located on fine-textured, more or less permanently moist, alkaline soils. Characteristic species may include: <i>Allenrolfea occidentalis</i> , <i>Anemopsis californica</i> , <i>Carex</i> spp., <i>Cordylanthus mollis hispidus</i> , <i>Distichlis spicata</i> var. <i>stricta</i> , <i>Juncus</i> spp., <i>Muhlenbergia asperifolia</i> , <i>Phragmites australis</i> , <i>Sida leprosa hederacea</i> , <i>Sisyrinchium halophyllum</i> , <i>Spartina gracilis</i> , <i>Sporobolus airoides</i> , and <i>Triglochin concinna debilis</i> . Found east from the Modoc Plateau to Owens Valley at elevations of 3500 to 7000 ft in valley bottoms and on the lower portions of alluvial slopes. Also occurs around Alkali Seeps arising from the Valley Springs Formation of the eastern Central Valley from Kern to Placer counties, on salt-affected grasslands of the San Joaquin Valley trough and the Livermore Valley, and the salty grasslands of the western Sacramento Valley from San Joaquin to Glenn and Colusa counties (Holland 1986). | This community type does not occur in BSA.   |
| Alkali Seep  | --    | --/ --   | 2 | This community consists of low-growing perennial herbs, usually forming relative complete cover. In areas with mild winters, growing occurs throughout the year. Relatively few species. Found on permanently moist or wet seeps. Often associated with Alkali Meadows. Characteristic species include: <i>Distichlis spicata</i> var. <i>stricta</i> , <i>Najas marina</i> , <i>Nitrophila occidentalis</i> , <i>Potamogeton latifolius</i> , <i>P. pectinatus</i> , <i>Ruppia maritima</i> , and <i>Zannichellia palustris</i> . Distribution is scattered throughout the desert regions of CA and is less common in other areas (Holland 1986).  | This community type does not occur in BSA.   |
| Elderberry Savanna                                 | --    | --/ --   | 2 | Open shrub savannah dominated by <i>Sambucus mexicana</i> , usually with an understory of nonnative annual herbs. Requires grazing, fire, or flooding to prevent succession to Great Valley Mixed Riparian Forest. Occurs in areas of fine-textured alluvium that are set back from active river channels, but still subject to flooding and silt deposition. Additional characteristic species include: <i>Bromus</i> spp., <i>Centaurea solstitialis</i> , and <i>Marrubium vulgare</i> . Scattered among surviving stands of riparian vegetation throughout the Sacramento and northern San Joaquin valleys (Holland 1986).  | This community type does not occur in BSA.   |

|   |    |        |   |  |  |
|---|----|--------|---|--|--|
| Great Valley Cottonwood Riparian Forest | -- | --/ -- | 2 | Deciduous riparian forest dominated by <i>Populus fremontii</i> and <i>Salix gooddingii</i> with dense understory. Lianas are common including <i>Vitis californica</i> . Frequent flooding prevents other trees, such as <i>Acer negundo californica</i> and <i>Fraxinus latifolia</i> , from reaching canopy height. Occurs in areas of fine-textured alluvium near streams with subsurface flow even when the channel is dry. Additional characteristic species include: <i>Cephalanthus occidentalis</i> , <i>Elymus triticoides</i> , and <i>Salix</i> spp. (Holland 1986).   | This community type does not occur in BSA. |
| Northern Claypan Vernal Pool            | -- | --/ -- | 2 | A low, amphibious, herbaceous, wetland emergent community dominated by annual herbs and grasses. Pools may be small or quite large. Fairly old, circum neutral to alkaline, silica-cemented hardpan soils. Often more or less saline. Intergrades with Cismontane swale with Cismontane Alkali Marsh, which has water present throughout the year. Loses water primarily by evaporation. Typical species include <i>Allocarya</i> spp., <i>Boisduvalia glabella</i> , <i>Cress truxillensis vallicola</i> , <i>Downingia</i> spp., <i>Eryngium aristulatum</i> , <i>Lasthenia</i> spp., <i>Plagiobothrys leptocladus</i> , <i>P. stipitatus</i> var. <i>stipitatus</i> , <i>Spergularia marina</i> (Holland 1986). | This community type does not occur in BSA. |
| Northern hardpan vernal pool            | -- | --/ -- | 2 | An emergent wetland community dominated by low-growing annual herbs and grasses on very acidic soils with an iron-silica cemented hardpan. Evaporation (not runoff) dries pools in spring creating concentric bands of vegetation. Occurs primarily on old alluvial terraces on the east side of the Great Valley from Tulare or Fresno County north to Shasta County (Holland 1986).  | This community type does not occur in BSA. |
| Northern volcanic mudflow vernal pool   | -- | --/--  | 2 | A very low-growing, open mixture of amphibious annual herbs and grasses. Pools are typically small, covering at most a few square meters. Restricted to irregular depressions in shallow soil in tertiary pyroclastic flows. Pools form in small depressions following winter rains. Characteristic species include: <i>Downingia bicornuta</i> , <i>Lasthenia glaberrima</i> , <i>Limnanthes douglasii rosea</i> , <i>Navarretia tagetina</i> . Distribution is scattered on flat-topped mesas along the Sierran foothills, mostly between 500-2000 ft in the Blue Oak Woodland and Gray Pine Chaparral Woodland (Holland 1986).  | This community type does not occur in BSA. |

<sup>a</sup> **Listing Status** E = Endangered; T = Threatened; P = Proposed; C = Candidate; R = California Rare.

<sup>b</sup> **Other Codes** SC = CDFW Species of Special Concern; FP = CDFW Fully Protected; CH = Critical habitat designated.

**CNPS Rare Plant Rank:** 1A = Presumed Extinct in CA; 1B = Rare or Endangered (R/E) in CA and elsewhere; 2 = R/E in CA and more common elsewhere; 3 = Need more information; 4 = Plants of limited distribution

**CNPS Rare Plant Rank Decimal Extensions:** .1 = Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat); .2 = Fairly endangered in CA (20-80% of occurrences threatened); .3 = Not very endangered in CA (< 20% of occurrences threatened or no current threats known).

<sup>c</sup> **Sources** 1 = From USFWS list. 2 = From CNDDDB list. 3 = Observed or included by Sycamore Environmental.