

**Biological Resources Assessment  
for the  
California Renewable Carbon, LLC  
Williams Production Facility Project**

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**Colusa County, California**

**Prepared For:**

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- Attachment A – Results of Database Queries
- Attachment B – Representative Site Photographs

LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
BA	Biological Assessment
BCC	Birds of Conservation Concern
BO	Biological Opinion
BRA	Biological Resources Assessment
CARI	California Aquatic Resources Inventory
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	Colusa County
CRC	California Renewable Carbon, LLC
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
EIR	Environmental Impact Report
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GPS	Global Positioning System
HCP	Habitat Conservation Plan
I-5	Interstate 5
ITP	Incidental Take Permit
kV	kilovolt



**LIST OF ACRONYMS AND ABBREVIATIONS**

LSA	Lake or Streambed Alteration
MBTA	Migratory Bird Treaty Act
MSL	mean sea level
MW	megawatt
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
PG&E	Pacific Gas and Electric
Plan	Colusa County General Plan
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle
WBWG	Western Bat Working Group

**1.0 INTRODUCTION**

This report documents the results of a Biological Resources Assessment completed for the California Renewable Carbon (CRC) Williams Production Facility Project (Project), which includes the construction and operation of a biocarbon production facility in unincorporated Colusa County. The Project site is located on approximately 49 acres in unincorporated Colusa County. The purpose of the assessment was to collect information on the biological resources present and evaluate the potential for special-status species and their habitats to occur in the Study Area; assess potential biological impacts related to Project activities; and identify potential avoidance, minimization, or mitigation measures to inform the Project's California Environmental Quality Act (CEQA) documentation for biological resources.

CRC is a leader in environmental technology with more than 185 issued and pending patents around processes and products engineered to improve the environment. CRC proposes to repurpose an existing facility in Colusa County to construct a new renewable biocarbon production facility. The new facility will use CRC's patented non combustion technology to convert sustainably sourced biomass into renewable biocarbon products. The new facility will use self-generated renewable biogas for process energy as well as generate and export renewable electricity to the grid. The new biocarbon process will be net water positive and carbon negative on a lifecycle basis. The facility also will significantly reduce regional air emissions by thousands of tons per year by converting locally sourced biomass such as orchard rotations and trimmings, that otherwise undergo open burning or land disposal, into renewable biocarbon products. CRC's products will be used to displace fossil-based products and reduce environmental impacts from metals production, energy generation, and crop production, and to purify the air and water. CRC will create more than 65 direct clean-tech jobs working toward environmental improvement.

**1.1 Project Location and Description**

The Project Area encompasses Assessor Parcel Numbers (APNs) 017-090-062 and 017-090-070. The remainder of the Project Area is a narrow linear footprint situated along Interstate 5 (I-5), between C Street in Williams on the north and Myers Road on the south, with a portion following Husted Road and Husted Lateral Road.

This Proposed Project includes the construction and operation of a biocarbon production facility on approximately 49 acres at the former Olam Tomato Processing Facility, as well as potential upgrades to the PG&E's Williams 1101 12 kV distribution line or Wadham 60 kV power line co-located on the same set of power poles that run from the facility to the PG&E Williams Generating Station in the City of Williams, Colusa County, California (Figures 1 and 2). Potentially, new poles or line may be installed to and from the PG&E Williams Generating Station in the City of Williams.

For the purposes of this assessment, the Study Area consists of an approximately 49-acre industrial property (the former Olam Tomato Facility), and potential upgrades to approximately 4 miles of PG&E's Williams 1101 12 kV distribution line or Wadham 60 kV power line co-located on the same set of power poles that run from the facility to the PG&E Williams Generating Station in the City of Williams, Colusa County, California. This analysis of the Study Area includes the impact limits of the Project (Project Area) plus a 200-foot buffer around the facility and utility easement (buffers collectively referred to as the Buffer Area). All components of the Study Area are depicted on Figures 1 and 2.



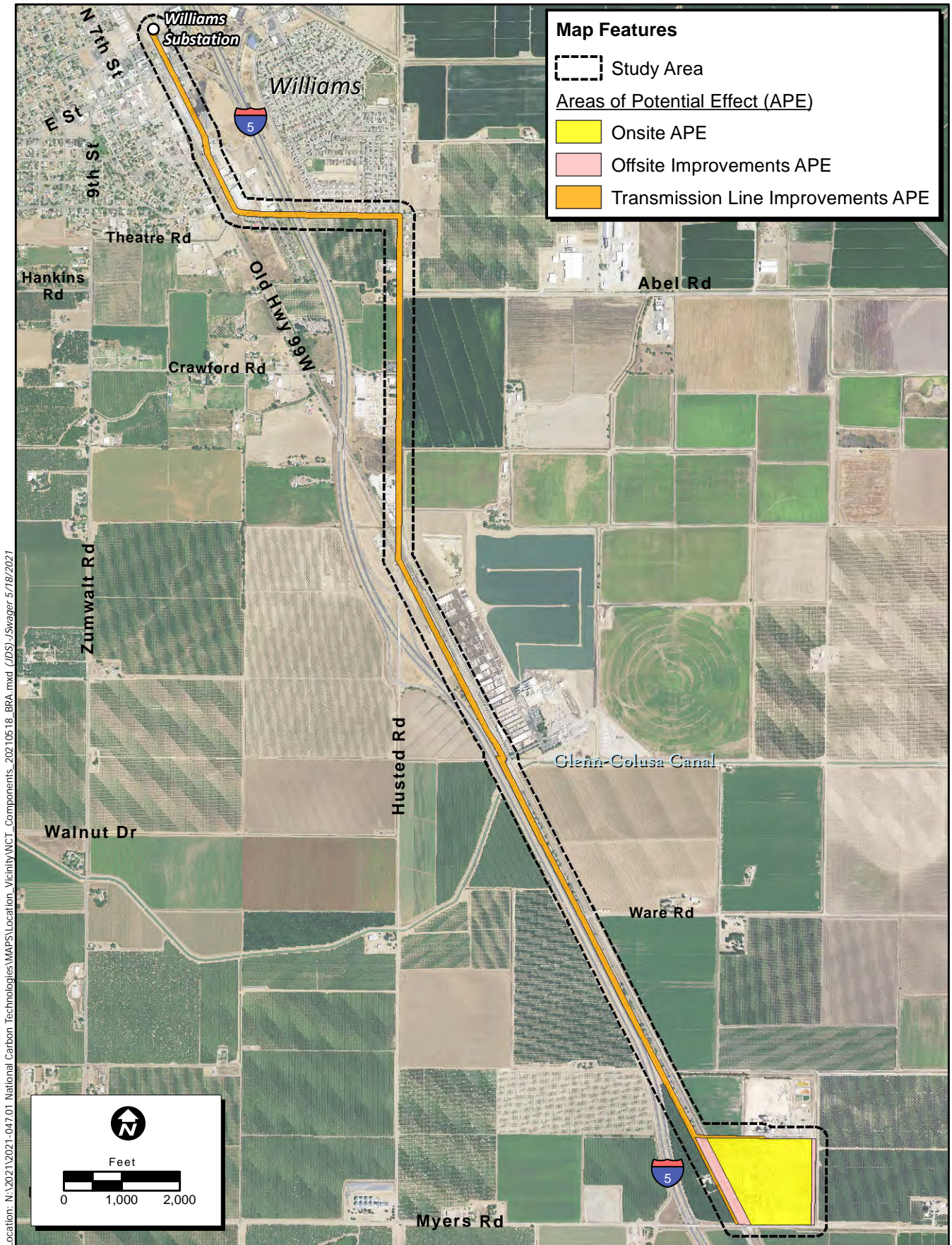
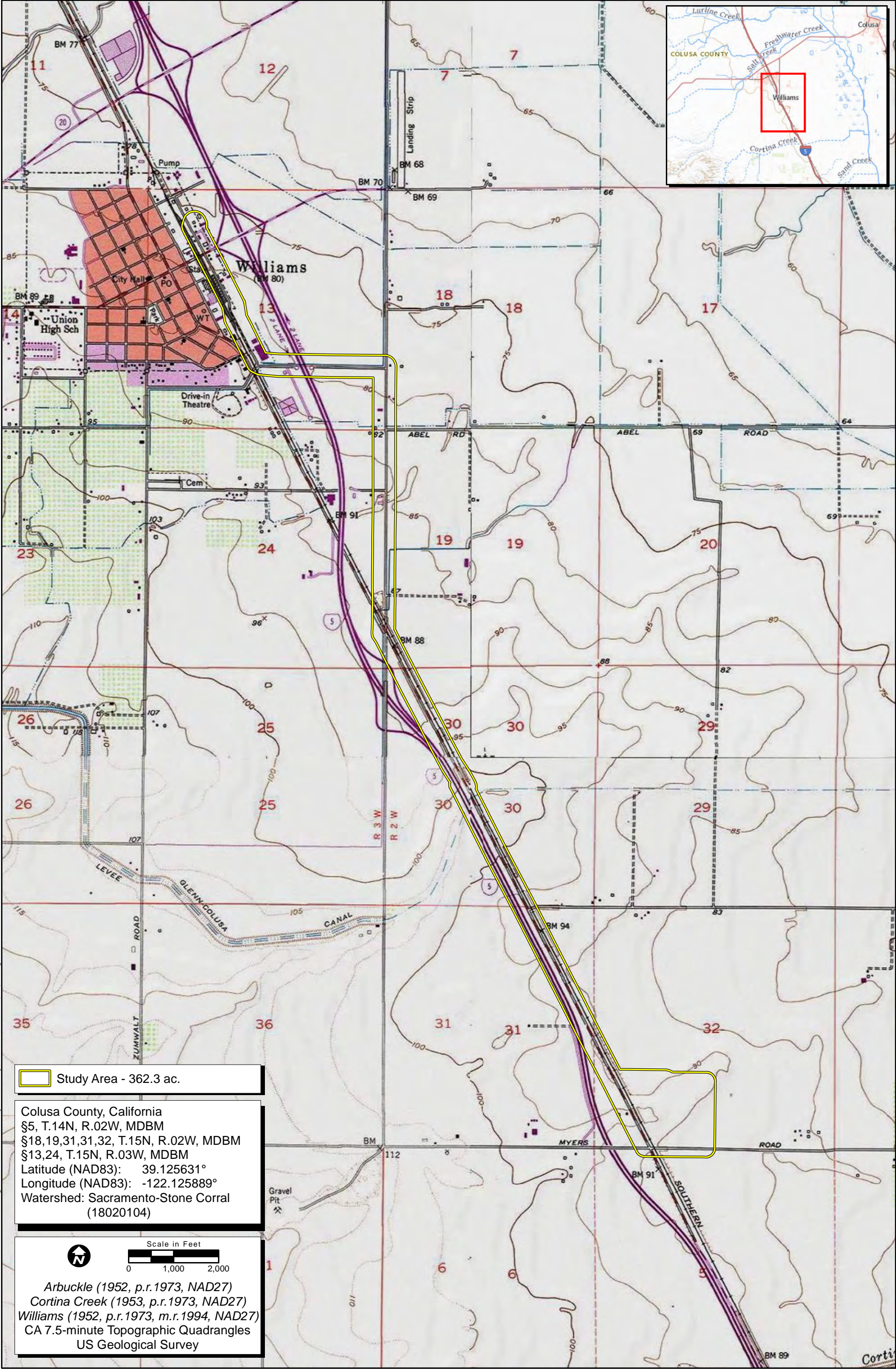


Figure 1-1. Project Location and Vicinity





Map Date: 5/18/2021  
Sources: ESRI, USGS, CEC, RFE

Figure 1-2. Study Area



The Olam Tomato Facility is located at the intersection north of Myers Road and east of Frontage Road/Old Highway 99, while the electrical line upgrade route follows north from the facility along the western edge of Frontage Road to Husted Road north (Figures 1 and 2). The line continues due west along Husted Lateral Road, then crosses over Interstate 5 (I-5), runs along Theatre Road, then turns northwest along Warehouse Road/5th Street, where it continues and terminates at the PG&E Williams Generating Station. The Study Area occurs in portions of Section 5, Township 14 North, Range 02 West, Sections 18, 19, 31, and 32, Township 15 North, Range 02 West, and Sections 13 and 24, Township 15 North, Range 03 West (Mount Diablo Base and Meridian) within the Williams, Cortina Creek, and Arbuckle, California 7.5-minute quadrangles (U.S. Geological Survey [USGS] 1954 [photorevised 1973]).

The approximate center of the Study Area is located at latitude 39.125631° and longitude -122.125889° (NAD83). The Study Area is within the Sacramento-Stone Corral watershed (Hydrologic Unit Code #18020104; Natural Resources Conservation Service [NRCS] et al. 2016).

## 1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitats, and sensitive habitats such as wetlands within the Study Area. This assessment does not include determinate presence-absence field surveys for special-status species conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of the available literature and site reconnaissance.

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

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

Only species that fall into one of the above-listed groups were considered for this assessment. Other species without special status that are sometimes found in database or literature searches were not included in this analysis.

## **2.0 REGULATORY SETTING**

### **2.1 Federal Regulations**

#### **2.1.1 Federal Endangered Species Act**

The federal ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Section 10 of the ESA provides for issuance of incidental take permits (ITPs) where no other federal actions are necessary provided a Habitat Conservation Plan (HCP) is developed.

##### **2.1.1.1 Critical Habitat**

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

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

For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical habitat designations identify, to the extent known and using the best scientific data available, the physical or biological features needed for life processes. Physical and biological features that are essential to the conservation of the species may require special management considerations or protection. These include but are not limited to:

- space for individual and population growth and for normal behavior;
- food, water, air, light, minerals, or other nutritional or physiological requirements;
- cover or shelter;
- sites for breeding, reproduction, or rearing (or development) of offspring; or

- habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

#### **2.1.1.2 Section 7**

Section 7 of the ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify critical habitat for listed species. If adverse effects to a species or its critical habitat are likely, the applicant must prepare a Biological Assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The USFWS and/or NMFS reviews the BA; if it concludes that the project may adversely affect a listed species or its critical habitat, it prepares a Biological Opinion (BO). Through consultation and the issuance of a BO, the USFWS and/or NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. The BO may require implementation of "reasonable and prudent measures" to avoid or minimize adverse impacts on the species population(s) or adverse modification of critical habitat.

#### **2.1.1.3 Section 10**

When no discretionary action is being taken by a federal agency but a project may result in the take of listed species, an ITP under Section 10 of the federal ESA is necessary. The purpose of the ITP is to authorize the take of federally listed species that may result from an otherwise lawful activity. In order to obtain an ITP under Section 10, an application must be submitted that includes an HCP. In some instances, applicants, USFWS, and/or NMFS may determine that an HCP is necessary or prudent, even if a discretionary federal action will occur. The purpose of the HCP planning process associated with the permit application is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

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

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code (see Section 2.2).

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

The purpose of the federal Clean Water Act (CWA) is to "...restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the U.S. Army Corps of Engineers

(USACE). "Discharges of fill material" is defined as the addition of fill material into Waters of the U.S., including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Substantial impacts to Waters of the U.S. (more than 0.5 acre of impact) may require an individual permit. Projects that only minimally affect Waters of the U.S. (less than 0.5 acre of impact) may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

#### **2.1.4 Rivers and Harbors Act**

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of the Army, acting through the USACE, for the construction of any structure in or over any navigable Waters of the U.S. Structures or work outside the limits defined for navigable Waters of the U.S. require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable Water of the U.S., and applies to all structures, from the smallest floating dock to the largest commercial undertaking. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power electrical lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. The alteration of a USACE-federally authorized civil works project requires a permit pursuant to Section 14 of the Act, as amended and codified in 33 USC 408. Projects with minimal impacts require approval by the USACE Sacramento District Construction Operations Group; however, projects with more substantial impacts may require USACE Headquarters review. Coordination with the Central Valley Flood Protection Board, who serve as the Non-Federal Sponsor, is required as a part of the process of obtaining a Section 408 permit.

### **2.2 State Regulations**

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

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the State as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "...hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by CDFW.



### **2.2.2 Fully Protected Species**

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

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

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

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

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

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

- Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.
- Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.
- Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests.
- Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.

- Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

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

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

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

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

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

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

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

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

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

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

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

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

#### **2.2.7.3 California Rare Plant Ranks**

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2021a), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private-sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDDB). The following are definitions of the CNPS CRPRs:

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

- Rare Plant Rank 4 – a watch list of plants of limited distribution.

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

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

Factors such as habitat vulnerability and specificity, distribution, and condition of occurrences are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2021a).

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

#### **2.2.7.4 Sensitive Natural Communities**

The CDFW maintains the California Natural Community List (CDFW 2021a), which provides a list of vegetation alliances, associations, and special stands as defined in the Manual of California Vegetation (CNPS 2021b) along with their respective State and global rarity ranks. Natural communities with a State rarity rank of S1, S2, or S3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

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

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

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

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

## **2.3 Local Plans and Ordinances**

### **2.3.1 Colusa County General Plan**

The Colusa County (County) General Plan (Plan; Colusa County 2012a) identifies Colusa County's "...vision for the future and provides a framework that will guide decisions on growth, development, and conservation of open space and resources in a manner consistent with the quality of life desired by the County's residents and businesses." The General Plan includes chapters on agriculture, circulation, community character, conservation, economic development, housing, land use, noise, open space, public services and facilities, safety, and implementation. A set of guiding principles was identified in order to maintain rural character and quality of life, focus development in and around existing communities, ensure orderly growth, preserve/enhance Colusa County's agricultural heritage, provide expansion opportunities for businesses, promote a range of agricultural services, provide employment and housing opportunities for young people, and ensure adequate infrastructure.

### **2.3.2 Colusa County General Plan Environmental Impact Report**

The County General Plan Final Environmental Impact Report (EIR; Colusa County 2012b) was adopted in February 2012 in CEQA support of the General Plan. The EIR disclosed "...expected environmental impact, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts." Mitigation measures and alternatives were identified that would minimize environmental impacts. Three alternatives to the Project were considered: 1) a Reduced Land Use Intensity Alternative, 2) a Revised Land Use (Airport Area) Alternative, and 3) a No Project Alternative.

## **3.0 METHODS**

### **3.1 Literature Review**

The following resources were reviewed to determine the special-status species that have been documented within or in the vicinity of the Study Area.

- CDFW CNDDDB data for the Williams, Cortina Creek, and Arbuckle, California 7.5-minute USGS quadrangles and the nine surrounding USGS quadrangles (CDFW 2021a).
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2021a).

- CNPS' electronic Inventory of Rare and Endangered Plants of California was queried for the Williams, Cortina Creek, and Arbuckle, California 7.5-minute USGS quadrangles and the nine surrounding quadrangles (CNPS 2021a).
- NMFS Resources data for the Williams, Cortina Creek, and Arbuckle California 7.5-minute USGS quadrangles (National Oceanic and Atmospheric Administration [NOAA] 2021a).

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

Aerial imagery and site- or species-specific background information, as cited throughout this document, were reviewed to determine the potential for occurrence of sensitive biological resources within or in the vicinity of the Study Area.

### 3.2 Field Surveys

ECORP Biologists Daniel Wong, Gabrielle Attisani, Matt Spaulding, and Eric Stitt conducted reconnaissance-level field surveys for the Study Area on May 13 and 14, 2021. Topographic maps and aerial imagery were consulted in the field to ensure total site coverage. Special attention was given to identifying those portions of the Study Area with the potential to support special-status species and sensitive habitats. During the field surveys, biological communities occurring onsite were characterized and the following biological resource information was collected:

- Potential aquatic resources;
- Vegetation communities;
- Plant and animal species directly observed;
- Animal evidence (e.g., scat, tracks);
- Existing active raptor nest locations;
- Special habitat features; and
- Representative photographs (Attachment B).

A follow-up survey was conducted on May 24, 2021 by ECORP biologists Daniel Wong and Daniel Tomasello. The entire Olam Tomato Plant site and electrical line alignment were walked and surveyed for elderberry shrubs. At each shrub location, the aerial extent of dripline was collected by a Global Positioning System (GPS) unit with sub-meter precision. The proximity to nearest electrical line pole was determined and collected with GPS, and all shrubs were searched for evidence of Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB), a federally threatened species (below).

### 3.3 Special-Status Species Considered for the Study Area

Based on database queries, a list of special-status species that are considered to have the potential to occur within the vicinity of the Study Area was generated (Table 1). Each of the species was evaluated for its potential to occur within the Study Area through the literature review and field observations, and categorized based on the following criteria:

- Present – Species was observed during the site visit or is known to occur within the Study Area based on documented occurrences within the CNDDDB or other literature.
- Potential to Occur – Habitat (including soils and elevation requirements) for the species occurs within the Study Area.
- Low Potential to Occur – Marginal or limited amounts of habitat occurs and/or the species is not known to occur within the vicinity of the Study Area based on CNDDDB records and other available documentation.
- Absent – No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDDB records and other documentation.

## 4.0 RESULTS

### 4.1 Existing Condition

#### 4.1.1 Site Characteristics and Land Use

The Study Area is located on relatively flat terrain situated at an elevational range of approximately 81 to 92 feet above mean sea level (MSL) in the Sacramento Valley subregion (ScV) of the California floristic province (Jepson eFlora 2021). The average winter low temperature in the vicinity of the Study Area is 38 degrees Fahrenheit (°F) and the average summer high temperature is 89°F. Average annual precipitation is approximately 13.6 inches, which falls as rain (NOAA 2021b).

The Olam Tomato facility is a flat, approximately 49-acre parcel situated east of Frontage Road. Four large warehouse buildings occur in the southwest portion of the site, together with processing machinery and transportation facilities (i.e., a railroad spur). A 2.7-million gallon wastewater storage pond occurs on the east portion of the site. The basin is lined with imported clay and was dry at the time of the site evaluation, with numerous opportunistic non-hydric plant species (*Avena fatua*, *Hordeum murinum*, *Bromus diandrus*) providing vegetative cover. Asphalt and compacted soil dominate the rest of the site, the majority of which was historically used for storage of agricultural materials. Sign of burrowing mammals (Botta's pocket gopher [*Thomomys bottae*]) were only noted in the vicinity of the wastewater storage pond. California ground squirrels (*Otospermophilus beecheyi*), common inhabitants of open agricultural lots, were not noted anywhere within the facility. Ornamental trees line the western and southern edges of the parcel, and agricultural ditches occur off-site along Myers Road and an unnamed road bounding the eastern edge of the property. An almond (*Prunus dulcis*) orchard occurs to the east and a dry-farmed row crop (currently fallow) occurs to the south. North of the property is the Wadham Energy Facility and fallow row crop.

The PG&E Williams 1101 12 kV distribution line and Wadham 60 kV electrical lines occur within 50 feet of the roadside for the entire length. Vegetation along the easement consists of a sparsely vegetated overstory of walnut (*Juglans californica*), black willow (*Salix gooddingii*), velvet ash (*Fraxinus velutina*), and blue elderberry (*Sambucus nigra* ssp. *cerulea*). Nonnative annual grasses and forbs, including Italian thistle (*Carduus pycnocephalus*), hemlock (*Conium maculatum*), radish (*Raphanus sativa*), milk thistle (*Silybum maritimum*), shortpod mustard (*Hirschfeldia incana*), and western ragweed (*Ambrosia*

*psilostachya*) provide ground cover. The majority of the lands adjacent to the electrical lines comprise agriculture, dominated by alfalfa (*Medicago sativa*) fields and almond and walnut orchards. At the time of the site assessment some crops were fallow/dormant. Agricultural ditches appear along much of the electrical line route.

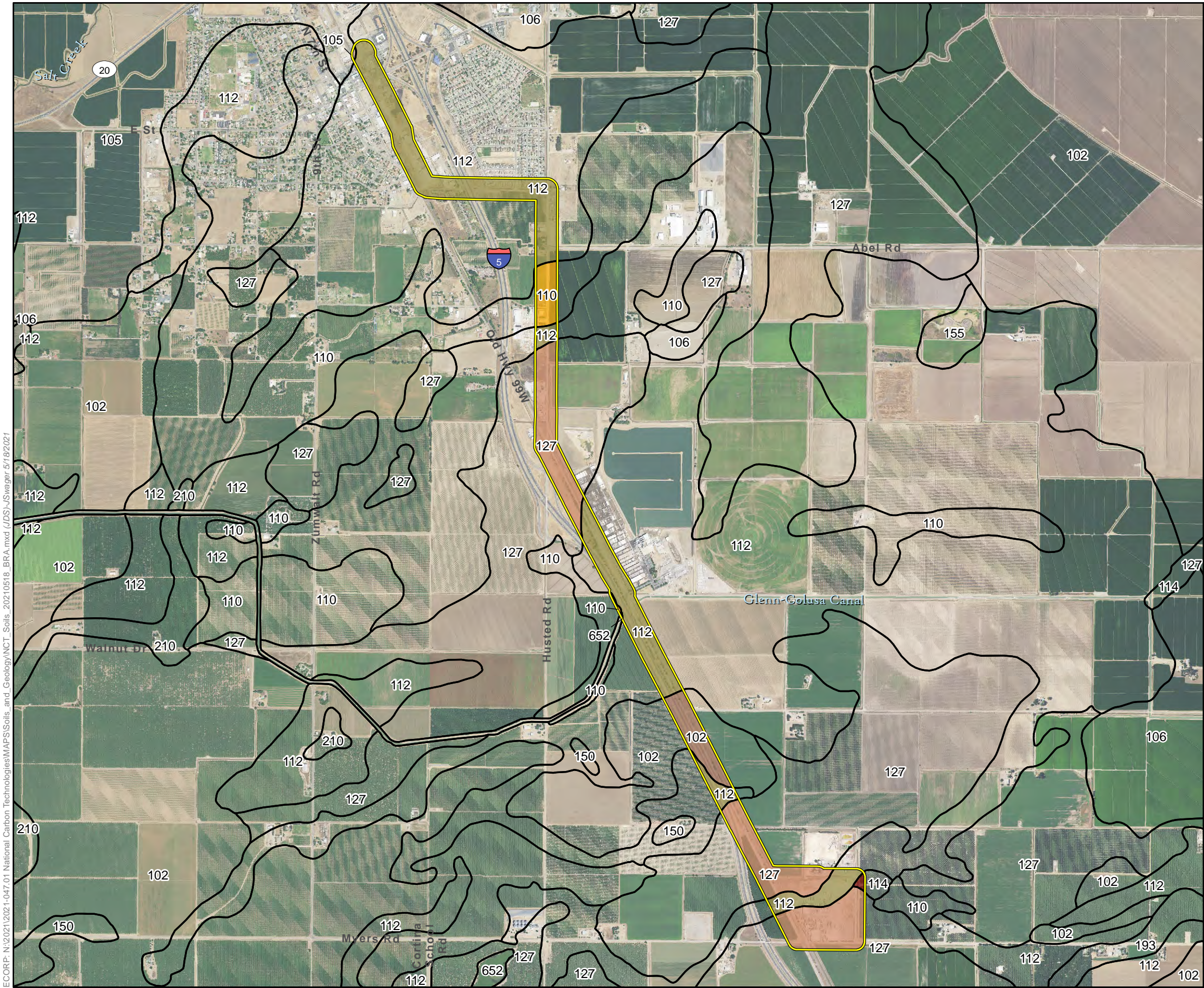
Representative photographs of the Study Area are included in Attachment B.

#### **4.1.2 Soils**

Seven soil map units have been mapped within the Study Area (Figure 3). They include:

- 102 – Capay clay loam, 0 percent slopes, low precipitation, Major Land Resource Area (MLRA) 17
- 105 – Willows silty clay, 0 to 1 percent slopes, occasionally flooded
- 110 – Hustabel sandy loam, 0 to 1 percent slopes
- 112 – Westfan loam, 0 to 2 percent slopes
- 114 – Westfan clay loam, 0 to 1 percent slopes
- 127 – Mallard clay loam, 0 to 2 percent slopes





Map Features

Study Area

NRCS Soil Types within the Study Area

Series Number - Series Name

- 102 - Capay clay loam, 0 percent slopes, low precip, MLRA 17
- 105 - Willows silty clay, 0 to 1 percent slopes, occasionally flooded
- 110 - Hustabel sandy loam, 0 to 1 percent slopes
- 112 - Westfan loam, 0 to 2 percent slopes
- 114 - Westfan clay loam, 0 to 1 percent slopes
- 127 - Mallard clay loam, 0 to 1 percent slopes
- 652 - Water

Natural Resources Conservation Service (NRCS)  
Soil Survey Geographic (SSURGO) Database for  
Colusa County, CA

Sources: ESRI, USGS, NRCS, RFE, NAIP (2020)

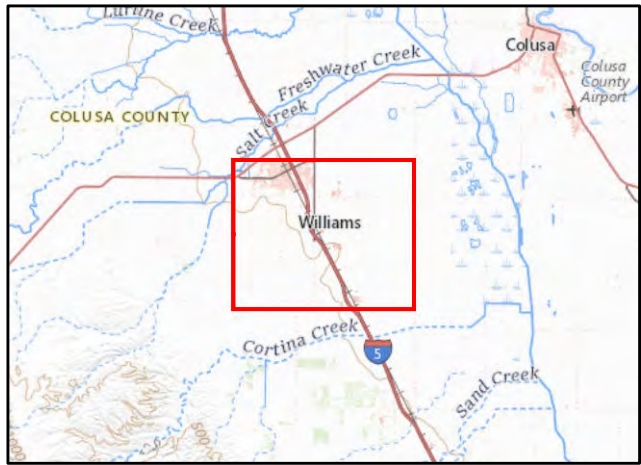


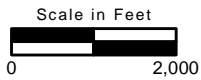
Figure 4-1. Natural Resources Conservation Service Soil Types

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Map Date: 5/18/2021

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#### ■ 652 – Water

The 102 – Capay clay loam, 0 percent slopes map unit consists of 90 percent Capay clay loam and similar soils and 10 percent minor components. It is a moderately well-drained soil formed from alluvium. Runoff is very low, and no surface is covered with rock fragments. Available water capacity is high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

The 105 – Willows silty clay, 0 to 1 percent slopes map unit consists of 90 percent Willows silty clay and 10 percent minor components. It is a poorly drained soil formed from alluvium. Runoff is low, and no surface is covered with rock fragments. Available water capacity is high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

The 110 – Hustabel sandy loam, 0 to 1 percent slopes map unit consists of 80 percent Hustabel sandy loam and 20 percent minor components. It is a moderately well-drained soil formed from alluvium. Runoff is negligible, and no surface is covered with rock fragments. Available water capacity is high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

The 112 – Westfan loam, 0 to 2 percent slopes map unit consists of 80 percent Westfan loam and 20 percent minor components. It is a well-drained soil formed from alluvium. Runoff is very low, and no surface is covered with rock fragments. Available water capacity is high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

The 114 – Westfan clay loam, 0 to 1 percent slopes map unit consists of 80 percent Westfan clay loam and 20 percent minor components. It is a well-drained soil formed from alluvium. Runoff is very low, and no surface is covered with rock fragments. Available water capacity is very high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

The 127 – Mallard clay loam, 0 to 1 percent slopes map unit consists of 85 percent Mallard clay loam and 15 percent minor components. It is a somewhat poorly drained soil formed from alluvium. Runoff is very low, and no surface is covered with rock fragments. Available water capacity is very high. This map unit does not contain any components with a hydric soil rating (NRCS 2021).

No soil units derived from serpentinite or other ultramafic parent materials have been reported to occur within the Study Area or its immediate vicinity (NRCS 2021; Jennings et al. 1977; Horton 2017).

#### **4.1.3 Vegetation Communities and Land Cover Types**

The Study Area comprises urban/industrial, residential, ruderal, and agricultural areas. These are described in the following sections.

##### **4.1.3.1 Urban/Industrial, Residential, Ruderal**

The Study Area west of I-5 is developed either with industrial, commercial(etail), or residential land uses. Industrial properties and a railroad right of way include ruderal components featuring bare ground and weedy, opportunistic plant species. Paved roads and impervious surfaces dominate the landscape; habitat for plants and wildlife is limited. Native trees (*Quercus* sp., *Fraxinus* sp.), and nonnative trees (*Prunus* sp., *Olnea* sp.) are planted along roadsides and in residential yards. A medium-density residential development occurs north of Husted Lateral Road, and a vacant ruderal lot occurs between

the subdivision and I-5. Urban/industrial land uses also occur west of Husted Road and east of Frontage Road.

#### 4.1.4 Aquatic Resources

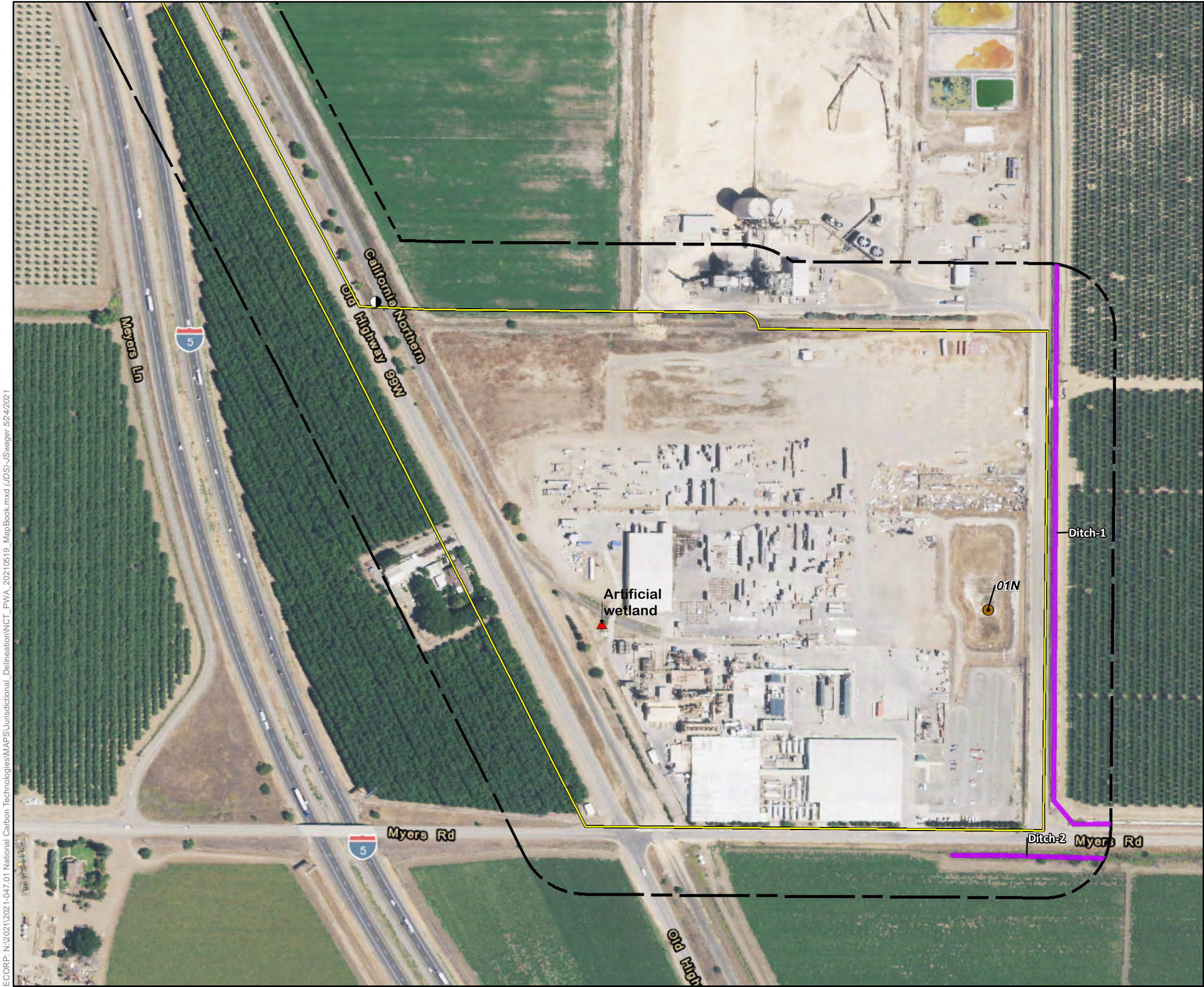
A preliminary aquatic resources assessment to identify potential Waters of the U.S./State was conducted within the Study Area concurrent with the reconnaissance-level field survey. Ditches, including the named Glenn-Colusa Canal, were the only potential aquatic resources identified within the Study Area (Figure 4; Attachment B). As described in Section 1.1, the Study Area includes the Project Area and the 200-foot Buffer Area (Figures 1 and 2). The ditches are all located within the Buffer Area.

In the current definition of Waters of the U.S. under the Navigable Waters Protection Rule, irrigation ditches constructed or excavated in uplands are generally not jurisdictional. However, USACE and RWQCB verification is required to make this determination. Regardless of federal jurisdictional, the ditches within and adjacent to the Study Area could be considered Waters of the State under the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (State Water Resources Control Board 2019). Ditches are mapped as Riverine in the California Aquatic Resources Inventory (CARI) data (San Francisco Estuary Institute 2017; Figure 5). The CARI is a statewide map of surface waters and related habitats combining multiple national and regional datasets, including the National Wetlands Inventory and the National Hydrography Dataset. However, the Project would not involve impacts to onsite or offsite potential aquatic resources.

#### 4.1.5 Wildlife Observations

Wildlife observed within the Study Area during the site reconnaissance include human commensal bird species including European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), mourning dove (*Zenaida macroura*), Eurasian collared dove (*Streptopelia decaocto*), and house sparrow (*Passer domesticus*). Other birds included residents and seasonal migrants such as western kingbird (*Tyrannus verticalis*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), turkey vulture (*Cathartes aura*), black phoebe (*Sayornis nigricans*), and western meadowlark (*Sturnella neglecta*). Raptors observed include American kestrel (*Falco sparverius*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk (*Buteo jamaicensis*), and great horned owl (*Bubo virginianus*). Mammals documented during the site visit include Botta's pocket gopher, deer mouse (*Peromyscus maniculatus*), California ground squirrel, desert cottontail (*Sylvilagus audubonii*), and black-tailed jackrabbit (*Lepus californicus*). Two reptile species were documented: western fence lizard (*Sceloporus occidentalis*) and Pacific gopher snake (*Pituophis catenifer*).





Map Features

- APE Boundary
- Study Area

Reference Points

- Culvert
- Reference

Sample Points

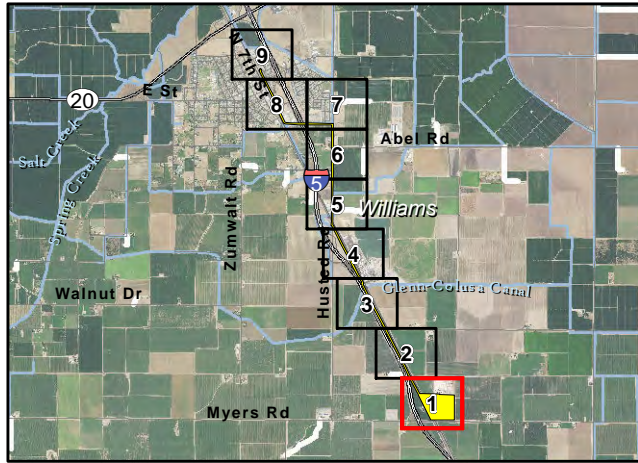
- Waters
- Upland

Potential Aquatic Resources <sup>1</sup>

- Ditch

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)



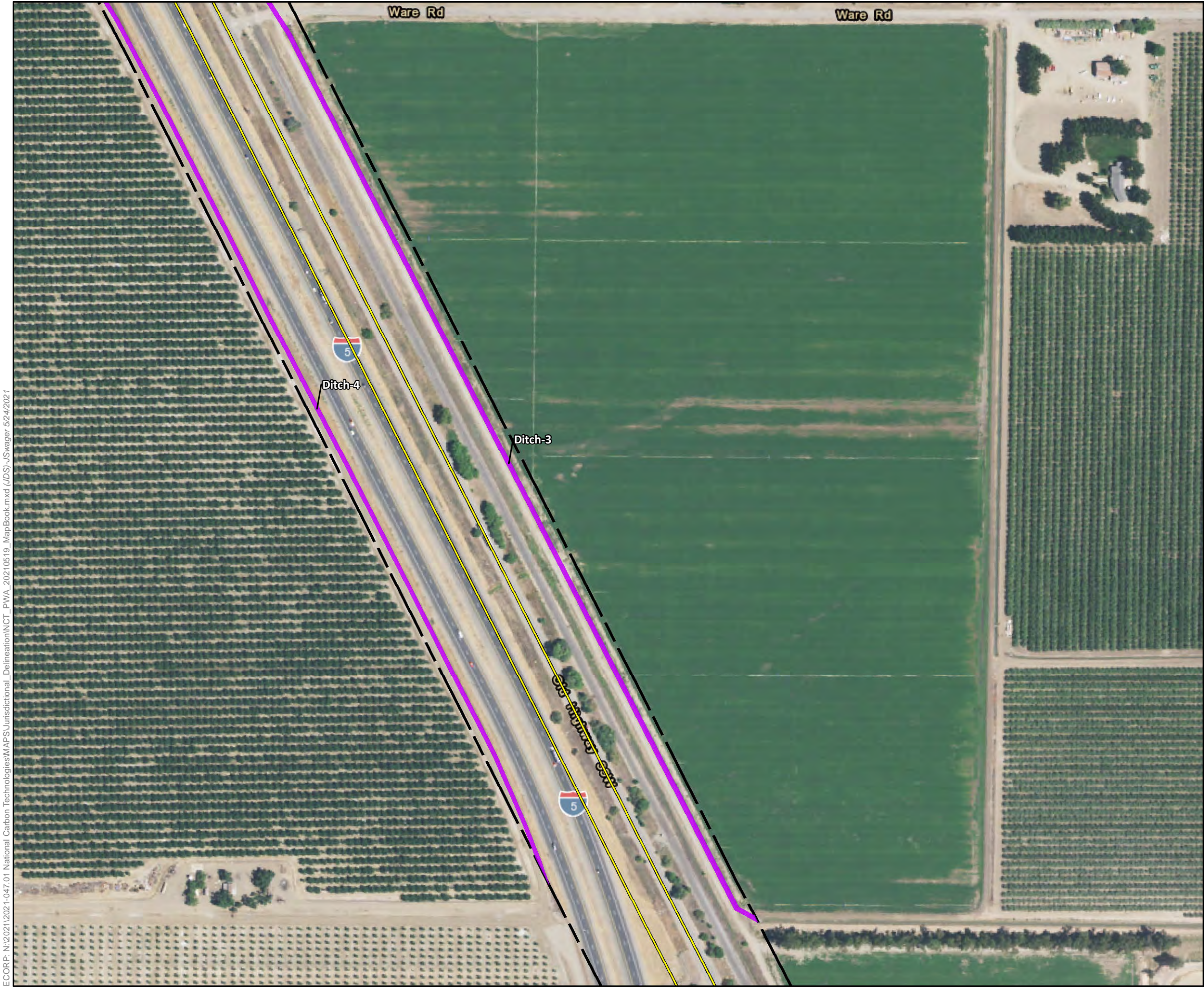
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Map Date: 5/24/2021



Figure 4-2. Preliminary Aquatic Resources Delineation  
(Sheet 1 of 9)





Map Features

APE Boundary

Study Area

Reference Points

Culvert

Reference

Sample Points

Waters

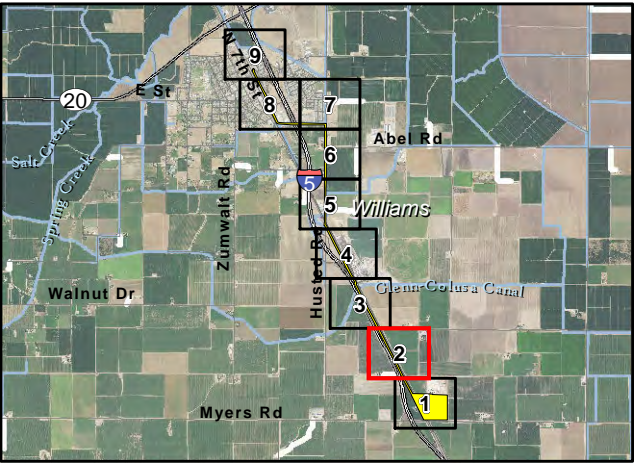
Upland

Potential Aquatic Resources <sup>1</sup>

Ditch

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
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Sources: ESRI, RFE, NAIP (2020)



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Map Date: 5/24/2021  
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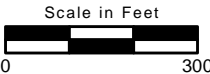


Figure 4-2. Preliminary Aquatic Resources Delineation  
(Sheet 2 of 9)



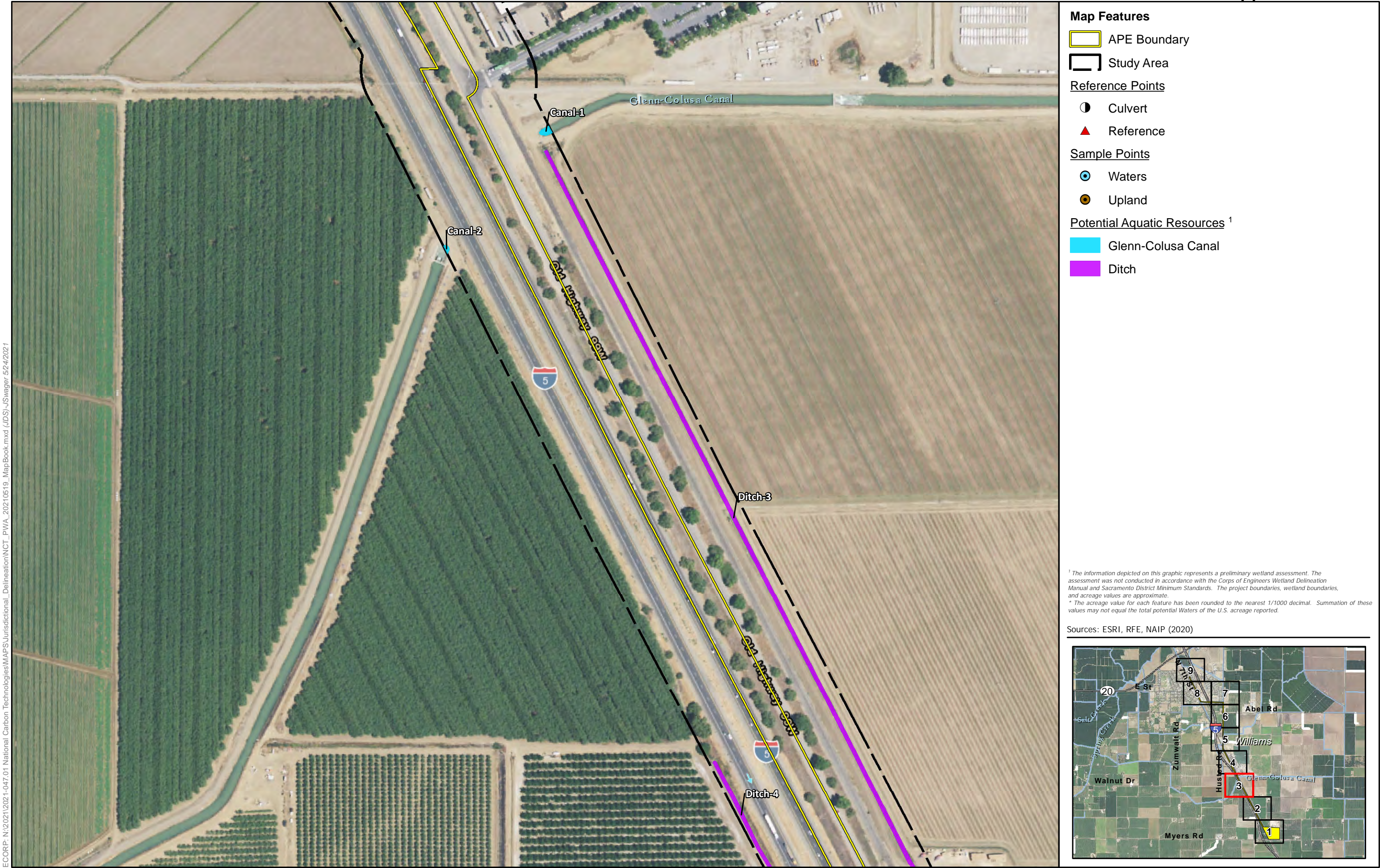


Figure 4-2. Preliminary Aquatic Resources Delineation (Sheet 3 of 9)

ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Jurisdictional\_Delineation\NCT\_PWA\_20210519\_MapBook.mxd (JDS)-JSwager 5/24/2021





Map Features

- APE Boundary
- Study Area

Reference Points

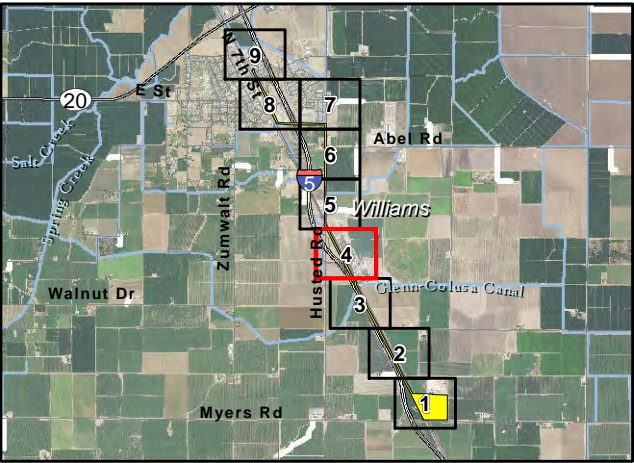
- Culvert
- Reference

Sample Points

- Waters
- Upland

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)



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Map Date: 5/24/2021  
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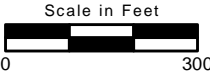


Figure 4-2. Preliminary Aquatic Resources Delineation  
(Sheet 4 of 9)





- Map Features**
- APE Boundary
  - Study Area

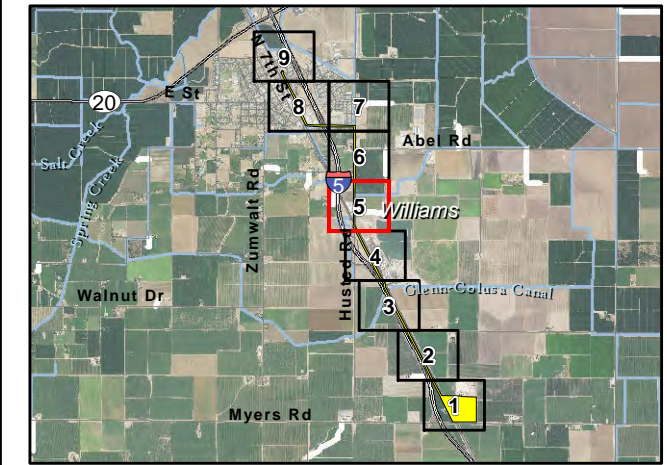
- Reference Points**
- Culvert
  - Reference

- Sample Points**
- Waters
  - Upland

- Potential Aquatic Resources <sup>1</sup>**
- Ditch

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)

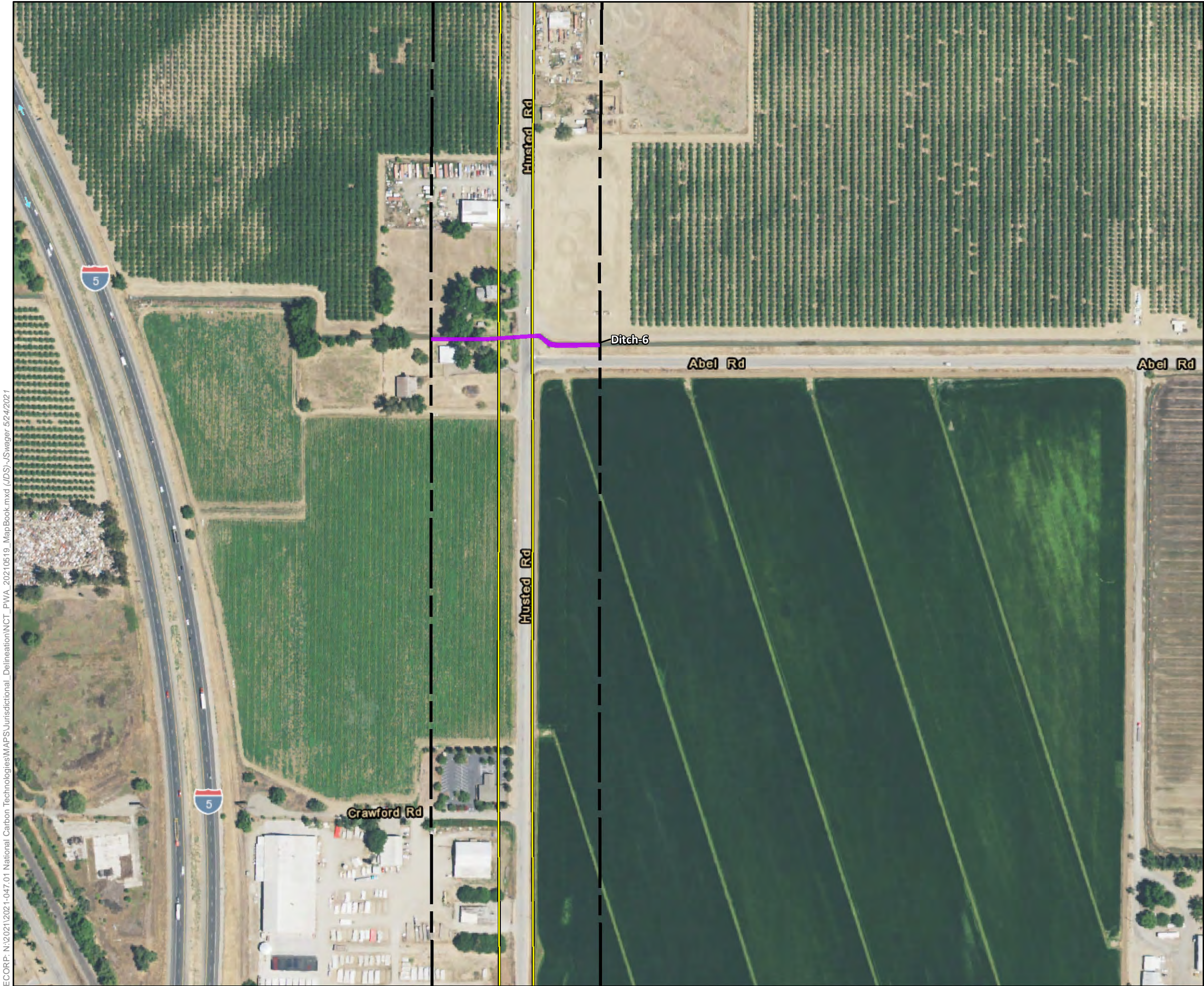


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**Figure 4-2. Preliminary Aquatic Resources Delineation**  
(Sheet 5 of 9)





Map Features

- APE Boundary
- Study Area

Reference Points

- Culvert
- Reference

Sample Points

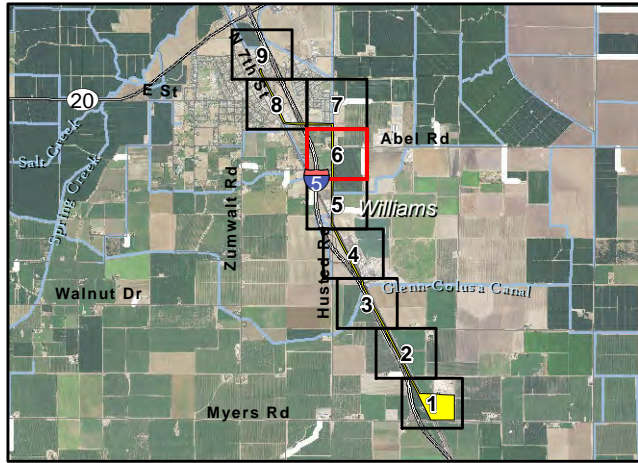
- Waters
- Upland

Potential Aquatic Resources <sup>1</sup>

- Ditch

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Jurisdictional\_Delineation\NCT\_PWA\_20210519\_MapBook.mxd (JDS)-JSwager 5/24/2021

Figure 4-2. Preliminary Aquatic Resources Delineation  
(Sheet 6 of 9)





**Map Features**

- APE Boundary
- Study Area

**Reference Points**

- Culvert
- Reference

**Sample Points**

- Waters
- Upland

**Potential Aquatic Resources <sup>1</sup>**

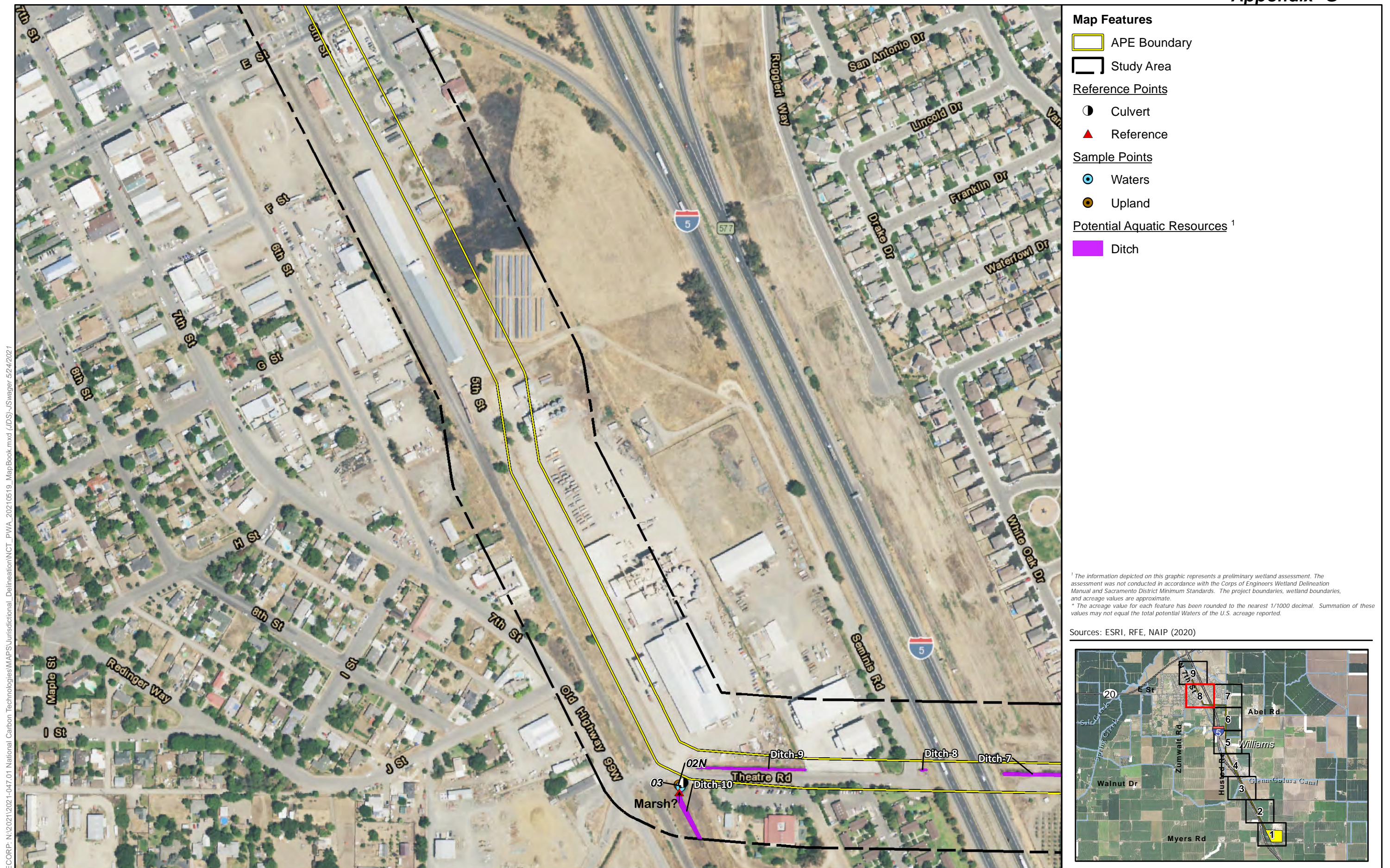
- Ditch

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.

\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)









Map Features

- APE Boundary
- Study Area

Reference Points

- Culvert
- Reference

Sample Points

- Waters
- Upland

<sup>1</sup> The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.  
\* The acreage value for each feature has been rounded to the nearest 1/1000 decimal. Summation of these values may not equal the total potential Waters of the U.S. acreage reported.

Sources: ESRI, RFE, NAIP (2020)

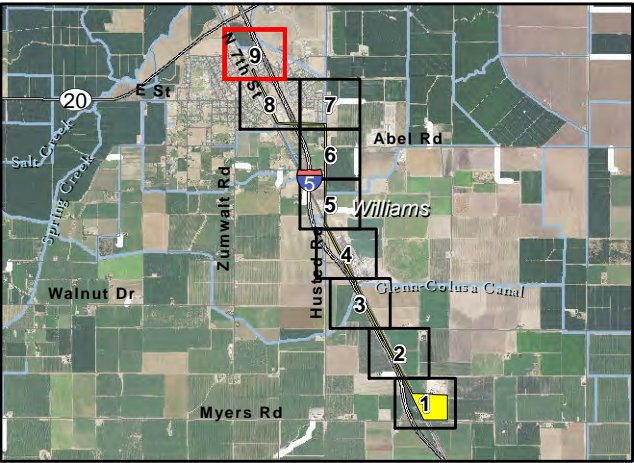
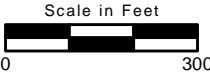


Figure 4-2. Preliminary Aquatic Resources Delineation (Sheet 9 of 9)

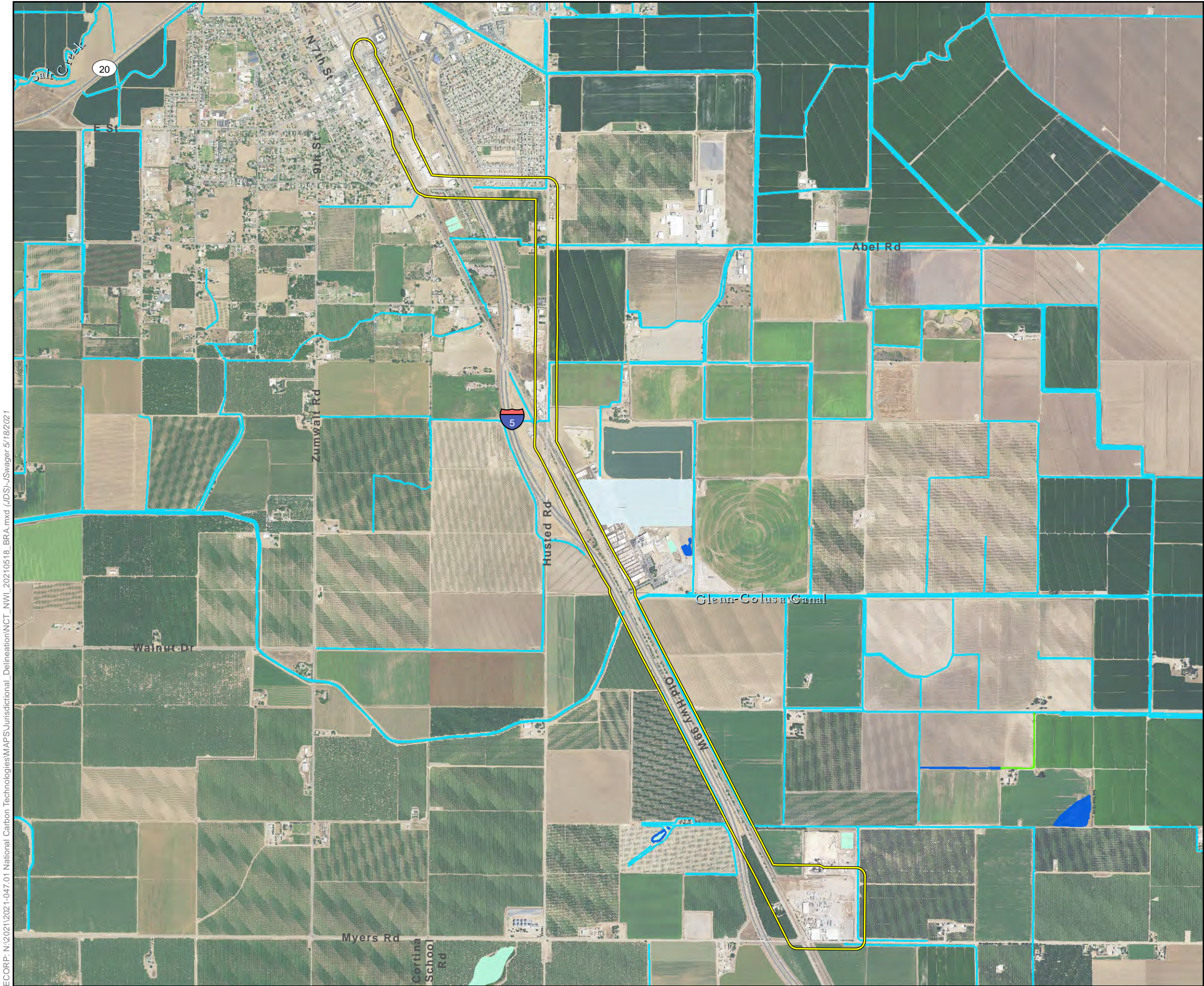
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Map Date: 5/24/2021  
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**Map Features**

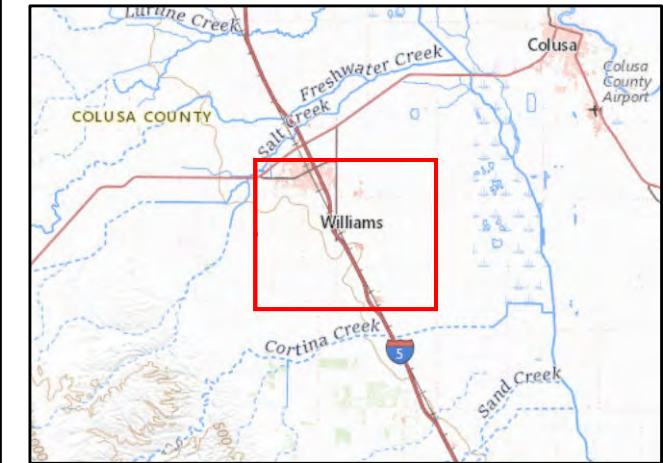
Study Area

**NWI Type**

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

National Wetlands Inventory (NWI), California  
United States Fish and Wildlife Service (USFWS), October 2020.

Sources: ESRI, USGS, NRCS, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Jurisdictional\_Delineation\NCT\_NWL\_20210518\_BRA.mxd (JDS)-JSwager 5/18/2021



Figure 4-3. California Aquatic Resources Inventory



## 4.2 Evaluation of Species Identified in the Literature Search

Table 1 lists all the special-status plant and wildlife species (as defined in Section 1.3) identified in the literature review as potentially occurring within the vicinity of the Study Area. Included in this table are the listing status for each species, a brief habitat description, and an evaluation of the potential for each species to occur within the Study Area.

Following the table is a brief description and discussion of each special-status species that was determined to have potential to occur onsite. No special-status species were determined to be present during the field evaluation.

Table 4-1. Special-Status Species Evaluated for the Study Area						
Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Plants						
Purdy's onion  ( <i>Allium fimbriatum</i> var. <i>purdyi</i> )	–	–	4.3	Serpentinite/clay, chaparral and cismontane woodland (1,000–2,000').	April–June	Absent. No suitable habitat within Study Area.
Bent-flowered fiddleneck  ( <i>Amsinckia lunaris</i> )	-	–	1B.2	Cismontane woodland, coastal bluff scrub, and valley and foothill grasslands (10'–1,640').	March–June	Absent. No suitable habitat within Study Area.
Twig-like snapdragon ( <i>Antirrhinum virga</i> )	–	–	4.3	Serpentinite/rocky openings, chaparral and lower montane coniferous forest (328'–6,610').	June and July.	Absent. No suitable habitat within Study Area.
Cleveland's milk-vetch  ( <i>Astragalus clevelandii</i> )	–	–	4.3	Serpentine seeps of chaparral, cismontane woodland, and riparian forest (656'–4,922').	June–September	Absent. No suitable habitat within Study Area.
Jepson's milk-vetch  ( <i>Astragalus rattanii</i> var. <i>jepsonianus</i> )	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland; often on serpentine substrates (968'–2,297').	March–June	Absent. No suitable habitat within Study Area.
Ferris' milk-vetch  ( <i>Astragalus tener</i> var. <i>ferrisiae</i> )	–	–	1B.1	Vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (7'–246').	April–May	Low potential to occur. Roadsides in Study Area may represent marginally suitable habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Heartscale ( <i>Atriplex cordulata</i> var. <i>cordulata</i> )	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities (0'–1,837').	April–October	Absent. No suitable habitat within Study Area.
Brittlescale ( <i>Atriplex depressa</i> )	–	–	1B.2	Alkaline and clay soils within chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools (3'–1,050').	April–October	Absent. No suitable habitat within Study Area.
Vernal pool smallscale ( <i>Atriplex persistens</i> )	–	–	1B.2	Alkaline vernal pools (33'–377').	June–October	Absent. No suitable habitat within Study Area.
Mexican mosquito fern ( <i>Azolla microphylla</i> )	–	–	4.2	Marshes and swamps, ponds or slow-moving bodies of water (98'–328').	August	Absent. No suitable habitat within Study Area.
Siskiyou sedge ( <i>Carex scabriuscula</i> )	–	–	4.3	Sometimes serpentinite seeps and meadows in lower and upper montane coniferous forest (2,330–7,700').	May–July	Absent. No suitable habitat within Study Area.
Pink creamsacs ( <i>Castilleja rubicundula</i> var. <i>rubicundula</i> )	–	–	1B.2	Serpentinite substrates in chaparral openings, cismontane woodland, meadows and seeps, and valley and foothill grassland (66'–2,986').	April–June	Absent. No suitable habitat within Study Area.
Pappose tarplant ( <i>Centromadia parryi</i> ssp. <i>parryi</i> )	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernal mesic valley and foothill grassland (0'–1,378').	May–November	Low potential to occur. Roadsides in Study Area may represent marginally suitable habitat for this species.
Parry's rough tarplant ( <i>Centromadia parryi</i> ssp. <i>rudis</i> )	–	–	4.2	Alkaline, vernal mesic areas, and seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'–328').	May–October	Low potential to occur. Roadsides in Study Area may represent marginally suitable habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Palmate-bracted bird's-beak ( <i>Chloropyron palmatum</i> )	FE	CE	1B.1	Alkaline areas in chenopod scrub and valley and foothill grassland (16'–509').	May–October	Absent. No suitable habitat within Study Area.
Tracy's clarkia ( <i>Clarkia gracilis</i> ssp. <i>tracyi</i> )	–	–	4.2	Openings, usually with serpentine soils, in chaparral (213'–2,132').	April–July	Absent. No suitable habitat within Study Area.
Serpentine collomia ( <i>Collomia diversifolia</i> )	–	–	4.3	Rocky or gravelly serpentinite substrates in chaparral and cismontane woodland (656'–1,969').	May–June	Absent. No suitable habitat within Study Area.
Deep-scarred cryptantha ( <i>Cryptantha excavata</i> )	–	–	1B.1	Sandy/gravelly soils in cismontane woodland (328'–1,640').	April–May	Absent. No suitable habitat within Study Area.
Recurved larkspur ( <i>Delphinium recurvatum</i> )	–	–	1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'–2,592').	March–June	Low potential to occur. Roadsides in Study Area may represent marginally suitable habitat for this species.
Bare monkeyflower ( <i>Erythranthe nudata</i> )	–	–	4.3	Found in serpentinite seeps in chaparral and cismontane woodland (656'–2,300').	May–June	Absent. No suitable habitat within Study Area.
Diamond-petaled California poppy ( <i>Eschscholzia rhombipetala</i> )	–	–	1B.1	Valley and foothill grassland in alkaline and clay soils (0'–3,199').	March–April	Absent. No suitable habitat within Study Area.
San Joaquin spearscale ( <i>Extriplex joaquinana</i> )	–	–	1B.2	Alkaline soils in chenopod scrub, meadows seeps, playas, and valley and foothill grassland (3'–2,740').	April–October	Absent. No suitable habitat within Study Area.
Stinkbells ( <i>Fritillaria agrestis</i> )	–	–	4.2	Clay or serpentinite soils in chaparral, cismontane woodland, pinyon/ juniper woodland, and valley/foothill grassland (30'–5,100').	March–June	Absent. No suitable habitat within Study Area.
Adobe lily ( <i>Fritillaria pluriflora</i> )	–	–	1B.2	Adobe soils in chaparral, cismontane woodland, and valley and foothill grassland (197'–2,313').	February–April	Absent. No suitable habitat within Study Area.



Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Purdy's fritillary ( <i>Fritillaria purdyi</i> )	–	–	1B.2	Serpentine soils in chaparral, cismontane woodland, and lower montane coniferous forest (575'–7,400').	February–April	Absent. No suitable habitat within Study Area.
Phlox-leaf serpentine bedstraw ( <i>Galium andrewsii</i> ssp. <i>gatense</i> )	–	–	4.2	Serpentinite, rocky soils in chaparral, cismontane woodland, lower montane coniferous forest (492'–4,757').	April–July	Absent. No suitable habitat within Study Area.
Toren's grimmia ( <i>Grimmia torenii</i> )	–	–	1B.3	Openings, rocky substrates, boulder and rock walls, carbonate substrates, and volcanic substrates in chaparral, cismontane woodland, and lower montane coniferous forest (1,066'–3,806').	Any season	Absent. No suitable habitat within Study Area.
Serpentine sunflower ( <i>Helianthus exilis</i> )	–	–	4.2	Serpentinite seeps in chaparral and cismontane woodland (490'–5,000').	June–November	Absent. No suitable habitat within Study Area.
Water star-grass ( <i>Heteranthera dubia</i> )	–	–	2B.2	Alkaline (pH of 7 or higher), still or slow-moving, and usually slightly eutrophic waters of marshes and swamps (98'–4,905').	July–October	Low potential to occur. Ditches provide marginal habitat.
Woolly rose-mallow ( <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> )	–	–	1B.2	Freshwater marshes and swamps (0'–400').	June–September	Absent. No suitable habitat within Study Area.
Bolander's horkelia ( <i>Horkelia bolanderi</i> )	–	–	1B.2	Edges and mesic areas in chaparral, lower montane coniferous forest, meadows and seeps, and valley/foothill grassland (1,500–3,610').	May–August	Absent. No suitable habitat within Study Area.
Ahart's dwarf rush ( <i>Juncus leiospermus</i> var. <i>ahartii</i> )	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (98'–751').	March–May	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Ferris' goldfields ( <i>Lasthenia ferrisae</i> )	–	–	4.2	Vernal pools (66'–2,300').	February–May	Absent. No suitable habitat within Study Area.
Coulter's goldfields ( <i>Lasthenia glabrata</i> ssp. <i>coulteri</i> )	–	–	1B.1	Coastal marshes and swamps, playas, and vernal pools (3'–4,003').	February–June	Absent. No suitable habitat within Study Area.
Colusa layia ( <i>Layia septentrionalis</i> )	–	–	1B.2	Sandy or serpentinite soils in chaparral, cismontane woodland, and valley and foothill grasslands (328'–3,593').	April–May	Absent. No suitable habitat within Study Area.
Legenere ( <i>Legenere limosa</i> )	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Low potential to occur. Shallower ditches may provide marginal habitat for Legenere.
Bristly leptosiphon ( <i>Leptosiphon acicularis</i> )	–	–	4.2	Chaparral, cismontane woodland, coastal prairie, and valley/foothill grassland (180'–5,920').	April–June	Absent. No suitable habitat within Study Area.
Woolly meadowfoam ( <i>Limnanthes floccosa</i> ssp. <i>floccosa</i> )	–	–	4.2	Vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools (197'–4,380').	March–May	Absent. No suitable habitat within Study Area.
Hoover's lomatium ( <i>Lomatium hooveri</i> )	–	–	1B.2	Serpentine soils within chaparral and cismontane woodland (984'–6,890').	March–June	Absent. No suitable habitat within Study Area.
Heller's bush-mallow ( <i>Malacothamnus helleri</i> )				Chaparral and riparian woodland (1,000'–2,080').	May–July	Absent. No suitable habitat within Study Area.
Little mouseltail ( <i>Myosurus minimus</i> ssp. <i>apus</i> )	–	–	3.1	Mesic areas (USACE 2018) of valley and foothill grassland and alkaline vernal pools (66'–2,100').	March–June	Low potential to occur. Roadsides in Study Area may represent marginally suitable habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Jepson's navarretia ( <i>Navarretia jepsonii</i> )	–	–	4.3	Serpentine soils in chaparral, cismontane woodland, valley/ foothill grassland (575' – 2,800')	April–June	Absent. No suitable habitat within Study Area.
Baker's navarretia ( <i>Navarretia leucocephala</i> ssp. <i>bakeri</i> )	–	–	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (16'–5,709').	April–July	Absent. No suitable habitat within Study Area.
Adobe navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i> )	–	–	4.2	Clay and sometimes serpentinite soils in vernal mesic valley and foothill grasslands and sometimes in vernal pools (328'–3,281').	April–June	Absent. No suitable habitat within Study Area.
Shining navarretia ( <i>Navarretia nigelliformis</i> ssp. <i>radians</i> )	–	–	1B.2	Vernal pools within cismontane woodland and valley or foothill grassland (213'–3,281').	April–July	Absent. No suitable habitat within Study Area.
Narrow-petaled rein orchid ( <i>Piperia leptopetala</i> )	–	–	4.3	Found in cismontane woodland, lower and upper montane coniferous forest (1,250'–7,300').	May–July	Absent. No suitable habitat within Study Area.
California alkali grass ( <i>Puccinellia simplex</i> )	–	–	1B.2	Alkaline, vernal mesic areas and sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (7'–3,051').	March–May	Absent. No suitable habitat within Study Area.
Sanford's arrowhead ( <i>Sagittaria sanfordii</i> )	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Low potential to occur. Roadside ditches with mucky/organic soils may provide marginal habitat for <i>Sagittaria</i> .
Cleveland's ragwort ( <i>Senecio clevelandii</i> var. <i>clevelandii</i> )	–	–	4.3	Serpentine seeps of chaparral (1,197'–2,953').	June–July	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area						
Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Keck's checkerbloom ( <i>Sidalcea keckii</i> )	FE	—	1B.1	Serpentine and clay soils within cismontane woodland and valley and foothill grasslands (246'–2,133').	April–May	Absent. No suitable habitat within Study Area.
Bearded jewelflower ( <i>Streptanthus barbiger</i> )	—	—	4.2	Serpentine substrates of chaparral (492'–3,511').	May–July	Absent. No suitable habitat within Study Area.
Wright's trichocoronis ( <i>Trichocoronis wrightii</i> var. <i>wrightii</i> )	—	—	2B.1	Alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools (16'–1,427').	May–September	Low potential to occur. Seeps and smaller roadside ditches may provide marginal habitat.
Greene's tuctoria ( <i>Tuctoria greenei</i> )	FE	CR	1B.1	Vernal pools (98'–3,510').	May–July	Absent. No suitable habitat within Study Area.
Invertebrates						
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	FE	-	-	Vernal pools/wetlands.	November–April	Absent. No suitable habitat within Study Area.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT	-	-	Vernal pools/wetlands.	November–April	Absent. No suitable habitat within Study Area.
Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	FE	-	-	Vernal pools/wetlands.	November–April	Absent. No suitable habitat within Study Area.
Valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT	-	-	Elderberry shrubs (host plant for this species).	Any season	Potential to occur. Numerous elderberry shrubs ( <i>Sambucus nigra</i> ssp. <i>caerulea</i> ), obligate breeding habitat for Valley longhorn elderberry beetles, occur within the Study Area.
Fish						
Delta smelt ( <i>Hypomesus transpacificus</i> )	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
River lamprey ( <i>Lampetra ayresi</i> )	-	-	SSC	Anadromous; undammed streams rivers, streams, and creeks with gravel spawning substrates.		Absent. No suitable habitat within Study Area.
Sacramento hitch ( <i>Lavinia exilicauda exilicauda</i> )	-	-	SSC			Absent. No suitable habitat within Study Area.
Hardhead ( <i>Mylopharodon conocephalus</i> )	-	-	SSC	Relatively undisturbed streams at low to mid elevations in the Sacramento-San Joaquin and Russian River drainages. In the San Joaquin River, scattered populations found in tributary streams, but only rarely in the valley reaches of the San Joaquin River.	N/A	Absent. No suitable habitat within Study Area.
Steelhead (CA Central Valley Distinct Population Segment [DPS] pop. 11) ( <i>Oncorhynchus mykiss</i> )	FT	-	-	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat within Study Area.
Chinook salmon (Central Valley spring-run Evolutionarily Significant Unit [ESU] pop. 11) ( <i>Oncorhynchus tshawytscha</i> )	FT	CT	-	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat within Study Area.
Chinook salmon (Central Valley fall/late run ESU pop. 13) ( <i>Oncorhynchus tshawytscha</i> )	FT	CT	-	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat within Study Area.
Chinook salmon (Upper Klamath and Trinity Rivers ESU pop. 30) ( <i>Oncorhynchus tshawytscha</i> )	Candidate	Candidate Endangered	SSC	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat within Study Area.
Chinook salmon (Sacramento River winter-run ESU pop. 7) ( <i>Oncorhynchus tshawytscha</i> )	FE	CE	-	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Sacramento splittail ( <i>Pogonichthys macrolepidotus</i> )	-	-	SSC	San Francisco bay estuary. Spawns in upstream floodplains and backwater sloughs.	N/A	Absent. No suitable habitat within Study Area.
Longfin smelt ( <i>Spirinchus thaleichthys</i> )	FC	CT	SSC	Freshwater and seawater estuaries.	N/A	Absent. No suitable habitat within Study Area.
<b>Amphibians</b>						
California tiger salamander (Central California DPS) ( <i>Ambystoma californiense</i> )	FT	CT	SSC	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	January–May	Absent. Study Area is outside of geographic range for this species.
Foothill yellow-legged frog Northwest/North Coast Clade ( <i>Rana boylei</i> )	-	-	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	April–October	Absent. No suitable habitat within Study Area.
California red-legged frog ( <i>Rana draytonii</i> )	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1–November 1	Absent. Study Area is outside of geographic range for this species.
Western spadefoot ( <i>Spea hammondi</i> )	-	-	SSC	A California near-endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley south through San Diego into northern Baja.	March–May; call surveys late February–April	Low potential to occur. This species is known to occur in the surrounding area and the Study Area may provide suitable habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Reptiles						
Northwestern pond turtle  ( <i>Actinemys marmorata</i> )	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Low potential to occur. This species is known to occur in the surrounding area and ditches in the Study Area may provide marginal habitat for this species.
San Joaquin coachwhip  ( <i>Coluber flagellum ruddocki</i> ) <i>Masticophis flagellum ruddocki</i>	-	-	SSC	Occurs in open, dry, usually flat habitats in Valley Grassland and Saltbush Scrub with little to no shrub cover in the San Joaquin Valley. A dietary generalist. Isolated populations occur in Sutter Buttes and Colusa County.	March-October	Absent. Study Area is outside of geographic range for this species.
Giant garter snake  ( <i>Thamnophis gigas</i> )	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Low potential to occur. This species is known to occur in the surrounding area and ditches in the Study Area may provide marginal habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Birds						
Tricolored blackbird  ( <i>Agelaius tricolor</i> )	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Low potential to occur. This species is known to occur in the area. Suitable nesting habitat may be present in the Study Area along Husted Lateral Road.
Greater sandhill crane  ( <i>Antigone canadensis tabida</i> )	-	CT	CFP	Breeds in NE California, Nevada, Oregon, Washington, and BC, Canada; winters from California to Florida. In winter, they forage in burned grasslands, pastures, and feed on waste grain in a variety of agricultural settings (corn, wheat, milo, rice, oats, and barley), tilled fields, recently planted fields, alfalfa fields, row crops and burned rice fields.	March-August (breeding); September-March (wintering)	Absent. No suitable habitat within Study Area.



Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Golden eagle ( <i>Aquila chrysaetos</i> )	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, riverbanks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during winter.	Nest (February-August); winter Central Valley (October-February)	Absent. No suitable habitat within Study Area.
Burrowing owl ( <i>Athene cunicularia</i> )	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Low potential to occur. This species is known to occur west of the Study Area. Ruderal lots and roadsides may provide marginally suitable nesting habitat for this species.
Oak titmouse ( <i>Baeolophus inornatus</i> )			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree)	March-July	Potential to occur. Potentially suitable nesting habitat was observed along the electrical line right-of-way.
Aleutian cackling goose ( <i>Branta hutchinsii leucopareia</i> )	De-listed	-	-	Pasture, marsh (Sacramento/San Joaquin Valley and Delta)	October-March	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Swainson's hawk ( <i>Buteo swainsoni</i> )	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Potential to occur. This species is known to occur in the Study Area. Potentially suitable nesting habitat was observed near the Study Area.
Wrentit ( <i>Chamaea fasciata</i> )	-	-	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March-August	Absent. No suitable nesting habitat within Study Area.
Mountain plover ( <i>Charadrius montanus</i> )	-	-	BCC, SSC	Breeds in the Great Plains/Midwestern US; winters in California, Arizona, Texas, and Mexico; wintering habitat in California includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields.	September-March (wintering)	Absent. No suitable nesting habitat within Study Area.
Northern harrier ( <i>Circus hudsonius</i> )	-	-	SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April-September	Potential to occur. This species is known to occur in the Study Area. Roadside edges may provide suitable foraging habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	FT	CE	BCC	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside counties), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15-August 15	Absent. No suitable habitat within Study Area.
Nuttall's woodpecker ( <i>Dryobates nuttallii</i> )	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Potential to occur. This species is known to occur in the Study Area and potentially suitable nesting habitat was observed along the electrical line right-of-way.
White-tailed kite ( <i>Elanus leucurus</i> )	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Low potential to occur. This species is known to occur west of the Study Area. Ruderal lots and roadsides may provide marginally suitable nesting habitat for this species.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Merlin ( <i>Falco columbarius</i> )	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September-April (wintering in the Central Valley); does not breed in California	Absent. No suitable habitat within Study Area.
Prairie falcon ( <i>Falco mexicanus</i> )	-	-	BCC, CDFW WL	Found in open habitat at all elevations up to 3,350 meters (Steenhof 2020). Nests on cliffs and bluffs in arid plains and steppes; In California, nesting throughout state except northwest corner, along immediate coast, and the Central Valley floor. Winters throughout California, in open habitats, such as grasslands in the Central Valley.	March-July (breeding); September-February (wintering in Central Valley)	Absent. No suitable habitat within Study Area.
Bald eagle ( <i>Haliaeetus leucocephalus</i> )	De-listed	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands	February–September (nesting); October–March (wintering)	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March-September (breeding)	Absent. No suitable habitat within Study Area.
Song sparrow "Modesto" ( <i>Melospiza melodia heermanni</i> )	-	-	BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Low potential to occur. Potentially suitable nesting habitat was observed along the electrical line right-of-way.
Long-billed curlew ( <i>Numenius americanus</i> )	-	-	BCC	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	September-March (wintering)	Absent. No suitable habitat within Study Area.
Osprey ( <i>Pandion haliaetus</i> )	-	-	CDFW WL	Nesting habitat requires close proximity to accessible fish, open nest site free of mammalian predators, and extended ice-free season. The nest in large trees, snags, cliffs, transmission/communication towers, artificial nest platforms, channel markers/buoys.	April-September	Absent. No suitable habitat within Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Yellow-billed magpie ( <i>Pica nuttallii</i> )	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Low potential to occur. Potentially suitable nesting habitat was observed along the electrical line right-of-way.
White-faced ibis ( <i>Plegadis chihi</i> )	-	-	CDFW WL	Colonial nester; nests in shallow marshes with islands of emergent vegetation, flooded shoals and mangrove swamps.	May-August	Absent. No suitable nesting habitat within Study Area.
Bank swallow ( <i>Riparia riparia</i> )	-	CT	-	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July	Absent. No suitable nesting habitat within Study Area.
Northern spotted owl ( <i>Strix occidentalis caurina</i> )	FT	CT	-	Found from Marin County through coastal ranges north to British Columbia. Breeds in old growth mature forest. They use forests with greater complexity and structure.	March-June	Absent. No suitable habitat within Study Area.
<b>Mammals</b>						
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	-	-	SSC	Caves, mines, buildings, rock crevices, trees.	April-September	Potential to occur. Potential habitat was observed within the Study Area.

Table 4-1. Special-Status Species Evaluated for the Study Area

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
Western red bat  ( <i>Lasiurus frantzii</i> (= <i>blossevillei</i> ))	-	-	SSC	Roosts in foliage of trees or shrubs; Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. There may be an association with intact riparian habitat (particularly willows, cottonwoods, and sycamores) (Western Bat Working Group [WBWG] 2021).	April-September	Low potential to occur. Potential roosting habitat was found within the study area.
American badger  ( <i>Taxidea taxus</i> )	-	-	SSC	Dry open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Potential to occur. No dens were observed within the Study Area. The open agricultural and fallow lands nearby provide suitable habitat for this species. American badger has potential to occur within the study area.

<sup>1</sup>Habitat descriptions for plant species are from the CNPS Inventory of Rare and Endangered Plants (CNPS 2021a), unless otherwise stated.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered.
FT	FESA listed, Threatened.
BCC	USFWS Bird of Conservation Concern
CR	CESA- or NPPA-listed, Rare.
CT	CESA- or NPPA-listed, Threatened.
CE	CESA or NPPA listed, Endangered.
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5 050-reptiles/amphibians).
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern (CDFW, updated July 2017).
CNDDDB	Species that is tracked by CDFW's CNDDDB but does not have any of the above special-status designations otherwise.
1B	CRPR/Rare or Endangered in California and elsewhere.
3	CRPR/Plants About Which More Information is Needed – A Review List.
4	CRPR/Plants of Limited Distribution – A Watch List.



**Table 4-1. Special-Status Species Evaluated for the Study Area**

Common Name ( <i>Scientific Name</i> )	Status			Habitat Description <sup>1</sup>	Survey Period	Potential to Occur Onsite
	FESA	CESA	Other			
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)					
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)					
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)					
Delisted	Formally Delisted (delisted species are monitored for 5 years).					

#### 4.2.1 Plants

A total of 53 special-status plant species were initially identified as being potential in the vicinity of the Study Area based on the literature review (Table 1). Of those, 44 species are considered to be absent due to the lack of suitable habitat or distribution characteristics (Table 1). No further discussion of those species is provided in this assessment. A brief description of the remaining nine species that have low potential to occur within the Study Area is presented below.

##### 4.2.1.1 *Ferris' Milk-vetch*

Ferris' milk-vetch (*Astragalus tener* var. *ferrisiae*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species. This species is an herbaceous annual that occurs in vernal mesic meadows and seeps, and in subalkaline flats within valley and foothill grasslands (CNPS 2021a). Ferris's milk-vetch blooms from April through May and is known to occur at elevations ranging from 7 to 246 feet above MSL (CNPS 2021a). Ferris's milk-vetch is endemic to California; the current range of this species includes Butte, Colusa, Glenn, Solano, Sutter, and Yolo counties and it is likely extirpated from Solano County (CNPS 2021a). The nearest documented occurrence of Ferris' milk-vetch is from the type locality approximately three miles west of the town of Colusa. This population is considered extirpated. Although not observed during field reconnaissance, roadsides in Study Area may represent marginally suitable habitat for this species.

##### 4.2.1.2 *Pappose Tarplant*

Pappose tarplant (*Centromadia parryi* ssp. *parryi*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is an annual herb that occurs often in alkaline soils of chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernal mesic valley and foothill grassland (CNPS 2021a). Pappose tarplant blooms from May through November and is known to occur at elevations ranging from sea level to 1,378 feet above MSL (CNPS 2021a). Pappose tarplant is endemic to California; the current range of this species includes Butte, Colusa, Glenn, Lake, Napa, San Mateo, Solano, and Sonoma counties (CNPS 2021a). Roadsides in Study Area may represent marginally suitable habitat for this species. The nearest known locality for this species is approximately 15 miles from the Survey Area on Bear Creek Ranch (CDFW 2021a). Pappose tarplant has low potential to occur within the Study Area-the roadsides within the Study Area may provide habitat.

#### 4.2.1.3 *Parry's Rough Tarplant*

Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in vernal pools and valley and foothill grassland with alkaline and vernal mesic soils, seeps, and sometimes roadsides (CNPS 2021a). Parry's rough tarplant blooms from May through October and is known to occur at elevations ranging from sea level to 328 feet above MSL (CNPS 2021a). Parry's rough tarplant is endemic to California; its current range includes Butte, Colusa, Glenn, Lake, Merced, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties (CNPS 2021a).

The CNDDDB does not often publish occurrence records for CRPR 4 species, and there are no published occurrences of Parry's rough tarplant. Roadsides in the Study Area may represent habitat for this species. Parry's rough tarplant has low potential to occur within the Study Area.

#### 4.2.1.4 *Recurved Larkspur*

Recurved larkspur (*Delphinium recurvatum*) is not listed pursuant to either the federal or California ESAs but is designated a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in alkaline substrates in chenopod scrub, cismontane woodland, and valley and foothill grasslands (CNPS 2020a). Recurved larkspur blooms from March through June and is known to occur at elevations ranging from 9 to 2,592 feet above MSL (CNPS 2020a). Recurved larkspur is endemic to California; the current range of this species includes Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Madera, Merced, Monterey, San Joaquin, San Luis Obispo, Solano, Sutter, and Tulare counties (CNPS 2020a). The species is presumed extirpated from Butte and Colusa counties (CNPS 2020a). There are no records of this species nearby but roadsides in the Study Area may represent habitat for this species.

#### 4.2.1.5 *Water Star-Grass*

Water star-grass (*Heteranthera dubia*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 2B.2 species. This species is an aquatic herbaceous perennial that Requires a pH of 7 or higher, usually in slightly eutrophic waters, alkaline, still, or slow-moving water marshes and swamps (CNPS 2021a). Water star-grass blooms from July through October and is known to occur from 98 to 4,905 feet above MSL (CNPS 2021a). The current range of this species includes Butte, Colusa, Lassen, Mendocino, Modoc, Marin, San Francisco, Shasta, and San Mateo counties (CNPS 2021a). There are no records from nearby but ditches adjacent to the Study Area may provide habitat for this species.

#### 4.2.1.6 *Legenere*

Legenere (*Legenere limosa*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 1B.1 species (CNPS 2021a). This species is an herbaceous annual that occurs in a variety of seasonally inundated environments including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005). Legenere blooms from April through June and is known to occur at elevations ranging from 3 to 2,887 feet above MSL (CNPS 2021a). Legenere is endemic to California; the current range of this species includes Alameda, Lake, Monterey, Napa, Placer, Sacramento, Santa Clara, San Joaquin, Shasta, San Mateo, Solano, Sonoma, Stanislaus, Tehama, and Yuba counties; is believed to be extirpated from Stanislaus County (CNPS

2021a). There are no records from nearby shallow ditches adjacent to the Study Area may provide marginal habitat for *Legenere*.

#### **4.2.1.7 Little Mousetail**

Little mousetail (*Myosurus minimus* ssp. *apus*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 3.1 species. This species is an herbaceous annual that occurs in mesic areas of valley and foothill grassland and alkaline vernal pools (CNPS 2021a). Little mousetail blooms between March and June and is known to occur at elevations ranging from 66 to 2,100 feet above MSL (CNPS 2021a). The current range for little mousetail in California includes Alameda, Contra Costa, Colusa, Lake, Merced, Riverside, San Bernardino, San Diego, Solano, Tulare, and Yolo counties (CNPS 2021a). There are no records of this species nearby but roadsides in the Study Area may represent habitat for this species.

#### **4.2.1.8 Sanford's Arrowhead**

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs but is designated as a CRPR 1B.2 species. This species is a perennial rhizomatous herb that occurs in shallow, freshwater marshes and swamps (CNPS 2021a). Sanford's arrowhead blooms from May through October and is known to occur at elevations ranging from sea level to 2,133 feet above MSL (CNPS 2021a). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, Tulare, Ventura, and Yuba counties; it is believed to be extirpated from both Orange and Ventura counties (CNPS 2021a). There are no records from nearby, but roadside ditches with mucky/organic soils may provide marginal habitat for Sanford's arrowhead.

#### **4.2.1.9 Wright's Trichocoronis**

Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 2B.1 species. This species is an herbaceous annual that occurs on alkaline soils in meadows and seeps, marshes and swamps, riparian forest, and vernal pools (CNPS 2021a). Wright's trichocoronis blooms from May through September and is known to occur at elevations ranging from 16 to 1,427 feet above MSL (CNPS 2021a). The current range for this species in California includes Colusa, Merced, Riverside, San Joaquin, and Sutter counties, and is believed to be extirpated from Colusa, San Joaquin, and Sutter counties (CNPS 2021a). The nearest record for Wright's trichocoronis is from approximately five miles away. Smaller roadside ditches adjacent to the Study Area may provide habitat.

#### **4.2.2 Invertebrates**

Four special-status invertebrates were initially identified through the literature review (Table 1). Upon further analysis and the initial site visit, three species are considered absent due to the lack of habitat. The follow-up site visit of May 24, 2021 identified numerous elderberry shrubs, obligate habitat for VELB, along the electrical line alignment. No sign of VELB was documented during the survey. A description of the valley elderberry longhorn beetle is presented below.

#### 4.2.2.1 Valley Elderberry Longhorn Beetle

The VELB is listed as threatened pursuant to the federal Endangered Species Act (USFWS 1980). The VELB is completely dependent on its larval host plant, elderberry (*Sambucus* species), which occurs in riparian and other woodland and scrub communities (USFWS 1999, 2017a). Elderberry plants, located within the range of the beetle, with one or more stems measuring 1.0 inch or greater in diameter at ground level are considered to be habitat for the species (USFWS 1999). The adult flight season extends from late March through July (USFWS 2017a). During that time the adults feed on foliage and perhaps flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). The first instar larvae bore into live elderberry stems, where they develop for one to two years feeding on the pith. The fifth instar larvae create exit holes in the stems and then plug the holes and remain in the stems through pupation (Talley et al. 2007). The VELB occurs in metapopulations throughout the Central Valley (Collinge et al. 2001 as cited in USFWS 2017a). These metapopulations (subpopulations) occur throughout contiguous riparian habitat which shift temporarily and spatially based on changing environmental conditions. This temporal and spatial shifting of the metapopulations results in a patchy and ever-changing distribution of the species. Research indicates that dense elderberry shrub clumps in healthy riparian habitat is the primary habitat for the VELB (USFWS 2017a). The beetle's current distribution extends from Shasta County in the north to Fresno County in the south and includes everything from the valley floor up into the lower foothills (USFWS 2017a). The vast majority of VELB occurrences have been recorded below 500 feet (152 meters); however, rare occurrences have been recorded up to approximately 3,000 feet (USFWS 1999, 2017a).

Mature elderberry shrubs were common along the electrical line alignment on Frontage Road. The area occupied by the dripline of each was mapped with a sub-meter capable GPS unit and all were checked extensively for sign of VELB (characteristic exit holes; above) (Figure 6). No sign of VELB occupancy was documented. Some elderberry shrubs were within 30 feet of poles to be replaced. The nearest recorded observation of VELB is from 8 miles away from the Colusa-Sacramento State Recreation Area, approximately 0.4 mile north of the junction of State Routes 45 and 20.

#### 4.2.3 Fish

Eleven special-status fish species or ESU were initially identified as having potential to occur in the vicinity of the Study Area (Table 1). However, all 11 species or ESU are considered absent from the Study Area due to the lack of aquatic habitat. No further discussion of special-status fish is provided within this assessment.

#### 4.2.4 Amphibians

Four special-status amphibian species were initially identified as having potential to occur in the vicinity of the Study Area (Table 1). However, three species are considered absent from the Study Area because either the Project location is outside of the known range for these species or habitat is lacking. One species, western spadefoot is considered potential within the Survey Area. A brief description is presented below.

**4.2.4.1 Western Spadefoot**

The western spadefoot is not listed pursuant to either the California or federal ESAs; however, it is designated as a CDFW SSC. Necessary habitat components of the western spadefoot include loose, friable soils in which to burrow in upland habitats and breeding ponds. Breeding sites include temporary rain pools, such as vernal pools and seasonal wetlands, or pools within portions of intermittent drainages (Jennings and Hayes 1994; Thomson et al. 2016). Spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows. In California, western spadefoot toads are known to occur from the Redding area in Shasta County southward to northwestern Baja California, at elevations below 4,475 feet (Jennings and Hayes 1994).

The nearest known locality for western spadefoot is from approximately 6 miles south of the Study Area.

**4.2.5 Reptiles**

Three special-status reptiles were initially identified as having potential to occur in the vicinity of the Study Area (Table 1). After further analysis and the reconnaissance site visit, two species were identified as having potential. A brief description of these species is presented below.





Map Features

APE Boundary

Study Area

Elderberry

Elderberry Location

Elderberry Dripline

Utility Locations

Utility Pole

Sources: ESRI, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021

Map Date: 6/3/2021



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ENVIRONMENTAL CONSULTANTS

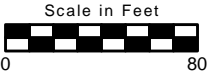


Figure 4-4. Elderberry Locations (Sheet 1 of 9)





- Map Features**
- APE Boundary
  - Study Area
- Elderberry**
- Elderberry Location
  - Elderberry Dripline
- Utility Locations**
- Utility Pole

Sources: ESRI, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021

Map Date: 6/3/2021

Figure 4-4. Elderberry Locations (Sheet 2 of 9)





Map Features

- APE Boundary
- Study Area
- Elderberry
  - Elderberry Location
  - Elderberry Dripline
  - Elderberry Dripline Containing Pole Location

Utility Locations

- Utility Pole
- Utility Box

Sources: ESRI, RFE, NAIP (2020)

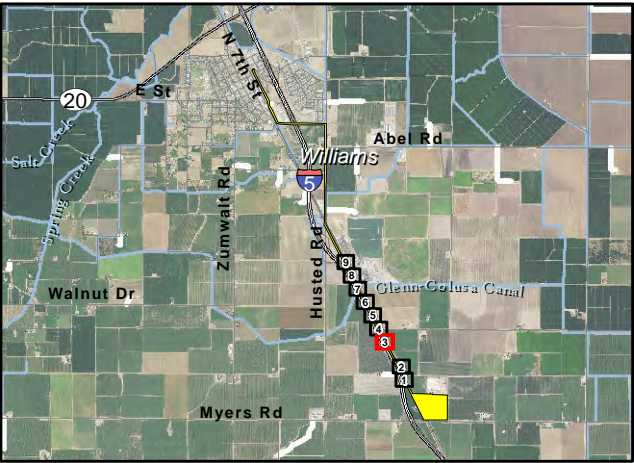


Figure 4-4. Elderberry Locations (Sheet 3 of 9)

ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021





**Map Features**

- APE Boundary
- Study Area

**Elderberry**

- Elderberry Location
- Elderberry Dripline
- Elderberry Dripline Containing Pole Location

**Utility Locations**

- Old Utility Pole
- Utility Pole

Sources: ESRI, RFE, NAIP (2020)



Figure 4-4. Elderberry Locations (Sheet 4 of 9)

ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021





Map Features

- APE Boundary
- Study Area
- Elderberry
  - Elderberry Location
  - Elderberry Dripline
  - Elderberry Dripline Containing Pole Location
- Utility Locations
  - Utility Pole

Sources: ESRI, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-Jswager 6/3/2021

Map Date: 6/3/2021

Figure 4-4. Elderberry Locations (Sheet 5 of 9)





**Map Features**

- APE Boundary
- Study Area

**Elderberry**

- Elderberry Location
- Elderberry Dripline
- Elderberry Dripline Containing Pole Location

**Utility Locations**

- Utility Pole

Sources: ESRI, RFE, NAIP (2020)

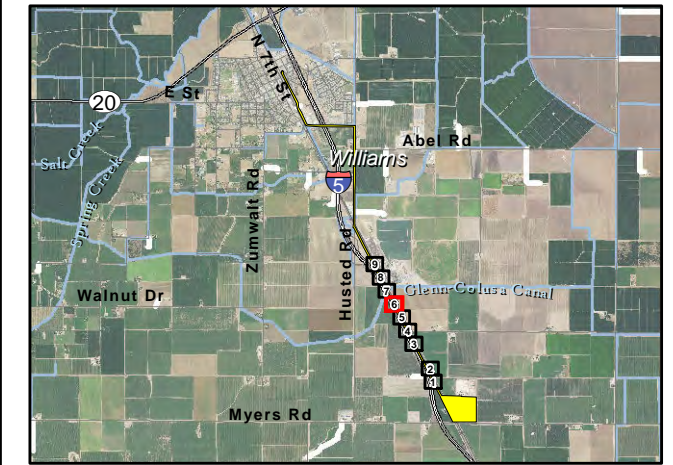


Figure 4-4. Elderberry Locations (Sheet 6 of 9)

ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021





**Map Features**

- APE Boundary
- Study Area

**Elderberry**

- Elderberry Location
- Elderberry Dripline
- Elderberry Dripline Containing Pole Location

**Utility Locations**

- Utility Pole

Sources: ESRI, RFE, NAIP (2020)



ECORP: N:\2021\2021-047-01 National Carbon Technologies\MAPS\Biological\_Resources\NCT\_Elderberry\_20210524\_MapBook.mxd (JDS)-JSwager 6/3/2021

Figure 4-4. Elderberry Locations (Sheet 7 of 9)





Map Features

APE Boundary

Study Area

Elderberry

Elderberry Location

Elderberry Dripline

Elderberry Dripline Containing Pole Location

Utility Locations

Utility Pole

Sources: ESRI, RFE, NAIP (2020)

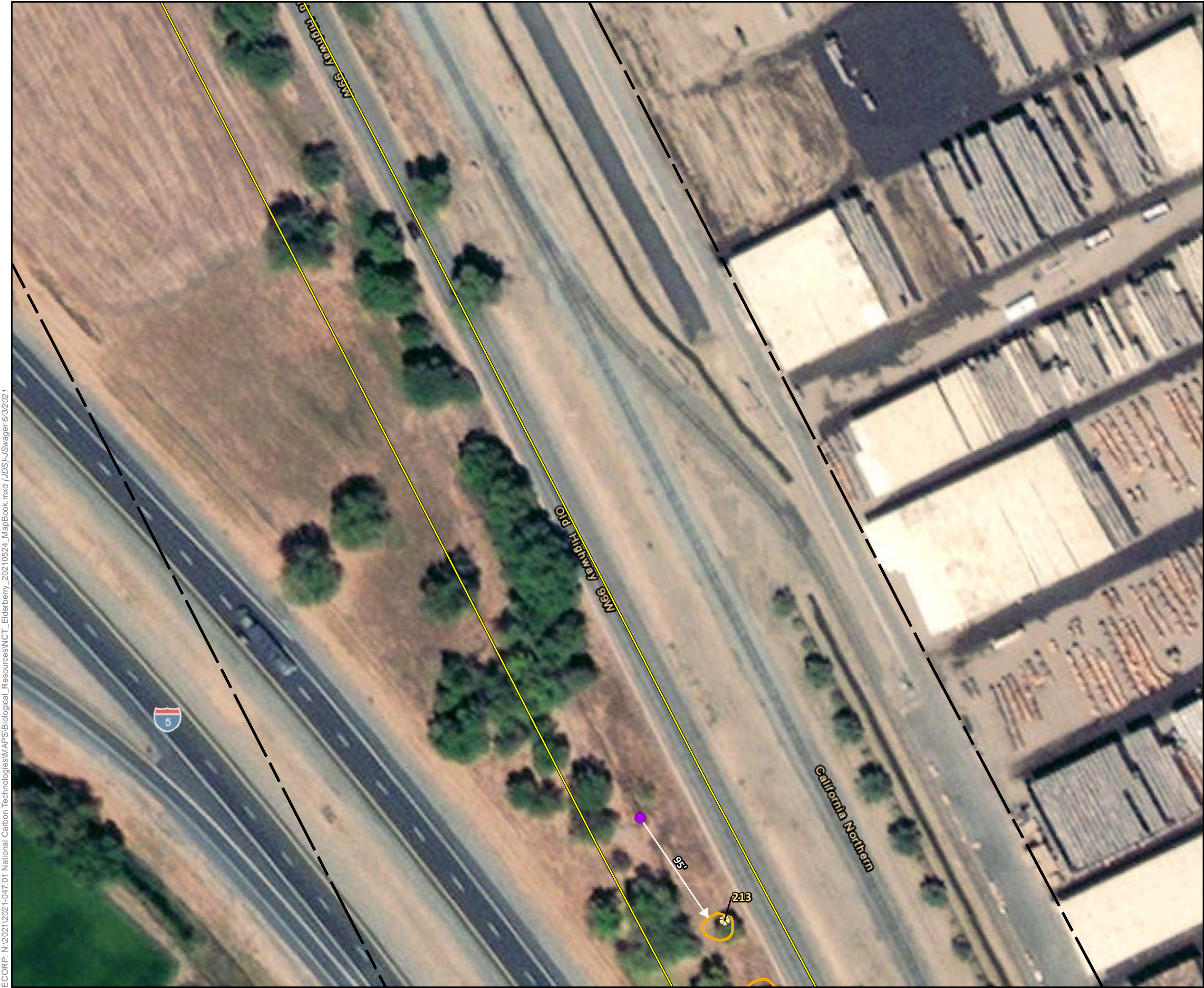


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Map Date: 6/3/2021

Figure 4-4. Elderberry Locations (Sheet 8 of 9)





Map Features

APE Boundary

Study Area

Elderberry

Elderberry Location

Elderberry Dripline

Utility Locations

Utility Pole

Sources: ESRI, RFE, NAIP (2020)

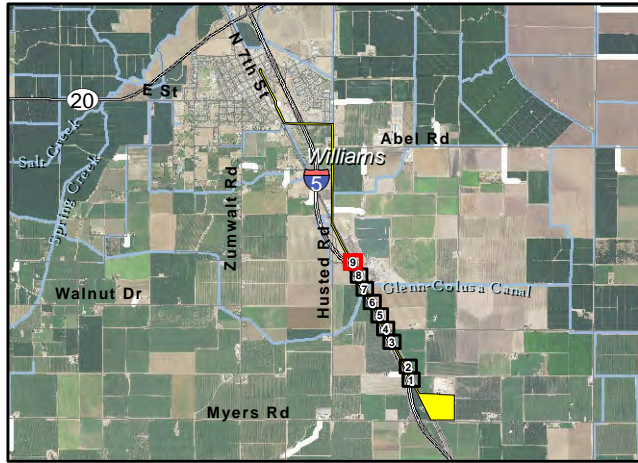


Figure 4-4. Elderberry Locations (Sheet 9 of 9)



#### 4.2.5.1 *Northwestern Pond Turtle*

The northwestern pond turtle is not listed pursuant to either the federal or California ESAs, but it is designated as a CDFW SSC. Northwestern pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow-moving streams (Jennings and Hayes 1994; Thomson et al. 2016). This species is primarily aquatic; however, they can leave aquatic habitats to nest, disperse between wetlands, and to overwinter (Jennings and Hayes 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage. Northwestern pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes 1994). Eggs are deposited within excavated nests in upland areas, in substrates having high clay or silt fractions. The majority of nesting sites are located within 650 feet (200 meters) of aquatic sites; however, nests have been documented as far as 1,310 feet (400 meters) from aquatic habitat.

There is one occurrence of northwestern pond turtle within 8 miles of the Study Area (CDFW 2021a). Ditches adjacent to the Study Area provide marginal habitat for this species but established offsite creeks and waters may provide habitat for pond turtles. Thus, northwestern pond turtle has low potential to occur within the Study Area through dispersal from other areas.

#### 4.2.5.2 *Giant Garter Snake*

The giant garter snake is listed as threatened pursuant to the federal and California ESAs. The giant garter snake is a California endemic species, only occurring in the Sacramento and San Joaquin valleys from Butte County south to Kern County (Rossman et al. 1996). It is the largest garter snake species, attaining a maximum length of 165 centimeters (65 inches) (Stebbins and McGinnis 2012). Like most *Natricines*, these snakes are sexually dimorphic with females being both longer and proportionally heavier than males (Wylie et al. 2010).

The giant garter snake is semi-aquatic and occurs in sloughs, ponds, low-gradient streams, and irrigation/drainage canals (USFWS 2017b). It is an active, generally diurnal predator that hunts by sight or olfaction (Ernst and Ernst 2003) and its diet is almost entirely aquatic. Rice agriculture now provides habitat and supports populations when the seasonally flooded fields and associated water conveyance systems are managed for the species (USFWS 2017b), and is one reason giant garter snake populations in the Sacramento Valley are more robust than those further south (Halstead et al. 2010). Historically, they depended on native prey such as California red-legged frog, Sacramento blackfish (*Orthodon microlepidotus*), and thick-tailed chub (*Gila crassicauda*), species that have undergone recent major declines or extirpations (Rossman et al. 1996). Diet is now dominated by introduced species such as mosquitofish, American bullfrogs (*Lithobates catesbeianus*), and common carp (*Cyprinus carpio*) (Rossman et al. 1996).

Both the distribution and abundance of the giant garter snake have been reduced from historic levels. Flood control activities and the drainage of marshes and other wetlands for agriculture have led to extirpation in the Buena Vista, Tulare, and Kern lakebeds in the southern one-third of its range (Hansen and Brode 1980). Most of the San Joaquin Valley has undergone similar wetland modification together



with upstream watershed projects, urban development, and the proliferation of introduced and subsidized aquatic predators (USFWS 2012). As a result, the giant garter snake in the central and southern San Joaquin Valley is extremely rare and population trends appear to be declining (Hansen 2008). At locations in the Sacramento Valley, the giant garter snake is generally more numerous and habitat quality appears to be better, although trends in abundance are unclear (USFWS 2012).

There are numerous CNDDDB occurrences of giant garter snake within 5 miles of the Study Area (CDFW 2021a), particularly north of the Project alignment. The developed nature of the electrical alignment and its proximity to busy roads and industrial development render upland habitat suitability very low for this species. Offsite ditches within 200 feet may provide low quality aquatic habitat for dispersing or transitory individual giant garter snakes.

#### **4.2.6 Birds**

A total of 24 special-status bird species were initially identified as potential to occur within the Study Area (Table 1). Of those, 15 species were determined to be absent from the Study Area due to the lack of suitable habitat and/or due to the Study Area being outside of the known geographic range of the species. No further discussion of those species is provided in this assessment. A brief description of the remaining nine species that have the potential to occur within the Study Area is presented below.

##### **4.2.6.1 Tricolored Blackbird**

The tricolored blackbird is not listed pursuant to the federal ESA but was granted emergency listing for protection under the California ESA in December 2014. The listing status was not renewed in June 2015; however, after an extensive status review, the California Fish and Game Commission listed tricolored blackbirds as a threatened species in 2018. In addition, the tricolored blackbird is currently considered a USFWS BCC and a CDFW SCC. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Beedy et al. 2020). Tricolored blackbirds nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. Tricolored blackbird nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, and densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Beedy et al. 2020). They feed mainly on grasshoppers during the breeding season but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Beedy et al. 2020). The nesting season is generally from March through August.

There are nine CNDDDB occurrences of tricolored blackbird within 5 miles of the Study Area (CDFW 2021a). There is no suitable nesting habitat within the Study Area. However, tricolored blackbird may nest in adjacent habitats and may forage within the Study Area.

##### **4.2.6.2 Burrowing Owl**

The burrowing owl is not listed pursuant to either the federal or California ESAs but is designated as a USFWS BCC and a CDFW SSC. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and

fairgrounds (Poulin et al. 2020). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel but may also use man-made structures such as concrete culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (CDFG 2012). The breeding season typically occurs between February 1 and August 31 (California Burrowing Owl Consortium 1993; CDFG 2012).

There are two CNDDDB occurrences of burrowing owl within 5 miles of the Study Area (CDFW 2021a). No burrowing owls were documented during the site assessment, but burrowing mammals, burrows, and burrow surrogates were observed at places within the Study Area that may provide nesting habitat for burrowing owl. Additionally, the ditches adjacent to the Study Area may provide nesting and foraging habitat for this species.

#### **4.2.6.3 Oak Titmouse**

Oak titmouse are not listed and protected under either California or federal ESAs but are considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs during March through July.

Oak titmouse is not tracked by CNDDDB, thus there are no nearby records. However, trees and adjacent urban/planted areas may provide habitat for this species.

#### **4.2.6.4 Swainson's Hawk**

The Swainson's hawk is not listed pursuant to the federal ESA but is listed as threatened pursuant to the California ESA and is designated a USFWS BCC. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to late August.

Swainson's hawks nest within tall trees in a variety of wooded communities including riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel, ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanoplus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are 11 CNDDDB occurrences of Swainson's hawk within 5 miles of the Study Area (CDFW 2021a). There is no suitable nesting habitat within the Study Area. However, Swainson's hawk may nest in adjacent areas and may forage within the Study Area.

**4.2.6.5 Northern Harrier**

The northern harrier is not listed pursuant to either the federal or California ESA but is designated as a CDFW SSC. This species is known to nest within the Central Valley, along the Pacific Coast, and in northeastern California. The northern harrier is a ground-nesting species, and typically nests in emergent wetland/marsh, open grasslands, or savannah communities usually in areas with dense vegetation (Smith et al. 2020). Foraging occurs within a variety of open environments such as marshes, agricultural fields, and grasslands. Nesting occurs during April through September.

There are no CNDDDB occurrences of northern harrier within 5 miles of the Study Area (CDFW 2021a). However, this species is known to occur in the area and the adjacent agriculture may provide nesting and foraging habitat.

**4.2.6.6 Nuttall's Woodpecker**

The Nuttall's woodpecker is not listed or protected under either California or federal ESAs but is considered a USFWS BCC. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs during April through July. Like oak titmouse, Nuttall's woodpecker is not tracked by CNDDDB, thus there are no nearby records. However, trees and adjacent urban/planted areas may provide habitat for this species.

**4.2.6.7 White-tailed Kite**

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

There are no CNDDDB occurrences of white-tailed kite within 5 miles of the Study Area (CDFW 2021a). However, this species is known to occur in the area and the adjacent trees and agriculture may provide nesting and foraging habitat.

**4.2.6.8 Song Sparrow "Modesto"**

The song sparrow is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al. 2020). The subspecies *Melospiza melodia heermanni* includes as synonyms *M. m. mailliardi* (the "Modesto song sparrow") and *M. m. cooperi* (Arcese et al. 2020). The Modesto song sparrow is not listed and protected pursuant to either the California or federal ESAs but is considered a CDFW SSC. The subspecies *M. m. heermanni* can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2020). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable from each other. The Modesto song sparrow occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the

Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

There are no CNDDDB occurrences of northern harrier within 5 miles of the Study Area (CDFW 2021a). However, this species is known to occur in the area and the adjacent agriculture may provide nesting and foraging habitat.

#### **4.2.6.9 Yellow-billed Magpie**

The yellow-billed magpie is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February, which may take up to 6 to 8 weeks to complete, with eggs laid during April through May, and fledging during May through June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed magpies are highly susceptible to West Nile virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020). Yellow-billed magpie is not tracked by CNDDDB, thus there are no nearby records. However, trees and adjacent urban/planted areas may provide habitat for this species.

#### **4.2.6.10 Other Protected Birds**

In addition to the above-listed special-status birds, all native or naturally occurring birds and their occupied nests/eggs are protected under the California Fish and Game Code and the MBTA. The Study Area supports potential nesting habitat for a variety of native birds protected under these regulations.

#### **4.2.7 Mammals**

Three special-status mammal species were identified as having potential to occur in the vicinity of the Study Area (Table 1). A brief description of the three species that have potential or low potential to occur within the Study Area is presented below.

##### **4.2.7.1 Townsend's Big-eared Bat**

The Townsend's big-eared bat is not listed pursuant to either the California or federal ESAs; however, this species is considered an SSC by CDFW. Townsend's big-eared bat is a fairly large bat with prominent bilateral nose bumps and large rabbit-like ears. This species occurs throughout the west and ranges from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains. This species has been reported from a wide variety of habitat types and elevations from sea level to 10,827 feet. Habitats used include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Its distribution is strongly associated with the availability of caves and cave-like roosting habitat including abandoned mines, buildings, bridges, rock crevices, and hollow trees. This species is readily detectable when roosting due to their habit of roosting pendant-like on open surfaces. Townsend's big-eared bat is a moth specialist with more than 90 percent of its diet composed of lepidopterans. Foraging habitat is generally edge habitats along streams adjacent to and within a variety of wooded habitats. This species

often travels long distances when foraging and large home ranges have been documented in California (WBWG 2021).

There are no CNDDDB occurrences of Townsend's big-eared bat within 5 miles of the Study Area (CDFW 2021a). There is potential roosting habitat within the Study Area, and they may forage within the Study Area. Townsend's big-eared bat has potential to occur within the Study Area.

#### **4.2.7.2      *Western Red Bat***

The western red bat is not listed pursuant to either the federal or California ESAs, but is designated as a CDFW SSC. The western red bat is easily distinguished from other western bat species by its distinctive red coloration. This species is broadly distributed, its range extending from southern British Columbia in Canada through Argentina and Chile in South America and including much of the western U.S. This solitary species day-roosts primarily in the foliage of trees or shrubs in edge habitats bordering streams or open fields, in orchards, and occasionally urban areas. They may be associated with intact riparian habitat, especially with willows, cottonwoods, and sycamores. This species may occasionally use caves for roosting as well. Western red bats feed on a variety of insects, and generally begin to forage one to two hours after sunset. This species is highly migratory. However, the timing of migration and the summer ranges of males and females may be different. Winter behavior of this species is poorly understood (WBWG 2021).

There are no CNDDDB occurrences of western red bat within 5 miles of the Study Area (CDFW 2021a). There is potential roosting habitat within the Study Area and they may forage within the Study Area. Western red bat has potential to occur within the Study Area.

#### **4.2.7.3      *American Badger***

The American badger is designated as a CDFW SSC. The species historically occurred throughout much of California and were once numerous in the Central Valley. Population densities are now low and generally relegated to peripheral edges of the valley the adjacent lowlands of eastern Monterey, San Benito, and San Luis Obispo counties (Williams 1986). Badgers occupy a variety of habitats, including grasslands and savannas. Principal requirements seem to be significant food supply, friable soils, and open, uncultivated ground (Williams 1986). Burrows are often located within dense California ground squirrel colonies.

There is one CNDDDB occurrence of American badger within the Study Area from 2016 (CDFW 2021a). However, no dens were observed within the Study Area. The open agricultural and fallow lands nearby provide suitable habitat for this species. As such, American badger has potential to occur within the Study Area.

### **4.3              Critical Habitat and Essential Fish Habitat**

There are no designated critical habitats mapped within the Study Area (USFWS 2021b), and no essential fish habitat.

#### 4.4 Riparian Habitats and Sensitive Natural Communities

Five sensitive natural communities were identified as having potential to occur within the vicinity of the Study Area (CDFW 2021a). These include Great Valley Cottonwood Riparian Forest, Great Valley Mixed Riparian Forest, Great Valley Willow Scrub, Northern Hardpan Vernal Pool, and Valley Needlegrass Grassland. Upon further analysis and the site reconnaissance, all sensitive natural communities were determined absent from the Study Area. Therefore, riparian habitats and sensitive natural communities will not be discussed further in this analysis.

#### 4.5 Wildlife Movement/Corridors and Nursery Sites

The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW and is not identified as a critical and non-critical winter and summer range, fall holding areas, fawning grounds, or migration corridors for mule deer (*Odocoileus hemionus*) (CDFW 2021b). Therefore, the Study Area is not expected to support critical wildlife movement corridors or potential nursery sites. However, a variety of common bird species were observed within the Study Area during the site reconnaissance and other wildlife species also likely move through the Study Area.

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries or bat maternity roosts. These data are available through CDFW's Biogeographic Information and Observation System database or as occurrence records in the CNDDDB and are supplemented with results from the site reconnaissance. No nursery sites have been documented within the Study Area (CDFW 2021a) and none observed during the site reconnaissance.

### 5.0 IMPACT ANALYSIS

This section evaluates potential impacts on biological resources in accordance with the Appendix G environmental checklist of the CEQA Guidelines.

As described in Sections 4.3 and 4.4, no designated critical habitat, riparian habitat, or any other sensitive natural community are located within the Study Area. Therefore, the Project would not impact those biological resources and they are not discussed further in this analysis.

#### 5.1 Special-Status Species

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

No special-status species are known to occur within the Study Area. However, the Study Area includes potential habitat for several special-status species. Potential effects to special-status species are summarized in the following sections.

##### 5.1.1 Special-Status Plants

There is no potential for federally and State-listed plant species to occur within the Study Area. However, there is low potential for nine non-listed, special-status plant species to occur (Table 1). Project development may permanently remove or alter a minimal amount of marginally suitable habitat



for special-status plants, and in the unlikely chance that special-status plant populations occur onsite they may be directly or indirectly impacted by the Project.

Implementation of recommendations BIO1 through BIO4, PLANT1, and PLANT2 described in Section 6.0 would avoid and/or minimize potential effects on special-status plants. These include a preconstruction plant survey, avoidance measures if necessary, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact special-status plants.

#### **5.1.2 Special-Status Invertebrates**

Although four federally listed invertebrate species were initially returned in the literature review, only VELB (a federally threatened species) has potential to occur within the Study Area. Numerous blue elderberry shrubs, essential habitat for this species, were documented along the electrical alignment within 30 feet of power poles. No sign of VELB was noted during a dedicated survey. However, elderberry shrubs are considered essential habitat for VELB and are therefore protected from take.

Implementation of recommendations BIO1 through BIO4, PLANT1, and PLANT2, and VELB1 through VELB4 described in Section 6.0 would ensure avoidance of potential effects on elderberry shrubs and VELB. These include a preconstruction survey, avoidance measures, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact VELB or its habitat.

#### **5.1.3 Special-Status Amphibians**

There is potential for western spadefoot, a CDFW SSC, to occur in the Survey Area. Potential Project-related impacts are described for this species in the following sections.

##### **5.1.3.1 Western Spadefoot**

A small amount of very degraded upland habitat for western spadefoot within the footprint of the former Olam Tomato facility and along the electrical line upgrade may be temporarily altered through construction activities. The highly compacted soils within the facility and the roadside powerline alignment are unlikely to harbor adult spadefoots, and no breeding habitat is present in the work areas. Potential breeding habitat may be present in adjacent ditches in the Buffer Area. However, removal or alteration of a small amount of upland habitat during construction is not expected to significantly impact the species.

Implementation of recommendations BIO1 through BIO4, and SPADE1 described in Section 6.0 would avoid and/or minimize potential effects on spadefoots. These include a preconstruction western spadefoot survey, avoidance measures if necessary, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact western spadefoot.

#### **5.1.4 Special-Status Reptiles**

There is low potential for northwestern pond turtle, a CDFW SSC, to occur in the Survey Area. Additionally, giant garter snake, a federally and State-listed species, has low potential to occur in the Study Area. Potential impacts are described for both species in the following sections.

##### **5.1.4.1 *Northwestern Pond Turtle***

It is exceedingly unlikely that northwestern pond turtles occur within upland habitat along the electrical line upgrade route except where the line runs east-west along Husted Lateral. There, a small amount of potential upland habitat may be temporarily altered, and turtles might be displaced from upland habitats. Alteration of a small amount of upland habitat on roadside edges is not expected to impact the species.

Implementation of recommendations BIO1 through BIO4, and NPT1 described in Section 6.0 would avoid and/or minimize potential effects on northwestern pond turtles. These include a preconstruction northwestern pond turtle survey, avoidance measures if necessary, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact northwestern pond turtle.

##### **5.1.4.2 *Giant Garter Snake***

Giant garter snakes may utilize aquatic resources (i.e., ditches and rice fields) adjacent to the Study Area and upland habitats within 200 feet of potential aquatic resources. No permanent impacts to upland habitat would occur. Temporary impacts to potential upland habitat would occur within the electrical line upgrade area and the decommissioned Olam Tomato Processing Plant, which are located within 200 feet of ditches east or north of the Study Area (Figure 1). Temporary impacts to small amounts of upland habitat on roadsides are not expected to affect individuals or the persistence of populations.

Implementation of recommendations BIO1 through BIO4, and GGS1 through GGS5 described in Section 6.0 would avoid and/or minimize potential effects to giant garter snake. These include a preconstruction wildlife survey, exclusion fencing, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact giant garter snake.

#### **5.1.5 Special-Status and Migratory Bird Treaty Act-Protected Birds**

There is no potential nesting or foraging habitat for federally listed bird species in the Survey Area. However, two State-listed bird species (Swainson's hawk and tricolored blackbird) have low potential to nest and forage within the Study Area. Swainson's hawk and tricolored blackbird may also nest in adjacent habitats. There is potential nesting and/or foraging habitat for eight non-listed special-status bird species and one fully protected species (white-tailed kite) within the Study Area (Table 1). Additionally, a variety of other birds that are protected under the MBTA and the California Fish and Game Code may nest within or adjacent to the Study Area. During reconnaissance-level surveys, numerous human commensal species (red-winged blackbird, European starling, Eurasian collared dove, mourning dove) were noted nesting in industrial equipment within the Olam Facility.



The Project may temporarily alter a minimal amount of potential foraging or nesting habitat for these species during construction. However, very little vegetation will be removed during the implementation of the Project and may be limited to trimming or pruning of limbs on trees adjacent to electrical poles. Removal or alteration of a small amount of habitat and temporary displacement of foraging birds during construction is not expected to adversely impact these species. Due to the small footprint of the electrical line upgrades and the short duration of the Project, disturbance to wintering birds during construction and mortality of birds is not expected.

Implementation of recommendations BIO1 through BIO4, and BIRD1 described in Section 6.0 would avoid or minimize potential effects to special-status birds and other protected birds. These include a preconstruction nesting-bird survey, avoidance measures if necessary, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact special-status and MBTA-protected birds.

#### **5.1.6 Special-Status Mammals**

No federally or State-listed mammals have potential to occur in the Study Area. However, there is potential or low potential for three CDFW SSC species (Townsend's big-eared bat, western red bat, and American badger) to roost (bats) or forage within the Study Area. No impacts to bats are expected because no trees or warehouse buildings will be removed. They will not be discussed further here.

A small amount of potential foraging habitat for American badger may be temporarily altered, and in the very unlikely event that American badgers forage within the Study Area they may be temporarily displaced. Removal or alteration of a small amount of foraging habitat and temporary displacement of American badgers during construction is not expected to significantly impact this species.

Implementation of recommendations BIO1 through BIO4, and MAM1 described in Section 6.0 would avoid and/or minimize potential effects to American badger. These include a preconstruction badger survey, avoidance measures if necessary, worker awareness environmental training, and measures to avoid offsite impacts. With implementation of these measures, the Project is not expected to significantly impact American badger.

### **5.2 Aquatic Resources, Including Waters the U.S. and State**

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

Based on the preliminary aquatic resources assessment and the current Project limits, the Project would have no impact on federally protected wetlands. However, ditches within the Study Area may be considered Waters of the U.S. or State. The Project is not proposing impacts to any ditches.

Implementation of recommendations BIO1 through BIO4, WATER1, and WATER2 described in Section 6.0 would avoid, minimize, or compensate for potential effects to Waters of the U.S. or State.

### 5.3 Wildlife Movement/Corridors

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

Project construction may temporarily disturb and displace wildlife from the Study Area. Some wildlife such as birds or nocturnal species are likely to continue to use the habitats opportunistically for the duration of construction. Once construction is complete, wildlife movements are expected to resume and will likely be similar to those before project implementation in the Study Area. The Project is not expected to substantially interfere with wildlife movement.

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

### 5.4 Local Policies, Ordinances, and Other Plans

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

The Project is within Colusa County. The only known local policies relevant to the Project are outlined in the County General Plan and Final EIR (Colusa County 2012a, 2012b). The Project is not expected to conflict with goals and objectives outlined within the Plan.

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

The Study Area is not covered by any local, regional, or State conservation plan. Therefore, the Project would not conflict with a local, regional, or State conservation plan.

## 6.0 RECOMMENDATIONS

This section summarizes recommended measures to avoid, minimize, or compensate for potential impacts to biological resources from the proposed Project.

### 6.1 General Recommendations

The following general measures are recommended to avoid impacts to biological resources:

- BIO1:** In areas of ground disturbance, the Project impact limits shall be clearly demarcated prior to construction and all workers shall be made aware of the impact limits and avoided areas. If orange construction fencing is to be used, it shall be placed such that there is a 1-foot gap between the ground and the bottom of the fencing to prevent snakes and other ground-dwelling animals from being caught in the fencing. No work shall occur outside of the Project impact limits. All vehicles and equipment shall be restricted to the Project impact limits and/or existing designated access roads and staging areas. Project-related vehicles shall observe a speed limit of 15 miles per hour in construction areas and on access roads where it is safe and feasible to do so, except on County roads and State and federal



highways. Extra caution shall be used on cool days when giant garter snakes may be basking on roads.

**BIO2:** Erosion control measures shall be placed between avoided aquatic resources and the outer edge of the impact limits prior to commencement of construction activities and shall be maintained until construction is completed and soils have been stabilized. Plastic monofilament netting or similar material shall not be used for erosion control, because smaller wildlife may become entangled or trapped in it. Also excluded are products that use photodegradable or biodegradable synthetic netting, which can take several months to decompose. Acceptable materials include natural fibers such as jute, coconut, twine, or other similar fibers or tackified hydroseeding compounds.

**BIO3:** Any fueling in the Study Area during construction shall use appropriate secondary containment techniques to prevent spills and shall occur away from potential aquatic resources.

**BIO4:** A qualified biologist shall conduct a mandatory worker environmental awareness training for all contractors, work crews, and any onsite personnel to aid workers in recognizing special-status species and sensitive biological resources that may occur onsite. The program shall include identification of the special-status species and their habitats, a description of the regulatory status and general ecological characteristics of sensitive resources, and review of the limits of construction, environmentally sensitive areas, and measures required to reduce impacts to biological resources. The Project shall retain a qualified biologist on an as-needed basis to assist with potential biological issues that may arise during construction (i.e., avoidance of elderberry shrubs, wildlife relocation).

## 6.2 Special-Status Species

Recommendations to minimize impacts to special status species or habitats are summarized below by species or taxonomic group.

### 6.2.1 Plants

There is low potential for nine special-status plants to occur within the Study Area. Implementation of general recommendations BIO1 through BIO4, and the following plant-specific measures are expected to avoid and/or minimize potential adverse effects on special-status plants:

**PLANT1:** A qualified biologist shall perform floristic plant surveys according to USFWS, CDFW, and CNPS protocols within impact areas prior to construction. Surveys shall be conducted by a qualified biologist and timed according to the appropriate phenological stage for identifying target species. Known reference populations shall be visited and/or local herbaria records shall be reviewed, if available, prior to surveys to confirm the phenological stage of the target species. If no special-status plants are found within the Project site, no further measures pertaining to special-status plants are necessary.

**PLANT2:** If special-status plants are identified within 25 feet of an impact area, implement the following measures:

- If avoidance of special-status plants is feasible, establish and clearly demarcate avoidance zones for special-status plant occurrences prior to construction and designate as environmentally sensitive areas. Avoidance zones shall include the extent of the special-status plants plus a 25-foot buffer, unless otherwise determined by a qualified biologist, and shall be maintained until the completion of construction. A qualified biologist or biological monitor shall be present if work must occur within the avoidance buffer to ensure special-status plants are not impacted by the work.
- If avoidance of special-status plants is not feasible, mitigation for significant impacts to special-status plants may be required. Mitigation measures shall be developed in consultation with CDFW. Mitigation measures may include restoration or permanent preservation of onsite or offsite habitat for special-status plants and/or translocation of plants or seeds from impacted areas to unaffected habitats.

### 6.2.2 Valley Elderberry Longhorn Beetle

The following measures are recommended to avoid potential impacts to VELB and VELB habitat:

- VELB1:** An avoidance area should be established around each elderberry shrub. The avoidance area should encircle the elderberry shrub and have a diameter equal to the widest radius of the dripline (the area of soil and roots located directly under the outer circumference of the shrub's branches) plus 20 feet. The avoidance area should be demarcated with high-visibility materials (e.g., high-visibility pin flags and/or flagging) prior to construction, where possible, and markers should be maintained until the completion of all work activities occurring within 30 feet of the avoidance area.
- VELB2:** A qualified biologist should provide worker awareness training for all Project personnel that will work within 30 feet of the elderberry avoidance area on the status of VELB, its host plant and habitat, the need to avoid damaging elderberry shrubs, and the possible penalties for non-compliance prior to the start of work within 30 feet of the elderberry.
- VELB3:** Dust generation should be minimized by applying water during ground disturbing construction activities or by presoaking work areas for all work within 30 feet of the elderberry avoidance area.
- VELB4:** If feasible, no ground- or vegetation-disturbing activities should take place within the elderberry avoidance area. If ground- or vegetation-disturbing activities must occur within the avoidance area, the following measures are recommended:
- No trimming or removal of elderberry shall occur. If removal of branches greater or equal to 1 inch in diameter or ground-disturbing activities that may impact the elderberry must occur, consultation with the USFWS would be required to determine if the Project will require incidental take authorization through a Section 7 consultation or a Section 10(a)(1)(B) permit. Preparation of a BA or a mitigation and monitoring plan may be required. Mitigation may include transplanting of the elderberry as per current USFWS



Guidelines (USFWS 2017), purchase of credits at a USFWS-approved bank, and/or establishment or protection of VELB habitat.

These avoidance measures are based on ECORP's professional judgment and understanding of the Project impacts and are consistent with Project impacts as described and USFWS recommendations outlined in the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017). It is recommended that relevant measures be discussed with USFWS once the Proposed Project impacts to the elderberry are further refined.

### 6.2.3 Western Spadefoot

Western spadefoot has low potential to occur within the Study Area. Implementation of general recommendations BIO1 through BIO4, and the following specific measure would avoid and/or minimize potential adverse effects to western spadefoots:

**SPADE1:** A qualified biologist shall conduct a pre-construction survey in the Project Area (including impact areas and staging areas) within 48 hours prior to construction activities. Any Western spadefoots discovered in the Project Area immediately prior to or during Project activities shall be kept out of harm's way and allowed to move out of the work area of their own volition. If this is not feasible, they shall be captured by a qualified biologist and relocated out of harm's way to the nearest suitable habitat.

### 6.2.4 Northwestern Pond Turtle

Northwestern pond turtle has low potential to occur within the Study Area. Implementation of general recommendations BIO1 through BIO4, and the following turtle-specific measure would avoid and/or minimize potential adverse effects on northwestern pond turtles:

**NPT1:** A qualified biologist shall conduct a pre-construction northwestern pond turtle survey in the Project Area and adjacent ditches within 48 hours prior to construction activities. Any northwestern pond turtles discovered in the Project Area immediately prior to or during Project activities shall be kept out of harm's way and allowed to move out of the work area of their own volition. If this is not feasible, they shall be captured by a qualified biologist and relocated out of harm's way to the nearest suitable habitat.

### 6.2.5 Giant Garter Snake

Giant garter snake has low potential to occur within the Study Area. Implementation of recommendations BIO1 through BIO4 and the following specific measures are expected to avoid potential adverse effects to giant garter snakes:

**GGS1:** Avoid construction activities within 200 feet from the banks of giant garter snake aquatic habitat, where feasible. Avoided giant garter snake habitat within or adjacent to the Project shall be designated as environmentally sensitive areas and avoided by all construction personnel. Confine clearing to the minimum area necessary to facilitate construction activities. Confine staging and movement of heavy equipment outside of work areas to existing roadways or staging areas to minimize habitat disturbance.

- GG52:** All construction activity within 200 feet of giant garter snake aquatic habitat shall be conducted during the giant garter snake's active period (between May 1 and October 1). During this timeframe, potential for injury and mortality are lessened because snakes are expected to actively move and avoid danger. Giant garter snakes are more vulnerable to danger during their inactive period because they are occupying underground burrows or crevices and are more susceptible to direct impacts, especially during excavation.
- GG53:** Within 24-hours prior to construction activities, a qualified biologist shall survey the Project Area (including impacts areas, access roads, and staging areas) for giant garter snakes. Surveys shall be repeated if a lapse in construction activity of 2 weeks or greater has occurred.
- GG54:** Exclusion fencing shall be installed along the edge of ground disturbances that are within 200 feet of aquatic habitat and fencing shall be maintained for the duration of construction. The exclusion fencing shall be installed during the active period for giant garter snakes (May 1 to October 1). The exclusion fencing shall consist of 3-foot-tall silt fencing buried 4 to 6 inches below ground level. Fencing requirements shall be included in the construction specifications. A qualified biological monitor shall be onsite during exclusion fence installation and initial clearing and grubbing activities. Prior to construction activities each morning, exclusion fencing shall be inspected to ensure it is functional by a biological monitor or by construction personnel that have been trained by a qualified biologist. If any giant garter snakes are observed in the construction area during this inspection or at any other time during construction, construction personnel shall contact a qualified biologist and all Project activities shall cease until the snake has moved out of the Project Area of its own volition or has been relocated by a permitted biologist. Giant garter snake sightings and incidental take shall be reported to the USFWS immediately by telephone at (916) 414-6600. If the installation of exclusion fencing is not feasible, a qualified biological monitor shall be present during all construction activities within 200 feet of aquatic habitat.
- GG55:** After completion of construction activities, remove any construction debris and, where feasible, restore disturbed areas to pre-Project conditions.

#### 6.2.6 Special-Status Birds and Migratory Bird Treaty Act-Protected Birds

Eleven special-status birds and various other birds protected under the MBTA have the potential to nest in the vicinity of the Study Area. Implementation of general recommendations BIO1 through BIO4, and the following specific measure is recommended to avoid or minimize adverse effects on nesting birds:

- BIRD1:** If construction is to occur during the nesting season (generally February 1 to August 31), conduct a pre-construction nesting bird survey of all suitable nesting habitat within 14 days prior to construction. The survey shall be conducted within a 500-foot radius of Project work areas for raptors and within a 100-foot radius for other nesting birds. If any active nests are observed, these nests shall be designated an environmentally sensitive area and protected by an avoidance buffer established in coordination with CDFW until the breeding season has ended or until a qualified biologist has determined that the young have fledged and are no longer reliant upon the nest or parental care for survival.



### 6.2.7 American Badger

American badger has low potential to occur within the Study Area. Implementation of BIO1, BIO4, and the following specific measure is recommended to avoid and/or minimize potential adverse effects on American badger:

**MAM1:** A qualified biologist shall conduct a pre-construction survey for American badger in the Project Area (including impacts areas, access roads, and staging areas) within 48 hours prior to construction activities. If any American badgers are discovered in or near the Project Area immediately prior to or during Project activities, the qualified biologist shall have authority to halt Project activity that may harm badgers, and badgers shall be allowed to move out of the work area of their own volition. If an active badger den is detected within or near the work area, it shall be designated an environmentally sensitive area and protected by an avoidance buffer established in coordination with CDFW. The buffer shall be maintained until a qualified biologist determines the den is no longer active. Dens that are determined to be inactive by the qualified biologist shall be collapsed by hand to prevent occupation of the burrow between the time of the survey and construction activities.

### 6.3 Waters of the U.S. or State

The Study Area includes ditches that may be considered potential Waters of the U.S. or State. The following measures are recommended to avoid, minimize, and/or compensate for impacts to potential Waters of the U.S. or State:

**WATER1:** Where feasible, ground disturbance shall not occur within an avoidance buffer maintained from the top of the bank or furthest outside edge of aquatic resources of a ditch, whichever is more protective. The avoidance buffer shall include a minimum distance of 50 feet from the top of a bank or furthest outside edge of an aquatic resource and shall be delineated by a qualified biologist using exclusion fencing or stakes/flagging prior to the initiation of construction.

**WATER2:** If impacts to aquatic resources cannot feasibly be avoided, the following measures shall apply:

- Prepare and submit an aquatic resources delineation for the Project to the USACE and obtain an Approved Jurisdictional Determination.
- If necessary, file a request for authorization to fill wetlands and other Waters of the U.S. under Section 404 of the federal CWA (Section 404 Permit) prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation measures shall be developed as part of the Section 404 Permit process to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Nationwide Permit for the Project shall be prepared and submitted to USACE. Mitigation for impacts to Waters of the U.S. typically consists of a minimum of a 1:1 ratio for direct impacts; however, final mitigation requirements will be developed in consultation with USACE.

- If necessary, file a request for a Water Quality Certification or waiver pursuant to Section 401 of the CWA must be obtained from the RWQCB for Section 404 permit actions.
- Pursuant to the Porter-Cologne Water Quality Act, a permit authorization from the RWQCB is required prior to the discharge of material in an area that could affect Waters of the State. Mitigation requirements for discharge to Waters of the State within the Project site will be developed in consultation with the RWQCB.
- If necessary, prepare an LSA Notification to CDFW under California Fish and Game Code Section 1602 to request authorization to impact regulated aquatic features.

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**7.0 SUMMARY**

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Two federally listed and three State-listed species have potential or low potential to occur within the Study Area. In addition, there is potential for 21 non-listed special-status species and various birds protected under the MBTA and the California Fish and Game Code to occur. Aquatic resources, ditches, are located within the Study Area. The ditches may be considered Waters of the U.S. or State.

With implementation of recommendations described in Section 6.0, the Project is not expected to have a significant effect on biological resources.



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**LIST OF ATTACHMENTS**

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Attachment A – Results of Database Queries

Attachment B – Representative Site Photographs

ATTACHMENT A

Results of Database Queries



CNDDB Version	Scientific Name	Common Name	Approx. Distance to Study Area (mi.)	Element Code	Occurrence #	Map Index	Element Index	Parts	Element Type	Taxonomic Group	Element Count	Accuracy	Accuracy Order	Source Type	Rare Plant Rank	Presence	Occurrence Type	Occurrence Rank	Sensitive Record	Site Date
2021 May	Buteo swainsoni	Swainson's hawk	0.0	ABNKC19070	2080	88240	89252	1	2 Birds		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	20060828
2021 May	Buteo swainsoni	Swainson's hawk	0.0	ABNKC19070	922	43804	43804	2	2 Birds		1	specific area	20			Presumed Extant	Natural/Native occurrence	Fair	N	20060806
2021 May	Buteo swainsoni	Swainson's hawk	0.0	ABNKC19070	2081	88242	89254	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20090522
2021 May	Taxidea taxus	American badger	0.1	AMAJF04010	532	A2989	104609	1	2 Mammals		1	1/10 mile	40			Presumed Extant	Natural/Native occurrence	Unknown	N	20160829
2021 May	Buteo swainsoni	Swainson's hawk	0.1	ABNKC19070	923	43807	43807	1	2 Birds		1	specific area	20			Presumed Extant	Natural/Native occurrence	Good	N	20090620
2021 May	Buteo swainsoni	Swainson's hawk	0.2	ABNKC19070	2079	88241	89253	1	2 Birds		1	specific area	20			Presumed Extant	Natural/Native occurrence	Good	N	20160412
2021 May	Lepidurus packardii	vernal pool tadpole shrimp	0.2	ICBRA10010	80	33665	30646	1	2 Crustaceans		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	19930311
2021 May	Agelaius tricolor	tricolored blackbird	0.2	ABPBXB0020	48	09755	24767	1	2 Birds		1	1 mile	90			Possibly Extirpated	Natural/Native occurrence	None	N	19320613
2021 May	Buteo swainsoni	Swainson's hawk	0.3	ABNKC19070	2094	88255	89267	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20030721
2021 May	Agelaius tricolor	tricolored blackbird	0.4	ABPBXB0020	531	96515	97679	1	2 Birds		1	1 mile	90			Possibly Extirpated	Natural/Native occurrence	None	N	20140418
2021 May	Extriplex joaquinana	San Joaquin spearscale	0.5	PDCHEO41F3	115	89387	90374	1	1 Dicots		1	non-specific area	30		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19160609
2021 May	Thamnophis gigas	giant gartersnake	0.5	ARADB36150	398	94493	95617	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	19730929
2021 May	Thamnophis gigas	giant gartersnake	0.6	ARADB36150	57	09653	27575	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	1987XXXX
2021 May	Thamnophis gigas	giant gartersnake	0.7	ARADB36150	241	64671	64750	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	1986XXXX
2021 May	Agelaius tricolor	tricolored blackbird	0.7	ABPBXB0020	1	09656	14659	1	2 Birds		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	20140419
2021 May	Buteo swainsoni	Swainson's hawk	1.0	ABNKC19070	2093	88254	89266	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20090515
2021 May	Thamnophis gigas	giant gartersnake	1.3	ARADB36150	114	32409	7558	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Excellent	N	1991XXXX
2021 May	Agelaius tricolor	tricolored blackbird	1.5	ABPBXB0020	532	96525	97696	1	2 Birds		1	2/5 mile	60			Presumed Extant	Natural/Native occurrence	Unknown	N	20140419
2021 May	Buteo swainsoni	Swainson's hawk	1.6	ABNKC19070	2095	88256	89268	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20090728
2021 May	Thamnophis gigas	giant gartersnake	1.9	ARADB36150	412	A3037	104660	3	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Unknown	N	20150722
2021 May	Extriplex joaquinana	San Joaquin spearscale	2.1	PDCHEO41F3	88	67411	67579	1	1 Dicots		1	1 mile	90		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19170412
2021 May	Agelaius tricolor	tricolored blackbird	2.3	ABPBXB0020	2	09767	24799	1	2 Birds		1	1 mile	90			Extirpated	Natural/Native occurrence	None	N	19920701
2021 May	Thamnophis gigas	giant gartersnake	2.4	ARADB36150	349	93580	94713	1	2 Reptiles		1	1 mile	90			Presumed Extant	Natural/Native occurrence	Unknown	N	19740901
2021 May	Heteranthera dubia	water star-grass	2.5	PMPON03010	4	90975	92023	1	1 Monocots		1	1 mile	90		2B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20130906
2021 May	Thamnophis gigas	giant gartersnake	2.8	ARADB36150	414	A3039	104662	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20150524
2021 May	Atriplex persistens	vernal pool smallscale	2.8	PDCHEO42P0	39	82742	83775	1	1 Dicots		1	4/5 mile	80		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19800630
2021 May	Astragalus tener var. ferrisiae	Ferris' milk-vetch	3.1	PDFAB0F8R3	4	31517	2363	1	1 Dicots		1	2.1 mile	90		1B.1	Possibly Extirpated	Natural/Native occurrence	None	N	20020502
2021 May	Lasthenia glabrata ssp. coulteri	Coulter's goldfields	3.1	PDAST5LOA1	56	31517	2362	1	1 Dicots		1	2.1 mile	90		1B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	19260422
2021 May	Thamnophis gigas	giant gartersnake	3.1	ARADB36150	356	93766	94890	2	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Unknown	N	20020829
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	3.1	PDSCROJ0I0	18	25367	5907	1	1 Dicots		1	specific area	20		1B.1	Presumed Extant	Natural/Native occurrence	Good	N	20071003
2021 May	Agelaius tricolor	tricolored blackbird	3.2	ABPBXB0020	264	24019	7021	1	2 Birds		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	20000426
2021 May	Thamnophis gigas	giant gartersnake	3.2	ARADB36150	413	A3038	104661	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20150516
2021 May	Thamnophis gigas	giant gartersnake	3.2	ARADB36150	217	61930	61966	5	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Good	N	20150918
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	3.4	PDSCROJ0I0	12	09904	5905	3	1 Dicots		1	specific area	20		1B.1	Presumed Extant	Natural/Native occurrence	Excellent	N	20070829
2021 May	Plegadis chihi	white-faced ibis	3.4	ABNGEO2020	12	30005	12255	1	2 Birds		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Good	N	198906XX
2021 May	Atriplex depressa	brittlescale	3.5	PDCHEO42L0	20	24550	6865	1	1 Dicots		1	2 non-specific area	30		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19930709
2021 May	Puccinellia simplex	California alkali grass	3.5	PMPOA53110	67	24550	100303	1	1 Monocots		1	2 non-specific area	30		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19880324
2021 May	Thamnophis gigas	giant gartersnake	3.5	ARADB36150	111	32406	7574	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX
2021 May	Buteo swainsoni	Swainson's hawk	3.6	ABNKC19070	2077	88238	89250	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20060806
2021 May	Thamnophis gigas	giant gartersnake	3.7	ARADB36150	377	94249	95371	1	2 Reptiles		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	20150613
2021 May	Thamnophis gigas	giant gartersnake	3.7	ARADB36150	357	93768	94892	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19980519
2021 May	Agelaius tricolor	tricolored blackbird	3.8	ABPBXB0020	32	09497	24775	1	2 Birds		1	1 mile	90			Presumed Extant	Natural/Native occurrence	Unknown	N	20140418
2021 May	Atriplex depressa	brittlescale	3.9	PDCHEO42L0	80	62740	83814	1	1 Dicots		1	2 non-specific area	30		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19930726
2021 May	Extriplex joaquinana	San Joaquin spearscale	3.9	PDCHEO41F3	78	62740	62777	1	1 Dicots		1	2 non-specific area	30		1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19930726
2021 May	Buteo swainsoni	Swainson's hawk	4.0	ABNKC19070	2092	88253	89265	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20060806
2021 May	Thamnophis gigas	giant gartersnake	4.0	ARADB36150	113	32408	7524	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Excellent	N	1991XXXX
2021 May	Thamnophis gigas	giant gartersnake	4.1	ARADB36150	110	32405	7547	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX
2021 May	Agelaius tricolor	tricolored blackbird	4.2	ABPBXB0020	213	21717	8384	1	2 Birds		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Good	N	20140418
2021 May	Athene cunicularia	burrowing owl	4.3	ABNSB10010	157	23687	7337	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19920309
2021 May	Thamnophis gigas	giant gartersnake	4.3	ARADB36150	216	61920	61956	6	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Good	N	20150915
2021 May	Agelaius tricolor	tricolored blackbird	4.4	ABPBXB0020	33	09709	11817	1	2 Birds		1	non-specific area	30			Presumed Extant	Natural/Native occurrence	Unknown	N	20140601
2021 May	Thamnophis gigas	giant gartersnake	4.6	ARADB36150	353	93650	94808	3	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Unknown	N	19800519
2021 May	Trichocoronis wrightii var. wrightii	Wright's trichocoronis	4.7	PDAST9F031	12	86183	119231	1	1 Dicots		1	1 mile	90		2B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	19160711
2021 May	Thamnophis gigas	giant gartersnake	4.7	ARADB36150	343	93472	94605	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Good	N	20140827
2021 May	Puccinellia simplex	California alkali grass	4.7	PMPOA53110	68	98815	100304	1	1 Monocots		1	non-specific area	30		1B.2	Possibly Extirpated	Natural/Native occurrence	None	N	19580519
2021 May	Thamnophis gigas	giant gartersnake	4.8	ARADB36150	220	61981	62017	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19970331
2021 May	Athene cunicularia	burrowing owl	4.8	ABNSB10010	156	23686	19871	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19920306
2021 May	Thamnophis gigas	giant gartersnake	4.9	ARADB36150	204	61771	61807	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	19840512
2021 May	Thamnophis gigas	giant gartersnake	4.9	ARADB36150	219	61974	62010	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19960522
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	4.9	PDSCROJ0I0	29	61384	61420	1	1 Dicots		1	non-specific area	30		1B.1	Presumed Extant	Natural/Native occurrence	Good	N	20071015
2021 May	Thamnophis gigas	giant gartersnake	4.9	ARADB36150	221	61984	62020	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	19970408
2021 May	Buteo swainsoni	Swainson's hawk	4.9	ABNKC19070	2078	88239	89251	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20060806
2021 May	Thamnophis gigas	giant gartersnake	4.9	ARADB36150	222	61986	62022	4	2 Reptiles		1	specific area	20			Presumed Extant	Natural/Native occurrence	Unknown	N	20150620
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	5.0	PDSCROJ0I0	14	24551	5908	1	1 Dicots		1	specific area	20		1B.1	Presumed Extant	Natural/Native occurrence	Fair	N	20071011
2021 May	Agelaius tricolor	tricolored blackbird	5.1	ABPBXB0020	34	09642	24774	1	2 Birds		1	1 mile	90			Possibly Extirpated	Natural/Native occurrence	None	N	19340606
2021 May	Thamnophis gigas	giant gartersnake	5.2	ARADB36150	378	94250	95373	1	2 Reptiles		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20140914
2021 May	Buteo swainsoni	Swainson's hawk	5.4	ABNKC19070	2074	88234	89247	1	2 Birds		1	80 meters	10			Presumed Extant	Natural/Native occurrence	Unknown	N	20020713
2021 May	Agelaius tricolor	tricolored blackbird	5.4	ABPBXB0020	31	09713	24776	1	2 Birds		1	3/5 mile	70			Presumed Extant	Natural/Native occurrence	Unknown	N	2001XXXX
2021 May	Thamnophis gigas	giant gartersnake	5.4	ARADB36150	109	32404	7578	1	2 Reptiles		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Excellent	N	1986XXXX
2021 May	Agelaius tricolor	tricolored blackbird	5.4	ABPBXB0020	381	52472	52472	1	2 Birds		1	1/5 mile	50			Presumed Extant	Natural/Native occurrence	Unknown	N	2001XXXX
2021 May	Agelaius tricolor	tricolored blackbird	5.5																	

2021 May	Melospiza melodia	song sparrow ("Modesto" population)	7.0	ABPBXA3010	90	90046	91059	1	2	Birds	2	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19230306
2021 May	Agelaius tricolor	tricolored blackbird	7.0	ABPBXB0020	525	90046	97569	1	2	Birds	2	1 mile	90	Possibly Extirpated	Natural/Native occurrence	None	N	20140419
2021 May	Buteo swainsoni	Swainson's hawk	7.0	ABNKC19070	2096	88257	89269	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060805
2021 May	Thamnophis gigas	giant gartersnake	7.0	ARADB36150	410	A3032	104653	1	2	Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20150612
2021 May	Buteo swainsoni	Swainson's hawk	7.1	ABNKC19070	2071	88226	89244	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20090526
2021 May	Athene cucularia	burrowing owl	7.1	ABNSB10010	150	23671	7344	1	2	Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19920309
2021 May	Athene cucularia	burrowing owl	7.1	ABNSB10010	161	23685	7333	1	2	Birds	1	80 meters	10	Possibly Extirpated	Natural/Native occurrence	None	N	19920211
2021 May	Astragalus tener var. ferrisiae	Ferris' milk-vetch	7.3	PDFAB0F8R3	9	24712	4652	1	1	Dicots	4	1 mile	90	Possibly Extirpated	Natural/Native occurrence	None	N	20020318
2021 May	Navarretia leucocephala ssp. bakeri	Baker's navarretia	7.3	PDPLMOCO1E	16	24712	4651	1	1	Dicots	4	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19160617
2021 May	Layia septentrionalis	Colusa layia	7.3	PDAST5N0F0	31	24712	32773	1	1	Dicots	4	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	1905XXXX
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	7.3	PDSRCR0J0J0	9	24712	49819	1	1	Dicots	4	1 mile	90	Possibly Extirpated	Natural/Native occurrence	None	N	196XXXXX
2021 May	Buteo swainsoni	Swainson's hawk	7.5	ABNKC19070	2090	88251	89263	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060806
2021 May	Buteo swainsoni	Swainson's hawk	7.6	ABNKC19070	2	10183	27305	1	2	Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	19830504
2021 May	Athene cucularia	burrowing owl	7.6	ABNSB10010	585	51320	51320	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	19920211
2021 May	Spea hammondi	western spadefoot	7.6	AAABF02020	494	B1457	113364	1	2	Amphibians	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20170304
2021 May	Emys marmorata	western pond turtle	7.8	ARAAD02030	1478	B1897	113819	1	2	Reptiles	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	20170605
2021 May	Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	7.8	ABNJ805035	1	10247	27365	1	2	Birds	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19781017
2021 May	Thamnophis gigas	giant gartersnake	7.8	ARADB36150	411	A3034	104655	2	2	Reptiles	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	20150603
2021 May	Agelaius tricolor	tricolored blackbird	7.9	ABPBXB0020	49	10174	24763	1	2	Birds	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	20140418
2021 May	Spirinchus thaleichthys	longfin smelt	7.9	AFCH803010	12	89686	90686	1	2	Fish	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20120905
2021 May	Riparia riparia	bank swallow	7.9	ABPAU08010	14	10045	25242	4	2	Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Good	N	20090611
2021 May	Lepidurus packardii	vernal pool tadpole shrimp	7.9	ICBRA10010	168	48238	48238	1	2	Crustaceans	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Excellent	N	20120328
2021 May	Cicindela hirticollis abrupta	Sacramento Valley tiger beetle	7.9	ICCOL20106	2	60011	60047	1	2	Insects	1	specific area	20	Extirpated	Natural/Native occurrence	None	N	2004XXXX
2021 May	Atriplex cordulata var. cordulata	heartscale	7.9	PDCH04080	80	75000	76008	1	1	Dicots	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20020808
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	7.9	CTT61420CA	72	21631	5244	3	3	Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	8.0	ICCOL48011	149	39465	34467	1	2	Insects	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	1987XXXX
2021 May	Myotis ciliolabrum	western small-footed myotis	8.0	AMACC001140	40	68987	69685	2	2	Mammals	3	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	19990826
2021 May	Lasiurus blossevillii	western red bat	8.0	AMACC005060	59	68987	69683	2	2	Mammals	3	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922
2021 May	Lasiurus cinereus	hoary bat	8.0	AMACC005030	201	68987	69684	2	2	Mammals	3	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922
2021 May	Athene cucularia	burrowing owl	8.0	ABNSB10010	160	23684	7334	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	19920308
2021 May	Branchinecta lynchi	vernal pool fairy shrimp	8.0	ICBRA03030	397	93439	64206	1	2	Crustaceans	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Excellent	N	20120203
2021 May	Buteo swainsoni	Swainson's hawk	8.1	ABNKC19070	2040	88171	89178	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20090515
2021 May	Linderiella occidentalis	California linderiella	8.1	ICBRA06010	473	B5550	118517	2	2	Crustaceans	1	specific area	20	Presumed Extant	Natural/Native occurrence	Excellent	N	20170215
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	8.2	ABNRB02022	27	95784	25610	1	2	Birds	1	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	20130712
2021 May	Agelaius tricolor	tricolored blackbird	8.2	ABPBXB0020	526	96452	97630	1	2	Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	20110415
2021 May	Buteo swainsoni	Swainson's hawk	8.3	ABNKC19070	2064	88205	89230	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20020709
2021 May	Nycticorax nycticorax	black-crowned night heron	8.3	ABNGA11010	25	69740	70551	1	2	Birds	2	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	20070809
2021 May	Egretta thula	snowy egret	8.3	ABNGA06030	15	69740	70550	1	2	Birds	2	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	20070809
2021 May	Agelaius tricolor	tricolored blackbird	8.3	ABPBXB0020	527	96456	97640	1	2	Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	20140601
2021 May	Lasiurus cinereus	hoary bat	8.3	AMACC005030	202	68988	69687	1	2	Mammals	2	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923
2021 May	Lasiurus blossevillii	western red bat	8.3	AMACC005060	60	68988	69686	1	2	Mammals	2	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923
2021 May	Buteo swainsoni	Swainson's hawk	8.4	ABNKC19070	2082	88243	89255	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030716
2021 May	Agelaius tricolor	tricolored blackbird	8.4	ABPBXB0020	43	09478	12237	1	2	Birds	1	3/5 mile	70	Possibly Extirpated	Natural/Native occurrence	None	N	20140418
2021 May	Riparia riparia	bank swallow	8.4	ABPAU08010	83	10129	25191	1	2	Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	1984XXXX
2021 May	Athene cucularia	burrowing owl	8.5	ABNSB10010	159	23683	7335	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	1993XXXX
2021 May	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	8.5	CTT61410CA	55	26130	13160	1	3	Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX
2021 May	Buteo swainsoni	Swainson's hawk	8.6	ABNKC19070	2089	88250	89262	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060723
2021 May	Thamnophis gigas	giant gartersnake	8.6	ARADB36150	345	93480	94610	1	2	Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	20080804
2021 May	Buteo swainsoni	Swainson's hawk	8.6	ABNKC19070	254	10065	27051	1	2	Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	19880712
2021 May	Buteo swainsoni	Swainson's hawk	8.6	ABNKC19070	2083	88244	89256	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030716
2021 May	Atriplex depressa	brittlescale	8.7	PDCH0402L0	9	17217	7063	1	1	Dicots	3	non-specific area	30	Extirpated	Natural/Native occurrence	None	N	19850624
2021 May	Northern Claypan Vernal Pool	Northern Claypan Vernal Pool	8.7	CTT44120CA	32	17217	7062	1	3	Herbaceous	3	non-specific area	30	Presumed Extant	Natural/Native occurrence	Excellent	N	19850624
2021 May	Extriplex joaquinana	San Joaquin spearscale	8.7	PDCH0401F3	18	17217	7061	1	1	Dicots	3	non-specific area	30	Extirpated	Natural/Native occurrence	None	N	19870624
2021 May	Navarretia leucocephala ssp. bakeri	Baker's navarretia	8.7	PDPLMOCO1E	57	90254	91276	1	1	Dicots	1	1/5 mile	50	Possibly Extirpated	Natural/Native occurrence	None	N	19850506
2021 May	Lasiurus blossevillii	western red bat	8.8	AMACC005060	61	68989	69688	1	2	Mammals	2	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922
2021 May	Lasiurus cinereus	hoary bat	8.8	AMACC005030	203	68989	69689	1	2	Mammals	2	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922
2021 May	Valley Needlegrass Grassland	Valley Needlegrass Grassland	8.9	CTT42110CA	49	09261	16276	4	3	Herbaceous	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	197105XX
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	8.9	ABNRB02022	166	96059	42367	1	2	Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	1988XXXX
2021 May	Buteo swainsoni	Swainson's hawk	9.0	ABNKC19070	2039	88168	89175	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030718
2021 May	Valley Needlegrass Grassland	Valley Needlegrass Grassland	9.0	CTT42110CA	8	09270	16295	1	3	Herbaceous	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	198006XX
2021 May	Buteo swainsoni	Swainson's hawk	9.0	ABNKC19070	125	10285	27180	1	2	Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19810703
2021 May	Buteo swainsoni	Swainson's hawk	9.0	ABNKC19070	2087	88248	89260	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20040723
2021 May	Agelaius tricolor	tricolored blackbird	9.0	ABPBXB0020	38	09520	24769	1	2	Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	20140418
2021 May	Buteo swainsoni	Swainson's hawk	9.1	ABNKC19070	2065	88207	89231	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060805
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	9.1	ICCOL48011	148	39462	34464	1	2	Insects	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	1986XXXX
2021 May	Riparia riparia	bank swallow	9.1	ABPAU08010	15	10062	25241	4	2	Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20090611
2021 May	Buteo swainsoni	Swainson's hawk	9.1	ABNKC19070	2084	88245	89257	1	2	Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030716
2021 May	Thamnophis gigas	giant gartersnake	9.2	ARADB36150	374	94243	95367	3	2	Reptiles	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	20050711
2021 May	Rana boylei	foothill yellow-legged frog	9.2	AAABH01050	2532	B3464	115382	1	2	Amphibians	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Fair	N	19930908
2021 May	Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	9.2	ABNJ805035	13	61225	61261	1	2	Birds	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19870126
2021 May	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	9.2	CTT61410CA	53	21632	5245	2	3	Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX
2021 May	Taxidea taxus	American badger	9.2	AMAJF04010	519	A1827	103423	1	2	Mammals	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Good	N	20160406
2021 May	Thamnophis gigas	giant gartersnake	9.2	ARADB36150	218	61934	61970	1	2	Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20020724
2021 May	Gonidea angulata	western ridged mussel	9.3	IMBIN19010	158	10353	119130	1	2	Mollusks	2	1 mile	90	Possibly Extirpated	Natural/Native occurrence	None	N	XXXXXXX
2021 May	Agelaius tricolor	tricolored blackbird	9.3	ABPBXB0020	112	10353	24717	1										



2021 May	Buteo swainsoni	Swainson's hawk	9.9	ABNKC19070	2085	88246	89258	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030725	
2021 May	Riparia riparia	bank swallow	9.9	ABPAU08010	219	61394	61430	1	2 Birds	1	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19970628	
2021 May	Buteo swainsoni	Swainson's hawk	9.9	ABNKC19070	2063	88204	89229	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20020709	
2021 May	Thamnophis gigas	giant gartersnake	9.9	ARADB36150	205	61773	61809	1	2 Reptiles	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19840512	
2021 May	Riparia riparia	bank swallow	10.0	ABPAU08010	13	10357	25250	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Good	N	20090611	
2021 May	Buteo swainsoni	Swainson's hawk	10.1	ABNKC19070	1491	62651	62688	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030725	
2021 May	Thamnophis gigas	giant gartersnake	10.1	ARADB36150	373	94242	95365	1	2 Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20050721	
2021 May	Buteo swainsoni	Swainson's hawk	10.2	ABNKC19070	230	10322	13590	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19860422	
2021 May	Falco mexicanus	prairie falcon	10.2	ABNKD06090	455	33370	13280	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Excellent	Y	19880524	
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	10.2	CTT61420CA	75	26158	15250	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	
2021 May	Buteo swainsoni	Swainson's hawk	10.2	ABNKC19070	250	10355	27055	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19860701	
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	10.2	PDBOR01070	64	81465	82442	1	1 Dicots	1	80 meters	10	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20090311
2021 May	Buteo swainsoni	Swainson's hawk	10.2	ABNKC19070	2066	88209	89232	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060811	
2021 May	Thamnophis gigas	giant gartersnake	10.2	ARADB36150	215	61917	61953	1	2 Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	19961023	
2021 May	Astragalus tener var. ferrisiae	Ferris' milk-vetch	10.3	PDFAB0F8R3	8	13052	18313	1	1 Dicots	1	1/5 mile	50	1B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	188405XX
2021 May	Agelaius tricolor	tricolored blackbird	10.3	ABPBXB0020	530	96493	97656	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20140601	
2021 May	Thamnophis gigas	giant gartersnake	10.4	ARADB36150	58	32410	2286	1	2 Reptiles	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	20050915	
2021 May	Thamnophis gigas	giant gartersnake	10.4	ARADB36150	252	76856	77796	1	2 Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	20080902	
2021 May	Riparia riparia	bank swallow	10.5	ABPAU08010	16	10054	25240	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	20020612	
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	10.5	CTT61420CA	74	26163	4898	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX	
2021 May	Riparia riparia	bank swallow	10.5	ABPAU08010	164	10360	25140	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	19990609	
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	10.5	ABNRB02022	26	10055	25612	1	2 Birds	1	2/5 mile	60	Presumed Extant	Natural/Native occurrence	Unknown	N	19870820	
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	10.5	ICOL48011	48	10279	22717	1	2 Insects	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Good	N	19870429	
2021 May	Thamnophis gigas	giant gartersnake	10.5	ARADB36150	372	94234	95361	1	2 Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20050701	
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	10.5	PDSCROJ0J0	13	74078	5891	2	1 Dicots	1	non-specific area	30	1B.1	Presumed Extant	Natural/Native occurrence	Good	N	20071004
2021 May	Buteo swainsoni	Swainson's hawk	10.5	ABNKC19070	2041	88172	89179	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20090518	
2021 May	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	10.5	CTT61410CA	57	26160	22950	2	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	
2021 May	Buteo swainsoni	Swainson's hawk	10.5	ABNKC19070	26	10346	27277	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19860701	
2021 May	Trichocoronis wrightii var. wrightii	Wright's trichocoronis	10.5	PDAST9F031	7	24711	6876	1	1 Dicots	1	1 mile	90	2B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	19530828
2021 May	Agelaius tricolor	tricolored blackbird	10.5	ABPBXB0020	918	A1395	102975	1	2 Birds	1	3/5 mile	70	Presumed Extant	Natural/Native occurrence	Unknown	N	19990424	
2021 May	Great Valley Willow Scrub	Great Valley Willow Scrub	10.6	CTT63410CA	22	26159	22954	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	
2021 May	Agelaius tricolor	tricolored blackbird	10.6	ABPBXB0020	42	09601	24771	1	2 Birds	1	1 mile	90	Possibly Extirpated	Natural/Native occurrence	None	N	20110415	
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	10.7	ABNRB02022	140	10326	13008	1	2 Birds	1	2 1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	197607XX	
2021 May	Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	10.7	ABNJ805035	4	10326	13104	1	2 Birds	1	2 1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19851115	
2021 May	Lasiurus cinereus	hoary bat	10.7	AMACCO05030	204	68990	69691	1	2 Mammals	3	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922	
2021 May	Myotis yumanensis	Yuma myotis	10.7	AMACCO01020	189	68990	69695	1	2 Mammals	3	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922	
2021 May	Lasiurus blossevillii	western red bat	10.7	AMACCO05060	62	68990	69690	1	2 Mammals	3	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	19990922	
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	10.7	CTT61420CA	18	10050	13159	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	19800428	
2021 May	Melospiza melodia	song sparrow ("Modesto" population)	10.7	ABPBXA3010	88	90041	91054	1	2 Birds	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19230305	
2021 May	Riparia riparia	bank swallow	10.7	ABPAU08010	12	10389	12990	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Good	N	20090611	
2021 May	Pandion haliaetus	osprey	10.7	ABNKC01010	428	69254	70034	1	2 Birds	1	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	20040610	
2021 May	Buteo swainsoni	Swainson's hawk	10.7	ABNKC19070	2070	88223	89236	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060811	
2021 May	Buteo swainsoni	Swainson's hawk	10.8	ABNKC19070	142	10393	27155	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030725	
2021 May	Riparia riparia	bank swallow	10.9	ABPAU08010	216	61352	61388	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20090611	
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	10.9	CTT61420CA	76	26161	17825	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX	
2021 May	Buteo swainsoni	Swainson's hawk	10.9	ABNKC19070	231	10302	27072	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19840628	
2021 May	Buteo swainsoni	Swainson's hawk	10.9	ABNKC19070	2067	88210	89233	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060811	
2021 May	Buteo swainsoni	Swainson's hawk	11.0	ABNKC19070	879	43676	43676	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	20000727	
2021 May	Riparia riparia	bank swallow	11.0	ABPAU08010	306	87421	88412	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20040610	
2021 May	Perognathus inornatus	San Joaquin pocket mouse	11.0	AMAFD01060	39	10384	23941	1	2 Mammals	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19120417	
2021 May	Agelaius tricolor	tricolored blackbird	11.0	ABPBXB0020	528	96457	97641	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20110624	
2021 May	Buteo swainsoni	Swainson's hawk	11.1	ABNKC19070	1267	52374	52374	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	20030701	
2021 May	Thamnophis gigas	giant gartersnake	11.1	ARADB36150	208	61788	61824	1	2 Reptiles	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	198304XX	
2021 May	Navarretia nigelliformis ssp. radians	shining navarretia	11.2	PDPLMOCOJ2	99	82660	114595	2	1 Dicots	1	specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20100704
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	11.2	ICOL48011	20	10415	22732	1	2 Insects	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	19850503	
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	11.4	ICOL48011	266	95106	96241	1	2 Insects	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	201102XX	
2021 May	Buteo swainsoni	Swainson's hawk	11.4	ABNKC19070	1493	62712	62749	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20030705	
2021 May	Buteo swainsoni	Swainson's hawk	11.4	ABNKC19070	2069	88218	89235	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20060814	
2021 May	Chloropyron palmatum	palmate-bracted bird's-beak	11.4	PDSCROJ0J0	19	25370	5890	1	1 Dicots	1	80 meters	10	1B.1	Presumed Extant	Natural/Native occurrence	Good	N	20071003
2021 May	Buteo swainsoni	Swainson's hawk	11.4	ABNKC19070	2068	88212	89234	1	2 Birds	1	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Unknown	N	20060811	
2021 May	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	11.4	PDMALOHOR3	37	10276	20814	1	1 Dicots	1	1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19460904
2021 May	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	11.4	PDMALOHOR3	38	10236	20813	1	1 Dicots	1	1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19450711
2021 May	Aquila chrysaetos	golden eagle	11.4	ABNKC22010	31	09156	27310	1	2 Birds	1	1/10 mile	40	Presumed Extant	Natural/Native occurrence	Good	N	19860424	
2021 May	Riparia riparia	bank swallow	11.4	ABPAU08010	11	10428	25251	2	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20090611	
2021 May	Buteo swainsoni	Swainson's hawk	11.4	ABNKC19070	226	10430	27078	2	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20030725	
2021 May	Buteo swainsoni	Swainson's hawk	11.5	ABNKC19070	2097	88258	89270	1	2 Birds	1	1/5 mile	50	Presumed Extant	Natural/Native occurrence	Unknown	N	198806XX	
2021 May	Atriplex depressa	brittlescale	11.5	PDCHEO42L0	15	24558	6853	1	1 Dicots	1	specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20040924
2021 May	Buteo swainsoni	Swainson's hawk	11.5	ABNKC19070	2037	88162	89173	2	2 Birds	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	20090709	
2021 May	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	11.6	CTT61410CA	58	26162	17824	1	3 Riparian	1	specific area	20	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX	
2021 May	Thamnophis gigas	giant gartersnake	11.6	ARADB36150	253	76858	77797	1	2 Reptiles	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Good	N	20080916	
2021 May	Branta hutchinsii leucopareia	cackling (=Aleutian Canada) goose	11.6	ABNJ805035	2	10293	27366	1	2 Birds	1	1 mile	90	Presumed Extant	Natural/Native occurrence	Unknown	N	19870126	
2021 May	Riparia riparia	bank swallow	11.6	ABPAU08010	307	87428	88416	1	2 Birds	1	non-specific area	30	Presumed Extant	Natural/Native occurrence	Unknown	N	20090611	
2021 May	Riparia riparia	bank swallow	11.7	ABPAU08010	17	09997	25239	1	2 Birds	1	specific area	20	Presumed Extant	Natural/Native occurrence	Unknown	N	20030611	
2021 May	Agelaius tricolor	tricolored blackbird	11.7	ABPBXB0020	529	96459	97644	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20110415	
2021 May	Navarretia nigelliformis ssp. radians	shining navarretia	11.7	PDPLMOCOJ2	100	82662	114597	1	1 Dicots	1	specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Fair	N	20100505
2021 May	Buteo swainsoni	Swainson's hawk	11.8	ABNKC19070	1576	63165	63257	1	2 Birds	1	80 meters	10	Presumed Extant	Natural/Native occurrence	Unknown	N	20020	

2021 May	Agelaius tricolor	tricolored blackbird	12.4 ABPBXB0020	46 09705	24768	1	2 Birds	1 1 mile	90		Presumed Extant	Natural/Native occurrence	Unknown	N	20110415
2021 May	Navarretia nigelliformis ssp. radians	shining navarretia	12.4 PDPMLMOC0I2	101 82663	114598	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20100703
2021 May	Sidalcea keckii	Keck's checkerbloom	12.5 PDMALL10D0	48 83715	116628	1	1 Dicots	1 non-specific area	30	1B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	20090506
2021 May	Haliaeetus leucocephalus	bald eagle	12.5 ABNKC10010	357 91618	92715	1	2 Birds	1 1/10 mile	40		Presumed Extant	Natural/Native occurrence	Fair	N	20140213
2021 May	Buteo swainsoni	Swainson's hawk	12.5 ABNKC19070	878 43675	43675	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Fair	N	20000708
2021 May	Agelaius tricolor	tricolored blackbird	12.5 ABPBXB0020	902 A1036	102597	1	2 Birds	1 2/5 mile	60		Presumed Extant	Natural/Native occurrence	Unknown	N	20140418
2021 May	Perognathus inornatus	San Joaquin pocket mouse	12.6 AMAFD01060	40 09294	23929	1	2 Mammals	1 1 mile	90		Presumed Extant	Natural/Native occurrence	Unknown	N	19291006
2021 May	Thamnophis gigas	giant gartersnake	12.7 ARADB36150	371 94233	95360	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20050620
2021 May	Plegadis chihi	white-faced ibis	12.8 ABNGE02020	23 65882	65961	1	2 Birds	1 1/10 mile	40		Presumed Extant	Natural/Native occurrence	Good	N	20030620
2021 May	Lepidurus packardii	vernal pool tadpole shrimp	12.8 ICBRA10010	361 96441	97607	1	2 Crustaceans	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	19940311
2021 May	Buteo swainsoni	Swainson's hawk	12.8 ABNKC19070	2050 88186	89193	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20030717
2021 May	Atriplex depressa	brittlescale	12.8 PDCHEO42L0	71 89356	62747	1	1 Dicots	1 non-specific area	30	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20110803
2021 May	Buteo swainsoni	Swainson's hawk	12.9 ABNKC19070	924 43809	43809	1	2 Birds	1 specific area	20		Presumed Extant	Natural/Native occurrence	Fair	N	20090625
2021 May	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	13.0 PDMALOH0R3	6 10409	20831	1	1 Dicots	1 1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19771003
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	13.0 ABNRB02022	190 95778	96914	2	2 Birds	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Unknown	N	20120806
2021 May	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	13.0 PDMALOH0R3	5 10431	20833	1	1 Dicots	1 1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19770823
2021 May	Great Valley Willow Scrub	Great Valley Willow Scrub	13.2 CTT63410CA	21 26133	18279	1	3 Riparian	1 specific area	20		Presumed Extant	Natural/Native occurrence	Fair	N	1987XXXX
2021 May	Buteo swainsoni	Swainson's hawk	13.3 ABNKC19070	1007 50666	50666	1	2 Birds	1 specific area	20		Presumed Extant	Natural/Native occurrence	Excellent	N	20090331
2021 May	Fritillaria pluriflora	adobe-lily	13.3 PMLILOV0F0	60 27884	205	1	1 Monocots	1 1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Fair	N	19930413
2021 May	Perognathus inornatus	San Joaquin pocket mouse	13.5 AMAFD01060	41 09238	23924	1	2 Mammals	1 1 mile	90		Presumed Extant	Natural/Native occurrence	Unknown	N	19110428
2021 May	Athene cunicularia	burrowing owl	13.7 ABNSB10010	163 23682	7341	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	19920305
2021 May	Spea hammondi	western spadefoot	13.7 AAABF02020	496 B1461	113367	1	2 Amphibians	1 specific area	20		Presumed Extant	Natural/Native occurrence	Good	N	20170304
2021 May	Thamnophis gigas	giant gartersnake	13.8 ARADB36150	344 93474	94606	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20111007
2021 May	Layia septentrionalis	Colusa layia	13.8 PDAST5N0F0	10 24315	19913	1	1 Dicots	2 non-specific area	30	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19380507
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	13.8 PDBOR01070	46 24315	62479	1	1 Dicots	2 non-specific area	30	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	19380423
2021 May	Buteo swainsoni	Swainson's hawk	13.9 ABNKC19070	2102 88273	89285	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	2007XXXX
2021 May	Buteo swainsoni	Swainson's hawk	13.9 ABNKC19070	880 43678	43678	2	2 Birds	1 specific area	20		Presumed Extant	Natural/Native occurrence	Unknown	N	20040728
2021 May	Thamnophis gigas	giant gartersnake	13.9 ARADB36150	384 94310	95434	1	2 Reptiles	1 1 mile	90		Presumed Extant	Natural/Native occurrence	Unknown	N	20110915
2021 May	Riparia riparia	bank swallow	13.9 ABPAU08010	19 09994	25235	1	2 Birds	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Unknown	N	20090611
2021 May	Fritillaria pluriflora	adobe-lily	13.9 PMLILOV0F0	14 09359	22028	1	1 Monocots	1 non-specific area	30	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	196203XX
2021 May	Charadrius montanus	mountain plover	13.9 ABNNB03100	15 48598	48598	1	2 Birds	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Excellent	N	20001226
2021 May	Buteo swainsoni	Swainson's hawk	13.9 ABNKC19070	2051 88187	89194	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20030517
2021 May	Spea hammondii	western spadefoot	14.0 AAABF02020	125 37140	32137	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	1990XXXX
2021 May	Thamnophis gigas	giant gartersnake	14.1 ARADB36150	182 52401	52401	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20030613
2021 May	Ambystoma californiense	California tiger salamander	14.2 AAAAA01180	627 46544	46544	1	2 Amphibians	1 1/10 mile	40		Presumed Extant	Natural/Native occurrence	Unknown	N	19900526
2021 May	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	14.2 CTT61410CA	52 26134	18282	1	3 Riparian	1 specific area	20		Presumed Extant	Natural/Native occurrence	Fair	N	1987XXXX
2021 May	Spea hammondii	western spadefoot	14.2 AAABF02020	126 37141	32138	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX
2021 May	Pandion haliaetus	osprey	14.2 ABNKC01010	427 69253	70033	1	2 Birds	1 1/10 mile	40		Presumed Extant	Natural/Native occurrence	Unknown	N	20040610
2021 May	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	14.3 CTT61420CA	71 26135	18281	1	3 Riparian	1 specific area	20		Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX
2021 May	Fritillaria pluriflora	adobe-lily	14.4 PMLILOV0F0	50 09151	12649	1	1 Monocots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20200320
2021 May	Ambystoma californiense	California tiger salamander	14.4 AAAAA01180	877 64135	64230	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Excellent	N	20050416
2021 May	Coccyzus americanus occidentalis	western yellow-billed cuckoo	14.6 ABNRB02022	25 10011	25611	2	2 Birds	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Unknown	N	20120724
2021 May	Agelaius tricolor	tricolored blackbird	14.6 ABPBXB0020	899 A1031	102591	1	2 Birds	1 2/5 mile	60		Presumed Extant	Natural/Native occurrence	Unknown	N	20000424
2021 May	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	14.6 PDFAB0F7E1	12 28534	29014	6	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20190412
2021 May	Fritillaria pluriflora	adobe-lily	14.7 PMLILOV0F0	111 78368	79289	1	1 Monocots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20190301
2021 May	Riparia riparia	bank swallow	14.7 ABPAU08010	20 10023	25234	1	2 Birds	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Fair	N	20040610
2021 May	Extriplex joaquinana	San Joaquin spearscale	14.8 PDCHEO41F3	69 22754	59599	1	1 Dicots	3 1 mile	90	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXX
2021 May	Astragalus tener var. ferrisiae	Ferris' milk-vetch	14.8 PDFAB0F8R3	5 22754	16647	1	1 Dicots	3 1 mile	90	1B.1	Possibly Extirpated	Natural/Native occurrence	None	N	20020318
2021 May	Lasthenia glabrata ssp. coulteri	Coulter's goldfields	14.8 PDAST5L0A1	94 22754	81920	1	1 Dicots	3 1 mile	90	1B.1	Possibly Extirpated	Natural/Native occurrence	None	N	19170420
2021 May	Castilleja rubicundula var. rubicundula	pink creamsacs	14.8 PDSCROD482	9 49131	49131	5	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20080612
2021 May	Thamnophis gigas	giant gartersnake	14.8 ARADB36150	251 76851	77791	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20081002
2021 May	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	14.8 PDFAB0F7E1	35 81217	82200	12	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20170530
2021 May	Fritillaria pluriflora	adobe-lily	14.9 PMLILOV0F0	110 78367	79288	3	1 Monocots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20080427
2021 May	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	14.9 PDFAB0F7E1	36 81218	82201	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Poor	N	20080330
2021 May	Thamnophis gigas	giant gartersnake	14.9 ARADB36150	158 45616	45616	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20010505
2021 May	Buteo swainsoni	Swainson's hawk	14.9 ABNKC19070	2100 88264	89281	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20010723
2021 May	Fritillaria pluriflora	adobe-lily	14.9 PMLILOV0F0	72 35164	18877	1	1 Monocots	1 non-specific area	30	1B.2	Presumed Extant	Natural/Native occurrence	Fair	N	19930414
2021 May	Rana boylei	foothill yellow-legged frog	14.9 AAABH01050	179 41725	41725	1	2 Amphibians	1 specific area	20		Presumed Extant	Natural/Native occurrence	Good	N	19980320
2021 May	Centromadia parryi ssp. parryi	pappose tarplant	14.9 PDAST4R0P2	29 81799	82761	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20070624
2021 May	Buteo swainsoni	Swainson's hawk	14.9 ABNKC19070	2101 88272	89284	1	2 Birds	1 2/5 mile	60		Presumed Extant	Natural/Native occurrence	Unknown	N	19940628
2021 May	Centromadia parryi ssp. parryi	pappose tarplant	14.9 PDAST4R0P2	30 81800	82764	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20070624
2021 May	Fritillaria pluriflora	adobe-lily	15.0 PMLILOV0F0	105 78362	79282	1	1 Monocots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20150315
2021 May	Ambystoma californiense	California tiger salamander	15.0 AAAAA01180	878 64136	64231	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Excellent	N	20050416
2021 May	Buteo swainsoni	Swainson's hawk	15.0 ABNKC19070	1032 50782	50782	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Fair	N	20040617
2021 May	Castilleja rubicundula var. rubicundula	pink creamsacs	15.0 PDSCROD482	25 81239	82225	3	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Excellent	N	20080427
2021 May	Spea hammondii	western spadefoot	15.0 AAABF02020	1303 B4915	117852	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20190225
2021 May	Rana boylei	foothill yellow-legged frog	15.1 AAABH01050	711 74680	75681	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20000805
2021 May	Fritillaria pluriflora	adobe-lily	15.1 PMLILOV0F0	27 09383	22021	1	1 Monocots	1 1/5 mile	50	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	2002XXXX
2021 May	Extriplex joaquinana	San Joaquin spearscale	15.1 PDCHEO41F3	106 81166	82146	8	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20170530
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	15.2 PDBOR01070	24 49073	49073	1	1 Dicots	1 80 meters	10	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20050410
2021 May	Ambystoma californiense	California tiger salamander	15.2 AAAAA01180	1301 B3620	116533	1	2 Amphibians	1 specific area	20		Presumed Extant	Natural/Native occurrence	Fair	N	20171115
2021 May	Castilleja rubicundula var. rubicundula	pink creamsacs	15.2 PDSCROD482	21 81234	82221	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Poor	N	20070429
2021 May	Ambystoma californiense	California tiger salamander	15.3 AAAAA01180	55 10066	28412	1	2 Amphibians	1 1 mile	90		Extirpated	Natural/Native occurrence	None	N	19270223
2021 May	Athene cunicularia	burrowing owl	15.3 ABNSB10010	162 23681	7342	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	2001XXXX
2021 May	Riparia riparia	bank swallow	15.3 ABPAU08010	308 87494	88468	1	2 Birds	1 1/5 mile	50		Presumed Extant	Natural/Native occurrence	Unknown	N	19980617
2021 May	Emys marmorata	western pond turtle	15.3 ARAAD02030	647 64837	64916	3	2 Reptiles	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Good	N	20160406
2021 May	Ambystoma californiense	California tiger salamander	15.3 AAAAA01180	408 37138	32135	1	2 Amphibians	1 1/10 mile	40		Presumed Extant	Natural/Native occurrence	Good	N	199005XX
2021 May	Lytta molesta	molestan blister beetle	15.3 IICOL4C030	16 60642	60678	1	2 Insects	1 non-specific area	30		Presumed Extant	Natural/Native occurrence	Unknown	N	19560419
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	15.4 PDBOR01070	62 81454	82432	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20080413
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	15.4 IICOL48011	99 33030	3765	1	2 Insects	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Fair	N	19910516
2021 May	Pandion haliaetus	osprey	15.5 ABNKC												



2021 May	Corynorhinus townsendii	Townsend's big-eared bat	15.7 AMACC08010	456 92637	93787	1	2 Mammals	1 2/5 mile	60		Presumed Extant	Natural/Native occurrence	Unknown	N	19461201
2021 May	Extriplex joaquinana	San Joaquin spearscale	15.7 PDCH041F3	108 81170	82148	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20070407
2021 May	Rana boylei	foothill yellow-legged frog	15.7 AAABH01050	1737 A8623	110413	1	2 Amphibians	1 1/5 mile	50		Presumed Extant	Natural/Native occurrence	Unknown	N	19550325
2021 May	Thamnophis gigas	giant gartersnake	15.7 ARADB36150	415 A3040	104663	2	2 Reptiles	1 specific area	20		Presumed Extant	Natural/Native occurrence	Unknown	N	20150829
2021 May	Riparia riparia	bank swallow	15.7 ABPAU08010	309 87495	88469	1	2 Birds	1 1/5 mile	50		Presumed Extant	Natural/Native occurrence	Unknown	N	19980617
2021 May	Rana boylei	foothill yellow-legged frog	15.8 AAABH01050	1722 A8555	110345	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20170409
2021 May	Spea hammondi	western spadefoot	15.8 AAABF02020	1304 B4919	117857	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Poor	N	20190225
2021 May	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	15.9 IICOL48011	98 33029	3764	1	2 Insects	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Fair	N	19910516
2021 May	Castilleja rubicundula var. rubicundula	pink creamsacs	15.9 PDSCR0D482	23 81236	82223	2	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Poor	N	20070429
2021 May	Fritillaria pluriflora	adobe-lily	16.0 PMLILOV0F0	106 78363	79283	5	1 Monocots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20090318
2021 May	Athene cunicularia	burrowing owl	16.1 ABNSB10010	430 47030	47030	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20010510
2021 May	Extriplex joaquinana	San Joaquin spearscale	16.1 PDCH041F3	109 81171	82149	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Good	N	20070429
2021 May	Rana boylei	foothill yellow-legged frog	16.3 AAABH01050	1723 A8556	110346	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20131127
2021 May	Rana boylei	foothill yellow-legged frog	16.4 AAABH01050	1736 A8622	110412	1	2 Amphibians	1 1/5 mile	50		Presumed Extant	Natural/Native occurrence	Unknown	N	19550325
2021 May	Emys marmorata	western pond turtle	16.5 ARAAD02030	1296 A1219	102786	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Good	N	20160406
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	16.5 PDBOR01070	96 B2697	114631	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20090325
2021 May	Cryptantha excavata	deep-scarred cryptantha	16.6 PDBOR0A0W0	5 96240	97400	1	1 Dicots	1 non-specific area	30	1B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	19580421
2021 May	Astragalus rattanii var. jepsonianus	Jepson's milk-vetch	16.7 PDFAB0F7E1	33 81215	82192	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20090506
2021 May	Rana boylei	foothill yellow-legged frog	16.7 AAABH01050	178 41724	41724	1	2 Amphibians	1 specific area	20		Presumed Extant	Natural/Native occurrence	Good	N	19970708
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	16.7 PDBOR01070	57 81447	82425	1	1 Dicots	1 specific area	20	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20090325
2021 May	Amsinckia lunaris	bent-flowered fiddleneck	16.8 PDBOR01070	47 62443	62480	1	1 Dicots	1 1 mile	90	1B.2	Presumed Extant	Natural/Native occurrence	Unknown	N	20030324
2021 May	Rana boylei	foothill yellow-legged frog	17.1 AAABH01050	712 74682	75683	1	2 Amphibians	1 specific area	20		Presumed Extant	Natural/Native occurrence	Unknown	N	20150713
2021 May	Buteo swainsoni	Swainson's hawk	17.2 ABNKC19070	2103 88274	89286	1	2 Birds	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20010604
2021 May	Thamnophis gigas	giant gartersnake	17.2 ARADB36150	227 62107	62143	1	2 Reptiles	1 specific area	20		Presumed Extant	Natural/Native occurrence	Unknown	N	20040715
2021 May	Cryptantha excavata	deep-scarred cryptantha	17.4 PDBOR0A0W0	4 96241	97399	1	1 Dicots	1 80 meters	10	1B.1	Presumed Extant	Natural/Native occurrence	Unknown	N	20150519
2021 May	Rana boylei	foothill yellow-legged frog	17.8 AAABH01050	1735 A8621	110411	1	2 Amphibians	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20160212
2021 May	Thamnophis gigas	giant gartersnake	18.1 ARADB36150	226 62104	62140	1	2 Reptiles	1 80 meters	10		Presumed Extant	Natural/Native occurrence	Unknown	N	20040719

Element Date	Owner Management	Federal Listing	CA Listing	Gloabl Rank	State Rank	Other Status	CDFW Status	Location
20060828	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	EAST SIDE OF RAILROAD TRACKS ALONG HWY 99W (I-5 N FRONTAGE), ABOUT 0.5 MI NNW OF MEYERS RD AND 0.6 MI SSE OF WARE RD.
20060514	CALTRANS	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF ROAD 99W (I-5 N FRONTAGE) JUST NORTH OF WARE ROAD, ABOUT 2.3 MILES SE OF WILLIAMS.
20090522	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		E SIDE OF I-5 JUST N OF GLENN-COLUSA CANAL CROSSING ABOUT 0.5 MI SE OF HUSTED RD OVERPASS & 0.6 MI NNW OF WARE RD.
20160829	UNKNOWN	None	None	G5	S3	IUCN_LC		SOUTHBOUND I-5 ABOUT 0.2 MILES N OF OLD HWY 99 (7TH ST) OVERPASS & 0.7 MILES SE OF OLD HWY 99W AT J STREET, WILLIAMS.
20090620	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	ON EAST SIDE OF HWY 99W AT CRAWFORD ROAD, WEST SIDE OF I-5, SE OF WILLIAMS.
20160412	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		E SIDE OF I-5 ABOUT 0.3 MI SSE OF MEYERS RD OVERPASS AND 0.9 MI NNW OF CORTINA CREEK CROSSING, 4.5 MI SE OF WILLIAMS.
19930311	UNKNOWN	Endangered	None	G4	S3S4	IUCN_EN		FROM WILLIAMS TO DELPHOS.
19320613	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		MARSH 9 MI SW OF COLUSA.
20030721	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	ABOUT 0.3 MILE E OF HUSTED RD AT CRAWFORD RD AND 1.6 MILES SE OF 7TH ST & E ST IN WILLIAMS.
19360528	UNKNOWN, PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		VICINITY OF WILLIAMS, ABOUT 1.8 MILES SW OF I-5 AND HWY 20 INTERSECTION.
19160609	UNKNOWN	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		NEAR WILLIAMS, ALONG THE STATE HIGHWAY.
19730929	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 0.7 MILE SW OF I-5 AND HWY 20 INTERSECTION, 0.7 MILE NW OF WILLIAMNS POST OFFICE, SW OF COLUSA.
19810521	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU	SSC	HUSTED ROAD, 0.1 MILE NORTH OF E STREET, WILLIAMS.
1986XXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		SALT CREEK AT OLD HWY 99 W, 0.5 MILE NORTH OF WILLIAMS.
19810519	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		VICINITY OF HWY 20 & HUSTED RD INTERSECTION, 0.9 MI E OF I-5 & HWY 20 INTERSECTION, 1.3 MI NE OF WILLIAMS POST OFFICE.
20090515	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF I-5 ABOUT 0.1 MI S OF FRESHWATER RD OVERPASS AND 0.5 MI NNW OF HWY 20 INTERCHANGE, N OF WILLIAMS.
1991XXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU	SSC	FRESHWATER CREEK; APPROX. 0.3 KM UPSTREAM FROM THE INTERSTATE ROUTE 5 OVERPASS; NNW OF WILLIAMS.
19920701	UNKNOWN, PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 0.5 MI N OF FRESHWATER RD & HWY 20 INTERSECTION, 1.4 MI NE OF HWY 20 & I-5 INTERSECTION, NE OF WILLIAMS.
20090728	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF ZUMWALT RD, ABOUT 0.4 MILE NORTH OF MEYERS RD AND 0.8 MILE SOUTH OF WALNUT DR, SOUTH OF WILLIAMS.
20150722	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		FROM THE CORNER OF FRESHWATER RD & SAN JOSE RD TO ABOUT 0.8 MI E, 2.3 MILES NE OF WILLIAMS.
19170412	UNKNOWN	None	None	G2	S2	BLM_S; SB_CalBG/RSABG	SSC	4 MILES EAST OF WILLIAMS.
19810519	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		NEAR THE INTERSECTION OF HIGHWAY 20 AND LONE STAR ROAD, APPROXIMATELY 3 MILES SW OF COLUSA.
19740901	UNKNOWN, PVT	Threatened	Threatened	G2	S2	IUCN_VU		VICINITY OF HAHN RD AND LONE STAR RD INTERSECTION, NEAR N BRANCH SAND CREEK, ABOUT 3 MILES NNW OF ARBUCKLE POST OFFICE.
197610XX	UNKNOWN	None	None	G5	S2			3 MILES NORTH OF WILLIAMS, GLENN-COLUSA CANAL IRRIGATION DISTRICT.
20150524	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU	SSC	ABOUT 1.9 MILES ENE OF FRESHWATER RD AT HWY 20, 3.2 MILES NE OF WILLIAMS.
19800630	USFWS-COLUSA NWR?	None	None	G2	S2			SOUTH CENTRAL BORDER AREA OF COLUSA NATIONAL WILDLIFE REFUGE.
19260421	UNKNOWN	None	None	G2T1	S1			3 MILES WEST OF COLUSA.
19260422	UNKNOWN	None	None	G4T2	S2	BLM_S; SB_CalBG/RSABG; SB_SBBG		3 MILES WEST OF COLUSA.
20020829	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU	SSC	ALONG N-S CANAL ABOUT 0.6 MI NW OF WARE RD AT OHM RD, BETWEEN LONE STAR RD & WESCOTT RD, COLUSA NWR, WILLIAMS.
20071003	USFWS-COLUSA NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		COLUSA NATIONAL WILDLIFE REFUGE. TRACT T20.2 & T18. 1.8 MI WEST OF COLUSA TROUGH.
1992XXXX	USFWS-COLUSA NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 0.8 MI NNW OF WARE RD & OHM RD INTERSECTION, 2.1 MI SE OF LONE STAR RD & ABEL RD INTERSECTION, ESE OF WILLIAMS.
20150516	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 2.1 MILES NE OF FRESHWATER RD AT HWY 20, 3.5 MILES NE OF WILLIAMS.
20150918	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU	WL	JUST SOUTH OF ABEL RD, ABOUT 0.95 MI SW OF INTERSECTION W/ OHM RD, & 1.4 MI SE OF LONE STAR RD INTERSECTION, COLUSA NWR.
20070829	USFWS-COLUSA NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		COLUSA NATIONAL WILDLIFE REFUGE. TRACTS T21, T22, T24.13, & P3.
198906XX	USFWS-COLUSA NWR	None	None	G5	S3S4	IUCN_LC		COLUSA NATIONAL WILDLIFE REFUGE, NORTH OF WARE ROAD & WEST OF OHM ROAD, APPROX 6 MILES SSW OF COLUSA.
19930709	USFWS-COLUSA NWR	None	None	G2	S2			ALONG OHM ROAD, APPROXIMATELY 1 MILE N OF WARE ROAD, COLUSA NATIONAL WILDLIFE REFUGE.
19880324	USFWS-COLUSA NWR	None	None	G3	S2	BLM_S	SSC	COLUSA NATIONAL WILDLIFE REFUGE, ON OHM ROAD ABOUT 0.5 MILE NORTH OF WARE ROAD.
XXXXXXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		WEST OF WILLIAMS; GLENN-COLUSA CANAL AT HIGHWAY 20.
20060806	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF OHM RD ABOUT 0.7 MILE S OF MEYERS RD, 3 MILES ENE OF GENEVRA.
20150613	PVT	Threatened	Threatened	G2	S2	IUCN_VU		VICINITY OF SAN JOSE RD AT LURLINE RD & NORTHERN GUN CLUB & COLUSA GUN CLUB, W OF COLUSA TROUGH, 7.75 MI NE OF WILLIAMS.
19980519	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU	SSC	ALONG ABEL RD, ABOUT 1 MILE E OF LONE STAR RD & 1 MILE W OF OHM RD, COLUSA NATIONAL WILDLIFE REFUGE, E OF WILLIAMS.
19330509	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 2.5 MI E OF LURLINE RD & DANLEY RD INTERSECTION, 4.2 MI NNW OF I-5 & HWY 20 INTERSECTION, S OF MAXWELL.
19930726	USFWS-COLUSA NWR	None	None	G2	S2			NEAR OHM ROAD, ABOUT 2 MILES N OF WARE ROAD, 5 MILES S OF COLUSA, COLUSA NATIONAL WILDLIFE REFUGE.
19930726	USFWS-COLUSA NWR	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		SOUTH END OF COLUSA NATIONAL WILDLIFE REFUGE. NEAR OHM ROAD, CA. 2 MILES NORTH OF WARE ROAD.
20060806	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	WEST SIDE OF I-5 BETWEEN THE INTERSTATE AND HWY 99W, ABOUT 0.5 MILE S OF THE LURLINE AVENUE OVERPASS.
1991XXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		HWY 99 WEST AT LURLINE CREEK, 0.4 MILE SOUTH LURLINE ROAD, 6.5 MILES NNW WILLIAMS.
1987XXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		GLENN-COLUSA CANAL AT FRESHWATER CREEK; APPROX. 5.8 KM ENE OF WILLIAMS.
19920701	UNKNOWN	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ALONG OHM RD, ABOUT 0.4 MI N OF HAHN ROAD INTERSECTION, 2.4 MI ENE OF HAHN RD & I-5 INTXN, 3.3 MI NNE OF ARBUCKLE.
19920309	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.3 MILE NW OF THE JUNCTION OF EVANS ROAD AND HAHN ROAD, 5 MILES SSW OF WILLIAMS.
20150915	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU		N-S CANAL EXTENDING 1 MI N FROM OHM RD AT ABEL RD & ADJACENT E-W CANALS, JUST W OF COLUSA TROUGH.
20130618	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		AREA JUST NE OF SAN JOSE RD & LURLINE RD INTERSECTION, 2.3 MI NW OF HWY 20 & LONE STAR RD INTXN, 5 MI W OF COLUSA.
19800519	UNKNOWN, PVT	Threatened	Threatened	G2	S2	IUCN_VU		MAXWELL MITIGATION BANK, ABOUT 0.1 MI NNW OF SACHREITER RD AT MAIN CANAL RD (WESCOTT RD), COLUSA TROUGH, COLUSA BASIN.
19160711	UNKNOWN	None	None	G4T3	S1		SSC	DAVIS TULE NEAR SYCAMORE SLOUGH.
20140827	PVT	Threatened	Threatened	G2	S2	IUCN_VU		W SIDE COLUSA TROUGH, 1.1 MI E OF WARE RD AT OHM RD & 2.25 MI NW OF SACHREITER RD AT SYCAMORE SLOUGH RD, NW OF GRIMES.
19580519	UNKNOWN	None	None	G3	S2	BLM_S		3 MILES SOUTH OF MAXWELL, ALONG HIGHWAY 99W.
19970331	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU		ALONG WEST SIDE OF COLUSA TROUGH & EAST OF A DRAINAGE CANAL, ABOUT 3.1 MILES SW OF COLUSA, COLUSA NWR.
19920306	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	ON THE WEST SIDE OF EAST CAMP ROAD, 0.7 MILE SOUTH OF WALNUT DRIVE, 5 MILES SW OF WILLIAMS.
19840512	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		ALONG LURLINE AVE, ABOUT 1 MILE WEST OF I-5 AND 2.5 MILES EAST OF DANLEY RD, ABOUT 5 MILES NNW OF WILLIAMS.
19960522	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU		ALONG WEST SIDE OF COLUSA TROUGH, COLUSA NWR, ABOUT 2.5 MILES SW OF COLUSA.
20071015	USFWS-COLUSA NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		COLUSA NATIONAL WILDLIFE REFUGE. TRACT T11.
19970408	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU	SSC	ALONG WEST SIDE OF COLUSA TROUGH & EAST OF A DRAINAGE CANAL, ABOUT 3.3 MILES SSW OF COLUSA, COLUSA NWR.
20060806	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		FARMYARD ON EAST SIDE OF OHM RD, ABOUT 0.3 MILE SOUTH OF HAHN RD INTERSECTION AND 2.5 MILES NNE OF ARBUCKLE.
20150620	UNKNOWN, USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU		EAST SIDE OF COLUSA TROUGH FROM JUST NORTH OF TO ABOUT 0.8 MILES SOUTH OF ABLE RD & 5 MILES SOUTH OF COLUSA.
20071011	USFWS-COLUSA NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		COLUSA NATIONAL WILDLIFE REFUGE, TRACTS 7 & 8. BETWEEN COLUSA TROUGH & POWELL SLOUGH. APPROX 0.6-1.1 MI S OF HWY 20.
19340606	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	APPROXIMATELY 3 MILES SE OF MAXWELL POST OFFICE, 6.3 MI N OF WILLIAMS.
20140914	USFWS-COLUSA NWR	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 0.5 MILE SSW OF HWY 20 AND HUNTER RD INTERSECTION, 2.8 MILES SW OF COLUSA POST OFFICE, COLUSA NWR.
20020713	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SYCAMORE SLOUGH, ABOUT 1 MILE SW OF SACHREITER RD AT SYCAMORE SLOUGH RD AND 1.8 MILES NNE OF HAHN RD AT MILLER RD.
2000XXXX	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		COLUSA GUN (OUTING) CLUB, APPROXIMATELY 5 MILES WNW OF COLUSA.
1986XXXX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU	SSC	COLUSA BASIN; EAST SIDE OF COLUSA TROUGH; APPROX. 1.2 KM NORTH OF HAHN ROAD.
2001XXXX	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 1.4 MI ENE OF SAN JOSE RD & LURLINE AVE INTERSECTION, 1.5 MI SSW OF JAMESON RD & HARBISON RD INTXN, NW OF COLUSA.
1992XXXX	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 1.2 MI NE OF SAN JOSE RD & LURLINE AVE INTERSECTION, 1.6 MI SW OF JAMESON RD & HARBISON RD INTXN, W OF COLUSA.
19420308	UNKNOWN	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S		ALONG SAND CREEK, ABOUT 5 MILES WEST OF ARBUCKLE.
20150622	UNKNOWN, PVT	Threatened	Threatened	G2	S2	IUCN_VU	SSC	OLD LEVEE ROAD ABOUT 2.0 MI NE OF WARE RD AT OHM RD & 2.75 MI W OF SYCAMORE SLOUGH RD AT BUSTER RD, NW OF GRIMES.
19920701	UNKNOWN	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ALONG WESCOTT ROAD, 0.5-0.7 MI N OF ABEL RD INTERSECTION, 4 MI SE OF HWY 20 & LONE STAR RD INTERSECTION, S OF COLUSA.
19920309	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC		0.15 MILE EAST OF CORTINA SCHOOL ROAD AND 0.65 MILE NORTH OF HILLGATE ROAD, 5 MILES WEST OF ARBUCKLE.
20020713	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		VICINITY OF COLUSA TROUGH & SYCAMORE SLOUGH, ABOUT 0.5 TO 0.75 MILE N TO NNE OF MAIN CANAL AT GRIMES-ARBUCKLE ROAD.
19920701	UNKNOWN, PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	VICINITY OF HOPKINS SLOUGH & LURLINE AVE INTERSECTION, 1.75 MI NE OF LONE STAR RD & HWY 20 INTERSECTION, W OF COLUSA.
19970408	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		NEAR THE JUNCTION OF 3 DRAINAGE CANALS AT NORTH END OF OLD DAVIS LEVEE, JUST NORTH OF ABEL RD.
20170304	UNKNOWN	None	None	G2G3	S3	BLM_S; IUCN_NT		ABOUT 0.2 MI E OF HILLGATE RD AT JENSEN AVE, 1.7 MI W OF I-5 AT HILLGATE RD, ARBUCKLE.
20090610	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG DITCH ON WEST SIDE OF I-5, ABOUT 0.4 MILE SE OF OLD HWY 99W AT FAIRVIEW RD AND 2 MILES SOUTH OF MAXWELL.
19880712	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	ALONG THE COLUSA TROUGH (MAIN CANAL ROAD) FROM ABOUT 2 TO 3.5 AIR MILES N OF TULE ROAD JUNCTION, 3 MILES NE OF ARBUCKLE.
20140707	PVT	Threatened	Threatened	G2	S2	IUCN_VU		SYCAMORE SLOUGH, ABOUT 1.1 MILES SW OF SYCAMORE SLOUGH RD & BUSTER RD INTERSECTION, 5.2 MILES NW OF GRIMES.
20020708	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG SYCAMORE SLOUGH RD, ABOUT 0.7 MI NE OF SACHREITER RD AT SYCAMORE SLOUGH RD & 2.8 MI W OF HWY 45 AT DRY SLOUGH RD.
19880712	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG SYCAMORE SLOUGH/SYCAMORE SLOUGH RD ABOUT 1.5 MILES NNE OF SACHREITER RD JUNCTION, 4.25 MILES SW OF MERIDIAN.
20000701	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 1 MI W OF HARBISON RD & HOLLOWAY RD INTERSECTION, 2.5 MI SE OF MAXWELL RD & 4 MILE RD INTERSECTION, NW OF COLUSA.
20030725	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SYCAMORE SLOUGH RD ALONG SYCAMORE SLOUGH, ABOUT 1.3 MI NE OF SACHREITER RD CROSSING, ABOUT 5 MI NE OF GRIMES.
19320620	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC		ABOUT 2.8 MI SW OF I-5 AND MAXWELL RD INTERSECTION, 3 MI NW OF LURLINE RD & GIBSON RD INTERSECTION, N OF WILLIAMS.
19860701	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		DANLEY RD; 100 FT SOUTH OF CANAL & 120 FT SOUTH OF DANLEY LATERAL RD, 0.8 KM NORTH OF LURLINE RD; NORTHWEST OF WILLIAMS.



19230306	UNKNOWN	None	None	G5	S3?		SSC	COLUSA.
19611019	UNKNOWN	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	COLUSA, VICINITY OF HWY 20 AND HWY 45 INTERSECTION.
20060523	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF WYER RD JUST SOUTH OF WAGNER AVE INTERSECTION, ABOUT 2.3 MILES SW OF ARBUCKLE.
20150612	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 1.25 MI SW OF HWY 20 AT HWY 5 & 1.6 MI NW OF SYCAMORE SLOUGH RD AT BUSTER RD, SW OF MERIDIAN.
20090526	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		E SIDE OF GRIMES-ARBUCKLE RD, ABOUT 0.1 MILE S OF BAILEY RD AND 0.4 MILE N OF RICHEY RD, N OF COLLEGE CITY.
19920309	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	VICINITY OF NORTH FORK OF ELK CREEK, 1 MILE NW OF THE INTERSECTION OF BOLES ROAD AND WHISKEY CREEK ROAD.
19920211	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.6 MILE SOUTH OF DANLEY LATERAL ROAD AND 0.25 MILE WEST OF GLENN-COLUSA CANAL, APPROXIMATELY 10 MILES NW OF WILLIAMS.
1905XXXX	UNKNOWN	None	None	G2T1	S1			COLLEGE CITY.
19160617	UNKNOWN	None	None	G4T2	S2			NEAR COLLEGE CITY.
1905XXXX	UNKNOWN	None	None	G2	S2	BLM_S; SB_UCBG		NEAR COLLEGE CITY, SACRAMENTO VALLEY.
19160617	UNKNOWN	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		NEAR COLLEGE CITY, COLUSA COUNTY.
20060806	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		FARMSTEAD ON NORTH SIDE OF FAIRVIEW ROAD ABOUT 0.5 MILE W OF WELLS ROAD AND 2.7 MILES SW OF THE MAXWELL PO.
19790605	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG SYCAMORE SLOUGH, ABOUT 1.25 MI SW OF HWY 45 AT (SYCAMORE) SLOUGH ROAD, ABOUT 3 AIR MILES SW OF MERIDIAN.
19920211	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.3 MILE SOUTH OF DANLEY LATERAL ROAD AND 0.6 MILE WEST OF THE GLENN-COLUSA CANAL, 5 MILES SW OF MAXWELL.
20170304	UNKNOWN	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	ABOUT 2.7 MI WSW OF CORTINA SCHOOL RD AT SAND CREEK RD, 7 MI NE OF LYTLE MOUNTAIN, W OF ARBUCKLE.
20170605	PVT	None	None	G3G4	S3	BLM_S; IUCN_VU; USFS_S	SSC	HIGHWAY 45 AT THE INTERSECTION OF FRUITVALE AVE, JUST NORTH OF COLUSA.
19781017	PVT	Delisted	None	G5T3	S3		WL	DAVIS RANCH, 5 MI N OF GRIMES.
20150603	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		LEVEE ROAD FROM ABOUT 0.4 MILES S TO 0.5 MILES SW OF HWY 20 AT HWY 45, 4.4 MILES SE OF COLUSA.
19320613	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	VICINITY OF COLUSA BASIN DRAINAGE CANAL, ABOUT 2 MI NE OF COLLEGE CITY, 4.5 MI E OF ARBUCKLE PO, 5 MI SW OF GRIMES.
19860306	DPR, DFG, UNKNOWN	Candidate	Threatened	G5	S1			SACRAMENTO RIVER, AT THE COLUSA-SACRAMENTO RIVER STATE RECREATION AREA.
20090611	DPR-COLUSA/SAC RIVER SRA, PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 144.1-145.8, BOTH SIDES OF THE RIVER FROM ARNOLD BEND ABOVE COLUSA TO S SIDE OF COBBS BEND.
20050128	PVT-WILDLANDS INC	Endangered	None	G4	S3S4	IUCN_EN		DOLAN RANCH CONSERVATION BANK, BORDERED BY HWY 20 TO W & SACRAMENTO NORTHERN RR TO E, 3 MILES SW OF COLUSA.
19570801	UNKNOWN	None	None	G5TH	SH			SACRAMENTO RIVER, COLUSA.
20020808	UNKNOWN	None	None	G3T2	S2	BLM_S		ALONG HIGHWAY 20, APPROXIMATELY 3-6 MILES EAST OF COLUSA.
1987XXXX	UNKNOWN	None	None	G2	S2.2			SACRAMENTO RIVER, NORTH OF COLUSA.
1987XXXX	DPR-COLUSA/SAC RIVER SRA	Threatened	None	G3T2	S3			SACRAMENTO RIVER MILE 144.5 WEST, COLUSA-SACRAMENTO STATE RECREATION AREA, 0.4 MILE N OF JCT HIGHWAYS 45 & 20, COLUSA.
19990826	UNKNOWN	None	None	G5	S3	BLM_S; IUCN_LC; WBWG_M		COLUSA-SACRAMENTO STATE RECREATION AREA, VICINITY OF SACRAMENTO RIVER.
19990922	DPR-COLUSA/SAC RIVER SRA	None	None	G4	S3	IUCN_LC; WBWG_H	SSC	COLUSA-SACRAMENTO STATE RECREATION AREA, VICINITY OF SACRAMENTO RIVER.
19990922	UNKNOWN	None	None	G3G4	S4	IUCN_LC; WBWG_M		COLUSA-SACRAMENTO STATE RECREATION AREA, VICINITY OF SACRAMENTO RIVER.
19920308	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.25 MILE SOUTH OF DANLEY LATERAL ROAD AND 1 MILE WEST OF GLENN-COLUSA CANAL, APPROXIMATELY 11 MILES NW OF WILLIAMS.
20120203	PVT-WILDLANDS INC	Threatened	None	G3	S3	IUCN_VU		DOLAN RANCH CONSERVATION BANK, ABOUT 0.2 MILE NE OF CA-45 AT NIAGARA AVE, 2 MILES SE OF COLUSA.
20090515	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG RAILROAD AVENUE IN MAXWELL, ABOUT 0.5 MI SW OF MAXWELL COLUSA RD AT I-5.
20170215	PVT-WILDLANDS INC	None	None	G2G3	S2S3	IUCN_NT		0.2 TO 0.5 AIR MILES NE OF NIAGARA AVE AT HIGHWAY 20, DOLAN RANCH CONSERVATION BANK, JUST SE OF THE CITY OF COLUSA.
20130712	DPR-COLUSA/SAC RIVER SRA	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		COLUSA-SACRAMENTO RIVER SRA, ON THE WEST SIDE OF THE SACRAMENTO RIVER ABOUT 0.4 MI NE OF 10TH ST & MAIN ST IN COLUSA.
20110415	USFWS-DELEVAN NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	JUST NE OF MAXWELL RD & EXCELSIOR RD INTERSECTION, ABOUT 4 MILES E OF MAXWELL POST OFFICE, SW CORNER OF DELEVAN NWR.
20020709	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG DRY SLOUGH ABOUT 0.6 MI SSW OF DRY SLOUGH RD AT SACHREITER RD AND 3.2 MILES NW OF 4TH ST AT MAIN ST IN GRIMES.
20070809	UNKNOWN	None	None	G5	S4	IUCN_LC		BETWEEN HIGHWAY 99W AND RAILROAD AVENUE, SOUTH OF MAXWELL-COLUSA ROAD, MAXWELL.
20070809	UNKNOWN	None	None	G5	S4	IUCN_LC		BETWEEN HIGHWAY 99W AND RAILROAD AVENUE, SOUTH OF MAXWELL-COLUSA ROAD, MAXWELL.
20110415	USFWS-DELEVAN NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 0.8 MI ENE OF EXCELSIOR RD & MAXWELL RD INTERSECTION, 5 MI E OF MAXWELL POST OFFICE, S EDGE OF DELEVAN NWR.
19990923	UNKNOWN	None	None	G3G4	S4	IUCN_LC; WBWG_M		COLUSA RIVER ROAD BRIDGE OVER SACRAMENTO RIVER.
19990923	UNKNOWN	None	None	G4	S3	IUCN_LC; WBWG_H	SSC	COLUSA, COLUSA RIVER ROAD BRIDGE OVER SACRAMENTO RIVER.
20030716	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF SACRAMENTO RIVER, ABOUT 0.7 MILE EAST OF HWY 20 AT MOONBEND RD AND 1.5 MILES SSE OF 1ST & MAIN IN COLUSA.
19320620	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 0.8 MI ENE OF MAXWELL RD & MCDERMOTT RD INTERSECTION, 1.7 MI WNW OF I-5 & MAXWELL RD INTERSECTION, N OF WILLIAMS.
1984XXXX	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 141, 2 MI SOUTH OF COLUSA.
1993XXXX	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.5 MILE SOUTH OF THE INTERSECTION OF MILLS ORCHARDS ROAD AND STANDARD ROAD, APPROXIMATELY 12 MILES NW OF WILLIAMS.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, ABOUT 1/2 MILE UPSTREAM OF ARNOLD BEND.
20060723	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF HOLLOWAY RD ABOUT 0.5 MILE SOUTH OF MAXWELL RD AND 1.5 MILES NORTH OF HARBISON RD, NW OF COLUSA.
20080804	PVT	Threatened	Threatened	G2	S2	IUCN_VU		ALONG A N-S CANAL ABOUT 0.4 MI NW OF MAXWELL RD AT I-5 AND ABOUT 0.25 MI NNE OF MAXWELL RD AT OLD HWY 99, MAXWELL.
19880712	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		COLUSA TROUGH/COLUSA BASIN DRAINAGE CANAL AT TULE ROAD, ABOUT 1.5 MILES ENE OF THE COLLEGE CITY POST OFFICE.
20030716	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF SACRAMENTO RIVER, ON W SIDE OF BUTTE SLOUGH RD; ABOUT 0.9 MI W OF HWY 45 AT SUNRISE BLVD, SE OF COLUSA.
19850624	UNKNOWN	None	None	G2	S2			NORTH OF LURLINE CREEK, ABOUT 0.25 MILE SOUTH OF STANDARD ROAD, NW OF WILLIAMS.
19850624	UNKNOWN	None	None	G1	S1.1			WEST OF WILLIAMS, SOUTH OF LURLINE CREEK, ABOUT 1/4 MILE SOUTH OF STANDARD ROAD, SW 1/4 SW 1/4 OF SECTION 14.
19870624	UNKNOWN	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		WEST OF WILLIAMS, ABOUT 1/4 MILE SOUTH OF STANDARD ROAD, SOUTH OF LURLINE CREEK.
19850506	UNKNOWN	None	None	G4T2	S2			SOUTH SIDE OF STANDARD ROAD, 0.2 MILE WEST OF MILLS ORCHARDS ROAD, NORTHWEST OF WILLIAMS.
19990922	UNKNOWN	None	None	G4	S3	IUCN_LC; WBWG_H	SSC	EAST OF COLUSA, ABOUT 0.8 MILE DUE EAST OF INTERSECTION OF BRIDGE RIVER ROAD AND COMMER AVE.
19990922	UNKNOWN	None	None	G3G4	S4	IUCN_LC; WBWG_M		ESE OF COLUSA, ABOUT 0.8 MILE EAST OF INTERSECTION OF BRIDGE RIVER ROAD AND COMMER AVE.
197105XX	PVT	None	None	G3	S3.1			HILLS NEAR FRESHWATER CREEK, NEAR JUNCTION OF LEESVILLE & HARLAN ROADS SW OF WILLIAMS, NORTH OF HWY 20.
1988XXXX	DFG-SACRAMENTO RIVER WA, UNK	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		SACRAMENTO RIVER FROM AROUND RIVER MILE 147 TO RIVER MILE 146.5, 2 MILES NORTH OF COLUSA.
20030718	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG RR TRACKS ON E SIDE OF HWY 99W AT STONE CORRAL CREEK CROSSING, ABOUT 0.3 MI N OF NORTH ST JUNCTION IN MAXWELL.
198006XX	PVT	None	None	G3	S3.1			SALT CREEK; 10 MILES WEST OF WILLIAMS, NORTH SIDE OF HWY 20 JUST AS IT ENTERS COAST RANGES.
19810703	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		INTERSECTION OF HIGHWAY 45 AND DRY SLOUGH ROAD, 4 MILES NW OF GRIMES.
20040723	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SOUTH SIDE OF HWY 20 ABOUT 0.2 MILE WEST OF SYCAMORE CUTOFF RD JUNCTION AND 1 MILE ESE OF HWY 45; WEST OF MERIDIAN.
19750606	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 1 MI N OF MAXWELL RD & OLD HWY 99 INTERSECTION, 4 MI S OF I-5 & DELEVAN RD INTERSECTION, MAXWELL.
20060805	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		NE CORNER OF DRY SLOUGH RD AT MORRIS RD, ABOUT 2.5 MILES W OF 4TH ST AT MAIN ST IN GRIMES.
1986XXXX	DFG-SACRAMENTO RIVER WA, UNK	Threatened	None	G3T2	S3			SACRAMENTO RIVER MILE 147 WEST, 1.3 MILES EAST OF JCT HARBISON RD & HWY 45, 1.9 MILES N OF COLUSA.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 146.1-147.5, FROM N SIDE OF COBBS BEND TO JUST NW OF LAUX RD AT RIVER RD.
20030716	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		S SIDE OF SACRAMENTO RIVER N OF MOONBEND RD, 2.75 MI SE OF COLUSA PO.
20050711	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		CANAL ALONG E SIDE OF DELEVAN NATIONAL WILDLIFE REFUGE RD, ABOUT 0.75 MI N OF MAXWELL RD, NW OF COLUSA.
19930908	PVT	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	CORTINA CREEK, 1.5 AIR MILES NE OF SCHOOLHOUSE DIVIDE, 10 AIR MILES WEST OF ARBUCKLE.
19870126	PVT, UNKNOWN	Delisted	None	G5T3	S3		WL	JUST SOUTHWEST OF MOONS BEND, SACRAMENTO RIVER, 3.4 MILES SOUTHEAST OF COLUSA.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, NORTH OF COBBS BEND.
20160406	UNKNOWN	None	None	G5	S3	IUCN_LC	SSC	WESTBOUND HWY 20 IN SALT CANYON, ABOUT 1.5 MI SE OF THREE SISTERS & 8.25 MI SW OF WILLIAMS.
20020724	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		ALONG BUSTER ROAD BETWEEN HWY 45 AND THE SACRAMENTO RIVER.
XXXXXXXX	UNKNOWN	None	None	G3	S1S2			SACRAMENTO RIVER AT MERIDIAN.
19350520	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	VICINITY OF MERIDIAN.
19850416	UNKNOWN	None	None	G5	S3S4	BLM_S; IUCN_LC	FP	BETWEEN STANDARD ROAD AND LURLINE CREEK, NW OF WILLOWS.
201102XX	PVT	Threatened	None	G3T2	S3			ABOUT 0.2 MILE NNE OF HWY 45 & EARP RD INTERSECTION, 3.3 MILES NW OF GRIMES POST OFFICE, W OF SACRAMENTO RIVER.
19910528	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 131.9, LEFT BANK, BELOW SYCAMORE SLOUGH.
20030725	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ABOUT 1.2 MI NE OF HWY 45 AT STEIDLMEYER RD AND 2.1 MI NW OF MERIDIAN PO, WEST OF THE SACRAMENTO RIVER.
20070923	USFWS-DELEVAN NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		DELEVAN NATIONAL WILDLIFE REFUGE. TRACT 33. 1.0-1.4 MI NORTH OF MAXWELL ROAD, 1.2 MI WEST OF COLUSA TROUGH.
20090611	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 131.5, BELOW SYCAMORE SLOUGH.
20000801	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG HIGHWAY 99W, 1.2 MILES NORTH OF MAXWELL ROAD AND THE TOWN OF MAXWELL.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, APPROXIMATELY 1 MILE NE OF SYCAMORE SIDING.
20110826	PVT	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 2 MILES NW OF CA-45 & MAXWELL RD INTERSECTION, JUST E OF DELEVAN NWR AND W OF SACRAMENTO RIVER.
20160423	PVT	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	SAND CREEK AT SAND CREEK ROAD CROSSING, 9 MILES WEST OF ARBUCKLE.
20010418	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		NORTH SIDE OF GRIMES-ARBUCKLE ROAD, 2.3 MILES SW OF GRIMES.
1986XXXX	UNKNOWN	Threatened	None	G3T2	S3			SACRAMENTO RIVER MILE 148 WEST, 1.2 MILES EAST OF JUNTION OF REESE AVE & HIGHWAY 45, 4 MILES N OF COLUSA.
1987XXXX	UNKNOWN	None	None	G2	S2.2			SACRAMENTO RIVER, APPROXIMATELY 1/4 MILE DOWNSTREAM OF COMPTON LANDING.
19840628	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE SACRAMENTO RIVER, WHERE IT TURNS NORTH JUST WEST OF OGDEN BEND, 4 MILES NORTH OF GRIMES.

20030725	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ABOUT 1.5 MILES S OF MOONS BEND AND 2.1 MILES NW OF MERIDIAN.
19970628	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 130.9, LEFT BANK, ABOVE OGDEN BEND.
20020709	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		JUNCTION OF UNNAMED ROAD AND HWY 45, ABOUT 0.7 MI SE OF DRY SLOUGH RD JUNCTION AND 1.8 MI NW OF 4TH & MAIN IN GRIMES.
19840512	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		STONE CORRAL CREEK, ABOUT 0.25 MI E OF DANLEY ROAD, 0.6 MILE NNE OF JUNCTION W/ MAXWELL SITES ROAD, 3 MI W OF MAXWELL.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 130.0-130.5, LEFT AND RIGHT BANKS, AT OGDEN BEND, 3 MI NNW OF GRIMES.
20030626	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST BANK OF THE SACRAMENTO RIVER, 0.9 MILE DOWNSTREAM OF MOONS BEND, 3.5 MILES SE OF COLUSA.
20050721	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 2.3 MILES NE OF FOUR MILE RD & MAXWELL RD INTERSECTION, 7.5 MILES NNW OF COLUSA, DELEVAN NWR.
19860422	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SACRAMENTO RIVER, RM-133.7(L), JUST SW OF MERIDIAN.
19880524		None	None	G5	S4	IUCN_LC; USFWS_BCC	WL	
1987XXXX	UNKNOWN	None	None	G2	S2.2			OGDEN BEND, SACRAMENTO RIVER.
19830525	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF SACRAMENTO RIVER, BETWEEN OGDEN BEND AND GRAVEL POINT, 3 MILES NNW OF GRIMES.
20090311	UNKNOWN	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		SALT CANYON; ON THE NORTH SIDE OF SALT CREEK, ALONG CA-20 9.7 MILES SW OF WILLIAMS.
20060811	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF GRIMES-ARBUCKLE RD ABOUT 0.4 MILE NORTH OF LODI RD JUNCTION, 1.5 MILES SOUTHWEST OF 4TH & MAIN IN GRIMES.
19961023	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		ALONG EAST DRAIN AT THE JUCTION WITH ANOTHER DRAINAGE CANAL, DELEVAN NATIONAL WILDLIFE REFUGE, COLUSA BASIN.
188405XX	UNKNOWN	None	None	G2T1	S1			MOUNTAIN HOUSE, COLUSA COUNTY.
20130611	USFWS-DELEVAN NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ON E SIDE OF I-5, ABOUT 0.4 MI ENE OF WADLEIGH RD & OLD HWY 99 INTERSECTION, 1.9 MI S OF KRUSE RD AT LENAHAM RD.
20050915	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		2.4 MILES NE OF FOUR MILE RD & MAXWELL RD INTERSECTION, DRAINAGE CANAL BETWEEN COLUSA TROUGH & EAST DRAIN, DELEVAN NWR.
20080902	PVT-PGE	Threatened	Threatened	G2	S2	IUCN_VU		0.16 MI WEST OF THE INTERSECTION OF WADLEIGH RD & OLD HWY 99, MAXWELL.
20020612	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 150.5 RIGHT AND LEFT BANKS, JUST E OF HAMILTON BEND.
1987XXXX	UNKNOWN	None	None	G2	S2.2			MOONS BEND, SACRAMENTO RIVER.
19990609	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 129.3 AND 129.5, JUST UPSTREAM OF GRAVEL POINT, 2.5 MI N GRIMES.
19870820	PVT	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		EAST SIDE OF SACRAMENTO RIVER AT HAMILTON BEND, NORTH OF RIVER MILE 150, NE OF COLUSA CASINO, NORTH OF COLUSA.
19870429	STATE	Threatened	None	G3T2	S3			MOONS BEND, ON W SIDE OF SACRAMENTO RIVER, 3.2 MI NNE OF HWY 20 & HWY 45 INTERCHANGE, 3.8 MI ESE OF COLUSA POST OFFICE.
20050701	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 2.3 MILES NNE OF FOUR MILE RD & MAXWELL RD INTERSECTION, 5.6 MILES NE OF MAXWELL, NW OF COLUSA, DELEVAN NWR.
20071004	USFWS-DELEVAN NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		DELEVAN NATIONAL WILDLIFE REFUGE. APPROX. 2-3 MI NORTH OF MAXWELL RD, 1 MI EAST OF EXCELSIOR RD.
20090518	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SOUTHWEST CORNER OF MAXWELL SITES RD/MILLS ORCHARD RD INTERSECTION, ABOUT 4.5 MILES WEST OF MAXWELL.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, VICINITY OF TWENTYMILE BAR AND MERIDIAN LEVEE ROAD.
19860701	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG THE EAST SIDE OF THE SACRAMENTO RIVER ABOUT 0.5 MI N OF MERIDIAN (TOWN).
19530828	UNKNOWN	None	None	G4T3	S1			11 KM (7 MI) EAST OF ARBUCKLE.
19950521	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 1 MI NE OF WILDWOOD RD & BRUENER RD INTERSECTION, 2.9 MI WNW OF I-5 & COUNTY ROAD P9 INTERSECTION, HARRINGTON.
1987XXXX	UNKNOWN	None	None	G3	S3.2			SACRAMENTO RIVER, VICINITY OF GRAVEL POINT.
19320512	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	2.3 MI SW OF EXCELSIOR RD & DELEVAN RD INTERSECTION, 3.5 MI SE OF I-5 & DELEVAN RD INTERSECTION, 5 MI NE OF MAXWELL.
197607XX	PVT	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		ALONG BUTTE CREEK NEAR ITS CONFLUENCE WITH BUTTE SLOUGH, EAST OF COLUSA.
19851115	PVT	Delisted	None	G5T3	S3		WL	833 RECLAMATION DISTRICT (APPROX 4.5 MI E OF COLUSA).
19990922	UNKNOWN	None	None	G3G4	S4	IUCN_LC; WBWG_M		ABOUT 4 MILES ESE OF COLUSA, VICINITY OF SACRAMENTO RIVER, MOONS BEND.
19990922	UNKNOWN	None	None	G5	S4	BLM_S; IUCN_LC; WBWG_LM		ABOUT 4 MILES ESE OF COLUSA, VICINITY OF SACRAMENTO RIVER, MOONS BEND.
19990922	UNKNOWN	None	None	G4	S3	IUCN_LC; WBWG_H	SSC	ABOUT 4 MILES ESE OF COLUSA, VICINITY OF SACRAMENTO RIVER, MOONS BEND.
19800428	UNKNOWN	None	None	G2	S2.2			HAMILTON BEND VICINITY. ABOUT 4 MILES NORTH OF LAUX ROAD TO WEST OF RIVER ROAD. LEVEE ROAD BOUNDS ONE SIDE.
19230305	PVT	None	None	G5	S3?		SSC	BUTTE CREEK, ABOUT 2.5 MI ESE OF RIVER RD AT LAUX RD, 3 MI NE OF COLUSA.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 127.7-128.1, LEFT AND RIGHT BANKS, BETWEEN CECIL LAKE AND TWENTY MILE BAR, 2 MI N OF GRIMES.
20040610	UNKNOWN	None	None	G5	S4	CDF_S; IUCN_LC	WL	SACRAMENTO RIVER, NORTH OF HAMILTON BEND, ABOUT 0.9 MILE WEST OF INTERSECTION OF HWY 45 AND MAXWELL RD.
20060811	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF LODI ROAD, ABOUT 1.2 MILES SOUTH OF GRIMES-ARBUCKLE RD AND 2.1 MILES E OF GRAINO.
20030725	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF THE SACRAMENTO RIVER, AT TWENTYMILE BAR, 2.3 MILES NORTH OF GRIMES.
20090611	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 129.0, BETWEEN GRAVEL POINT AND TWENTYMILE BAR.
1987XXXX	UNKNOWN	None	None	G2	S2.2			SACRAMENTO RIVER. ABOUT 1/4 MILE NORTH OF CECIL LAKE AND 1 MILE EAST OF SOUTHERN PACIFIC RAILROAD LINE.
19840628	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SACRAMENTO RIVER, AT MOONS BEND, 0.5 MILE NORTH OF MERIDIAN ROAD.
20060811	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SOUTH SIDE OF CECIL ROAD, ABOUT 0.5 MILE EAST OF LODI ROAD JUNCTION AND 1.7 MILES SSW OF 4TH ST AND MAIN ST IN GRIMES.
20000727	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		FUNKS CREEK VICINITY, 0.2 MILE NORTH OF THE I-5/HWY 99W CROSSING, 2.6 MILES NORTH OF MAXWELL.
20040610	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 152.5, ABOUT 1 MI ENE OF HWY 45 AT MAXWELL RD, 1.5 MI S OF BUTTE CREEK SCHOOL.
19120417	UNKNOWN	None	None	G2G3	S2S3	BLM_S; IUCN_LC		BUTTE SLOUGH, 1 MI W OF W BUTTE.
20110624	USFWS-DELEVAN NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 3 MI NNE OF EXCELSIOR RD & MAXWELL RD INTERSECTION, 5 MI NE OF I-5 & MAXWELL RD INTERSECTION, DELEVAN NWR.
20030701	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF THE SACRAMENTO RIVER, ABOUT 5 MILES NORTH OF COLUSA.
198304XX	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		NEAR GRIMES.
20100704	PVT	None	None	G4T2	S2	BLM_S		SOUTH OF CA-20 AND SALT CREEK, APPROXIMATELY 2 AIR MILES SSW OF THREE SISTERS, SOUTH END OF ANTELOPE VALLEY.
19850503	UNKNOWN	Threatened	None	G3T2	S3			SACRAMENTO RIVER MILE 126.5, WEST BANK, JUST S OF CECIL LAKE, ABOUT 1.2 MILES NORTH OF GRIMES POST OFFICE.
201102XX	UNKNOWN	Threatened	None	G3T2	S3			ABOUT 0.4 MI ENE OF BUTTE SLOUGH RD & MARTY RD INTERSECTION, 1 MI NW OF MAWSON RD & PASS RD INTERSECTION, SE OF COLUSA.
20030705	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF THE SACRAMENTO RIVER, 0.7 MILE UPSTREAM OF GIRDNER BEND, 1 MILE NORTH OF GRIMES.
20060814	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG DITCH WEST OF POUNDSTONE RD, ABOUT 0.5 MILLIS SSW OF CECIL RD JUNCTION AND 1 MILE ESE OF LODI RD AT CECIL RD.
20071003	USFWS-DELEVAN NWR	Endangered	Endangered	G1	S1	SB_CalBG/RSABG		DELEVAN NATIONAL WILDLIFE REFUGE. TRACT 14. NORTH SIDE OF NORTHEAST DRAIN, 0.4 MI WEST OF COLUSA TROUGH.
20060811	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SE SIDE OF POUNDSTONE RD JUST NORTH OF CECIL RD JUNCTION AND ABOUT 1.4 MILES SSW OF 4TH AND MAIN IN GRIMES.
19460904	UNKNOWN	None	None	G5T3	S3	SB_CalBG/RSABG; SB_UCBG		BUTTE SINK, NEAR LOCKED GATE OF COLUSA GUN CLUB.
19450711	PVT	None	None	G5T3	S3	SB_CalBG/RSABG; SB_UCBG		ALKALI PLAINS NEAR BUTTE CREEK; BUTTE LODGE OUTING CLUB.
19860424	UNKNOWN	None	None	G5	S3	BLM_S; CDF_S; IUCN_LC; USFWS_BCC	FP; WL	NORTH OF OLD WILBUR ROAD, ABOUT 1.5 MILES SW OF THE JUNCTION OF OLD WILBUR ROAD AND LEESVILLE ROADS, ANTELOPE VALLEY.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 125.7-126.1, AT GIRDNER BEND, 0.5 MI NORTH OF GRIMES.
20030725	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG THE SACRAMENTO RIVER AT RM126.3(L), JUST NORTH OF GIRDNER BEND AND ABOUT 0.5 MILE NORTH OF GRIMES.
198806XX	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF I-5 ABOUT 0.5 MI SOUTH OF HARRINGTON AVE OVERPASS AND 2 MI NW OF GRIEVE RD AT CO RD 1 (COUNTY LINE RD).
20040924	USFWS-DELEVAN NWR	None	None	G2	S2			APPROXIMATELY 3.3 AIR MILES N OF MAXWELL ROAD, 1 MILE E OF EXCELSIOR ROAD, DELEVAN NATIONAL WILDLIFE REFUGE.
20090709	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG OLD HWY 99W, ABOUT 0.5 MI S OF LENAHAN RD & 0.6 MI N OF THE I-5 OVERPASS; S OF DELEVAN.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, OPPOSITE GIRDNER BEND.
20080916	PVT-PGE	Threatened	Threatened	G2	S2	IUCN_VU		0.66 MI NORTH OF THE INTERSECTION OF WADLEIGH RD & MCDERMOTT RD, MAXWELL.
19870126	PVT	Delisted	None	G5T3	S3		WL	BUTTE SINK, JUST EAST OF THE COLUSA BYPASS WILDLIFE AREA & WEST OF THE SUTTER BUTTES.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 153.8-154, ABOUT 0.5 MI SW OF BUTTE CREEK SCHOOL, 0.8 MI ENE OF HWY 45 AT SEAVER SHOP RD.
20030611	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 154.5-154.6, LEFT BANK, ABOUT 0.9 MI WSW OF BUTTE CREEK SCHOOL.
20110415	USFWS-DELEVAN NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 2.2 MI ESE OF LENAHAM RD & 2 MILE RD INTERSECTION, 5 MI NE OF I-5 & MAXWELL RD INTERSECTION, DELEVAN NWR.
20100505	PVT	None	None	G4T2	S2	BLM_S		SALT CREEK, APPROXIMATELY 2.4 AIR MILES SSW OF THREE SISTERS, SOUTH END OF ANTELOPE VALLEY.
20020704	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		BYERS SLOUGH, JUST EAST OF POUNDSTONE ROAD, 0.9 MILE SOUTH OF CECIL ROAD, SW OF GRIMES.
20000605	PVT	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	PETROLEUM CREEK, 0.2 MILE NORTH OF THE YOLO/COLUSA COUNTY LINE, 8 MILES NW OF DUNNIGAN.
1971XXXX	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	WEST BUTTE RD, ABOUT 5 MI E OF COLUSA, 5.3 MI NE OF HWY 20 AND HWY 45 INTERSECTION.
20090611	PVT, DFG	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 154.7-157.3, NW OF BUTTE CREEK SCHOOL, S OF COMPTON LANDING.
20040706	CALTRANS	None	None	G5	S3	IUCN_LC	SSC	ALONG HIGHWAY 20, AT THE SOUTH END OF ANTELOPE VALLEY, WEST OF WILLIAMS.
20020425	UNKNOWN	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		VICINITY OF FUNKS CREEK & THE GLENN-COLUSA CANAL.
1986XXXX	UNKNOWN	Threatened	None	G3T2	S3			SACRAMENTO RIVER MILE 155.2 EAST, 0.6 MI WNW OF BUTTE CREEK SCHOOL ON RIVER RD, 2.1 MI NNE OF JCT MAXWELL RD & HWY 45.
1988XXXX	PVT	None	None	G2	S2.2			BOTH SIDES SACRAMENTO RIVER FROM RM 155 U/S ALMOST TO RM 157.
20030725	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		0.35 MILE NORTH OF MAWSON BRIDGE ROAD (PASS ROAD), 1.3 MILES EAST OF MOONS BEND ON THE SACRAMENTO RIVER, SE OF COLUSA.
20040412	UNKNOWN	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		VICINITY OF ANTELOPE VALLEY, HUFFMASTER RD, AND HEADWATERS OF LURLINE CREEK.
20120724	DFG, PVT	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		ALONG SACRAMENTO RIVER, 1.6 MILES SE OF INTERSECTION OF HIGHWAY 45 AND PACKER ROAD, ABOUT 6 MILES NORTH OF COLUSA.
1987XXXX	DFG-SACRAMENTO RIVER WA	None	None	G2	S2.1			SACRAMENTO RIVER, ABOUT 0.8 MILE NORTHWEST OF BUTTE CREEK SCHOOL.
20090709	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG IRRIGATION DITCH ABOUT 0.3 MI ESE OF MCDERMOTT RD AT FUNKS CREEK CROSSING & 1.5 MI WSW OF LENAHAN RD AT I-5.
20060725	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG FUNKS CREEK VICINITY OF LENAHAN ROAD AT SUTTON RD, 3.5 MILES NNW OF MAXWELL.



19340606	PVT	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	ABOUT 4.5 MI E OF I-5 & DELEVAN RD INTERSECTION, 4.8 MI WSW OF HWY 45 & DODGE RD INTERSECTION, NE OF MAXWELL.
20100703	PVT	None	None	G4T2	S2	BLM_S		APPROXIMATELY 1.1 AIR MILES NE OF WIDOW FLATS, OAT HILLS.
20090506	UNKNOWN	Endangered	None	G2	S2	SB_CalBG/RSABG		EAST SIDE OF HIGHWAY 20, NEAR MILEPOST 6.42, ABOUT 16 MILES WEST OF WILLIAMS.
20140213	PVT	Delisted	Endangered	G5	S3	BLM_S; CDF_S; IUCN_LC; USFS_S; USFWS_BCC	FP	ABOUT 0.5 MI NNW OF BUTTE CREEK SCHOOL (HISTORIC), VICINITY OF SACRAMENTO RIVER MILE 55, ABOUT 6.5 MI N OF COLUSA.
20000708	COL COUNTY	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG HIGHWAY 99W, ABOUT 0.2 MILE NORTH OF LENAHAN ROAD, SOUTH OF DELEVAN.
19990427	UNKNOWN	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	1.7 AIR MILES SE OF MAXWELL SITES RD & SITES LODOGA RD INTXN, 7.4 MI WNW OF I-5 & MAXWELL SITES RD INTXN, W OF MAXWELL.
19291006	UNKNOWN	None	None	G2G3	S2S3	BLM_S; IUCN_LC		1.5 MI E SITES.
20050620	USFWS-DELEVAN NWR	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 1 MILE SSE OF FOUR MILE RD & DELEVAN RD INTERSECTION, ALONG CANAL WEST OF LOGAN CREEK, DELEVAN NWR.
20030620	PVT	None	None	G5	S3S4	IUCN_LC	WL	ABOUT 1.9 MI SSE OF THE SE END OF SACRAMENTO WILDLIFE REFUGE.
19940311	USFWS-DELEVAN NWR	Endangered	None	G4	S3S4	IUCN_EN		N END OF DELEVAN NATIONAL WILDLIFE REFUGE, 1 MI E OF FOUR MILE RD.
20030707	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG N BOUNDARY OF DELEVAN NWR ABOUT 3.4 MI W OF HWY 45 AT WILLOW CREEK RD.
20110803	UNKNOWN	None	None	G2	S2			ABOUT 1 MILE SOUTHEAST OF FUNKS RESERVOIR AND NORTHEAST OF TEHAMA-COLUSA CANAL, WEST EDGE OF SACRAMENTO VALLEY.
20090625	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF ROAD 99W, FROM ABOUT 0.25 TO 0.4 MILE SOUTH OF DELEVAN ROAD, NORTH OF MAXWELL.
19771003	PVT	None	None	G5T3	S3	SB_CalBG/RSABG; SB_UCBG		WEST SIDE OF SUTTER BUTTES, 2 MILES NORTH OF INTERSECTION OF PASS ROAD & WEST BUTTE ROAD.
20120806	DFG-SACRAMENTO RIVER WA	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		MOULTON ISLAND, ON THE SACRAMENTO RIVER ABOUT 0.7 MILE SE OF PRINCETON ROAD AT PACKER ROAD.
19770823	PVT	None	None	G5T3	S3	SB_CalBG/RSABG; SB_UCBG		ALONG WEST BUTTE ROAD, 1.2 MILES NORTH OF PASS ROAD JUNCTION WITH WEST BUTTE ROAD.
1987XXXX	UNKNOWN	None	None	G3	S3.2			SACRAMENTO RIVER, ABOUT 1/2 MILE DOWNSTREAM OF COMPTON LANDING.
20090331	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG COLUSA DRAINAGE CANAL, ABOUT 1 MILE WSW OF WHITE RD AT POUNDSTONE RD, 7.7 MILES SE OF ARBUCKLE.
19930413	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		2 MILES NORTH OF CAMP HASWELL & 1 MILE NORTH OF JCT OF SAND CREEK ROAD & THE COLUSA/YOLO COUNTY LINE.
19110428	UNKNOWN	None	None	G2G3	S2S3	BLM_S; IUCN_LC		SITES.
1992XXXX	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	3 MILES EAST OF "GOLDEN GATE" ON FUNKS CREEK, EAST OF ANTELOPE VALLEY.
20170304	PVT	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	NEAR BUCKEYE CREEK, S OF COUNTY RD 2 AT COUNTY RD 86, 1.7 MI SW OF I-5 AT COUNTY RD 1, NEAR DUNNIGAN.
20111007	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		DELEVAN ROAD AT MCDERMOTT ROAD, ABOUT 1.4 MI N OF GLENN-COLUSA CANAL AT FUNKS CREEK, 2 MI W OF DELEVAN.
19380507	UNKNOWN	None	None	G2	S2	BLM_S; SB_UCBG		GRADE ON RUMSEY-ARBUCKLE ROAD (SAND CREEK ROAD) NEAR THE COLUSA / YOLO COUNTY LINE.
19380423	UNKNOWN	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		GRADE ON RUMSEY-ARBUCKLE ROAD.
2007XXXX	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		SW SIDE OF BUCKEYE CREEK, JUST WEST OF THE CO RD 99W CROSSING AND ABOUT 0.5 MILE SE OF I-5 AT CO RD 1.
20040728	CALTRANS, PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		JUST NORTH OF JUNCTION OF LORETZ RD AND OLD HWY 99W IN DELEVAN.
20110915	PVT	Threatened	Threatened	G2	S2	IUCN_VU		ABOUT 2.4 MI ENE OF JOHNS SCHOOL RD & COUNTY LINE RD JUNCTION, 4.2 MI NE OF DUNNIGAN, SE OF COLLEGE CITY, COLUSA BASIN.
20090611	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 158.2-158.8, N OF COMPTON LANDING TO ABOUT 0.6 MI S OF STEGEMAN.
196203XX	UNKNOWN	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		TOP OF ARBUCKLE GRADE BETWEEN ARBUCKLE AND RUMSEY.
20001226	UNKNOWN	None	None	G3	S2S3	BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC	SSC	2.9 MILES NORTH OF DUNNIGAN ALONG ROAD 89 (JUST PAST THE YOLO/COLUSA COUNTY LINE), EAST OF ROAD 89.
20030517	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		W SIDE OF THE SACRAMENTO RIVER JUST N OF COMPTON LANDING, ABOUT 0.6 MILE NNE OF HWY 45 AT PACKER RD.
1990XXXX	PVT, YOL COUNTY	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	BUCKEYE CREEK AT ROAD 2, 1.25 MILE WEST OF I-5, 3 MILES NW OF DUNNIGAN.
20030613	PVT	Threatened	Threatened	G2	S2	IUCN_VU		0.5 MILE NORTH OF DELEVAN ROAD, 1 MILE WEST OF DELEVAN.
19900526	UNKNOWN	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	ALONG COUNTY ROAD 2, 0.8 MI WEST OF INTERSTATE 5, ABOUT 2.75 MILES NORTHWEST OF DUNNIGAN.
1987XXXX	UNKNOWN	None	None	G2	S2.1			SACRAMENTO RIVER, AT THE INTERSECTION OF GOULD ROAD AND THE LEVEE ROAD.
1990XXXX	PVT, YOL COUNTY	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	BUCKEYE CREEK AT ROAD 86, 0.5 MILE SOUTH OF ROAD 2, 3.5 MILES NW OF DUNNIGAN.
20040610	UNKNOWN	None	None	G5	S4	CDF_S; IUCN_LC	WL	SACRAMENTO RIVER, ABOUT 0.9 MILE SOUTH OF STEGEMAN, WEST OF GOULD RD.
1987XXXX	UNKNOWN	None	None	G2	S2.2			SACRAMENTO RIVER, 1 MILE NORTH OF MOULTON WIER.
20200320	CALTRANS	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		ON THE EAST SIDE OF ROUTE 20 ABOUT 0.2 MILE NORTH OF WILBUR SPRINGS STATION.
20050416	PVT	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	FENNER RANCH POND, 0.15 MILE EAST OF COUNTY ROAD 86 AND MILES SOUTH OF COUNTY ROAD 2, 3 MILES WNW OF DUNNIGAN.
20120724	PVT, DFG-SACRAMENTO RIVER WA	Threatened	Endangered	G5T2T3	S1	BLM_S; NABCI_RWL; USFS_S; USFWS_BCC		BOTH SIDES OF THE SACRAMENTO RIVER, ABOUT 3/4 MILE NORTH OF MOULTON WEIR, 4 MILES SOUTH OF PRINCETON.
1996XXXX	USFWS-SACRAMENTO RIVER NWR	None	Threatened	G1G2	S1S2	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	SSC	3 MI NE OF I-5 & DELEVAN RD INTERSECTION, 3.3 MI SE OF I-5 & COUNTRY RD 68 INTERSECTION, NEAR SE EDGE OF SACRAMENTO NWR.
20190412	CALTRANS, UNKNOWN	None	None	G4T3	S3	BLM_S		ALONG BEAR CREEK AND BEAR CREEK ROAD, 0.05 TO 1 MILE WEST OF INTERSECTION OF STATE ROUTE 20 & STATE ROUTE 16.
20190301	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); W SIDE OF HWY 16 & BEAR CREEK, ABOUT 0.3-0.5 AIR MI SOUTH OF HWY 20/HWY 16 INTERSECTION.
20040610	PVT	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 159.1 AND 159.6 LEFT BANK, APPROXIMATELY 2 MI BELOW BOGGS BEND.
XXXXXXXX	UNKNOWN	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		NEAR DUNNIGAN.
19170420	UNKNOWN	None	None	G2T1	S1			WEST OF DUNNIGAN.
19170420	UNKNOWN	None	None	G4T2	S2	BLM_S; SB_CalBG/RSABG; SB_SBBG		NEAR DUNNIGAN.
20080612	CALTRANS, BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH) AND CALTRANS BOTANICAL MANAGEMENT AREA; 0.3 TO 0.7 MI W OF JUNCTION OF HWY 20 AND HWY 16.
20081002	PVT-PGE	Threatened	Threatened	G2	S2	IUCN_VU		JUST NORTH OF THE INTERSECTION OF MCDERMOTT RD & DIRKS RD, 2.15 MILES WEST OF DELAVAN.
20170530	BLM	None	None	G4T3	S3	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); EXTENDING FROM JUST SOUTH OF EULA CANYON NORTH ABOUT 0.8 MILE.
20080427	BLM, CALTRANS	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); WEST OF CORRAL AT HIGHWAY 20/HIGHWAY 16 INTERSECTION ON THE SOUTH SIDE OF HIGHWAY 20.
20080330	BLM	None	None	G4T3	S3	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); ALONG THE WEST SIDE OF BEAR CREEK JUST NORTH OF EULA CANYON.
20010505	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		NEAR DRAINAGE ON WHITE ROAD, 5 MILES SW OF THE TISDALE WEIR JUNCTION WITH THE SACRAMENTO RIVER.
20010723	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ABOUT 0.9 MI NE OF COUNTY LINE RD (CO RD 1) AND EMMERT RD AND 1.9 MI SE OF MUMMA RD AT W RD, 3.8 MI NE OF DUNNIGAN.
19930414	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		ABOUT 1 MILE WNW OF HIGHWAY 20 AT JUNCTION WITH HIGHWAY 16, EAST SIDE OF BLUE RIDGE.
19980320	BLM, PVT	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	BEAR CREEK AT THE CONFLUENCE OF THOMPSON CANYON, NEAR HIGHWAY 16, CACHE CREEK NATURAL AREA.
20070624	BLM	None	None	G3T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); APPROXIMATELY 0.3 MILE NORTH OF THE MOUTH OF EULA CANYON.
19940628	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG COLUSA BASIN DRAINAGE CANAL ABOUT 1 MILE NNE OF THE COUNTY RD 1 CROSSING AND 2.4 MILES SE OF MUMMA RD AT W RD.
20070624	BLM	None	None	G3T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); APPROXIMATELY 0.8 MILE NORTH OF THE MOUTH OF EULA CANYON.
20150315	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); ~1.1 AIR MI SOUTH OF HIGHWAY 20/HIGHWAY 16 INTERSECTION, WEST OF HWY 16 AND BEAR CREEK.
20050416	PVT	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	POWERS RESERVOIR, JUST WEST OF THE NORTH END OF THE DUNNIGAN HILLS, 2.25 MILES WNW OF DUNNIGAN.
20020721	YOL COUNTY, PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		WEST SIDE OF ROAD 89, ABOUT 0.5 MILE N OF BUCKEYE CREEK, 1.5 MILES N OF COUNTY RD 99W, 1.75 MILES N OF DUNNIGAN.
20080427	BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); JUST NORTH OF EULA CANYON.
20190225	UNKNOWN	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	COUNTY RD 86, ABOUT 0.4 MILES NORTH OF ITS INTERSECTION WITH COUNTY RD 6 (COUNTY HWY E4), WEST OF DUNNIGAN.
20000805	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	ALONG BEAR CREEK & HWY 36; JUST SOUTH OF CRAIG CANYON (ON TOPO) CONFLUENCE, ABOUT 1.7 MI ESE OF BLUE RIDGE.
2002XXXX	PVT	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		LOWREY RANCH, 1 MILE NORTH OF RUMSEY, RIDGE ABOVE BENJAMIN CANYON.
20170530	BLM	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		BEAR CREEK RANCH (FORMERLY PAYNE RANCH); ABOUT 0.5-1.1 AIR MI NW OF JUNCTION OF BEAR CREEK AND EULA CANYON.
20050410	PVT	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		NORTH OF BEAR CREEK, JUST EAST OF BLUE RIDGE, ABOUT 0.8 MILE NORTHWEST OF PEAK 1688.
20171115	UNKNOWN	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	ALONG COUNTY RD 86 ABOUT 0.2 MI N OF ITS JUNCTION WITH COUNTY RD 6, 2.8 MI NW OF I-5 AT COUNTY RD 6.
20070429	BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); NEAR MOUTH OF CRAIG CANYON.
19270223	UNKNOWN	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	1.0 MILE WEST OF DUNNIGAN.
2001XXXX	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	0.3 MILE WEST OF GLENN-COLUSA CANAL, 5.5 MILES NORTH OF MILLS ORCHARDS, EAST OF ANTELOPE VALLEY.
19980617	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 160, LEFT BANK, ABOUT 0.8 MI E OF STEGEMAN.
20160406	UNKNOWN	None	None	G3G4	S3	BLM_S; IUCN_VU; USFS_S	SSC	CACHE CREEK, FROM CAMP HASWELL TO THE BEAR CREEK CONFLUENCE (AND 0.1 MI UPSTREAM, IN BEAR CREEK), NW OF CAPAY VALLEY.
199005XX	PVT	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	NORTH SIDE OF ROAD 6, 0.25 MILE EAST OF ROAD 86, 4 MILES NW OF DUNNIGAN.
19560419	UNKNOWN	None	None	G2	S2			CACHE CREEK CANYON.
20080413	BLM	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		BEAR CREEK RANCH (PAYNE RANCH); APPROXIMATELY 0.9 AIR MILE WSW OF JUNCTION OF SR 16 AND SR 20.
19910516	UNKNOWN	Threatened	None	G3T2	S3			CACHE CREEK (SOUTH BANK), SOUTH OF HWY 16, ABOUT 2.5 MILES NW OF RUMSEY.
20040610	DFG-SACRAMENTO RIVER WA	None	None	G5	S4	CDF_S; IUCN_LC	WL	SACRAMENTO RIVER, 1.2 MILES NW OF THE INTERSECTION OF GOULD ROAD AND RIVER ROAD.
20080330	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); E SIDE OF BLUE RIDGE, ABOUT 1.1 AIR MILES SW OF THE HIGHWAY 20/HIGHWAY 16 INTERSECTION.
20080330	BLM	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		BEAR CREEK RANCH (PAYNE RANCH); BETWEEN EULA CANYON AND PEAK 1688.
20030603	PVT	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		EAST SIDE OF THE SACRAMENTO RIVER, 1.5 MILES NNE OF MOULTON WEIR, 1.7 MILES SOUTH OF THE GLENN/COLUSA COUNTY LINE.
20070407	BLM	None	None	G4T3	S3	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); IN CRAIG CANYON AND ON SLOPES BETWEEN CRAIG CANYON AND THOMPSON CANYON.
20070407	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); CRAIG CANYON, ABOUT 2 AIR MILES SOUTH OF THE HIGHWAY 20/HIGHWAY 16 INTERSECTION.
200804XX	BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); EULA CANYON.
20070429	BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); APPROXIMATELY 0.65 MILE WEST OF THE MOUTH OF CRAIG CANYON.
19900331	UNKNOWN	Threatened	Threatened	G2G3	S2S3	IUCN_VU	WL	VICINITY OF DUNNIGAN HILLS, 2.4 MILES WEST OF DUNNIGAN.

19461201	UNKNOWN	None	None	G4	S2	BLM_S; IUCN_LC; USFS_S; WBWG_H	SSC	ABOUT 3 MI WNW OF RUMSEY AND ABOUT 3.8 MI ENE OF LANGS PEAK.
20070407	BLM	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		BEAR CREEK RANCH (FORMERLY PAYNE RANCH); IN CRAIG CANYON APPROXIMATELY 0.95 MILE WEST OF BEAR CREEK.
19550325	PVT	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	ALONG HIGHWAY 16 NEAR POCKET GULCH, ABOUT 8.3 ROAD MILES NW OF GUINDA, EAST OF CACHE CREEK CANYON REGIONAL PARK.
20150829	UNKNOWN	Threatened	Threatened	G2	S2	IUCN_VU		1.75 MI SW OF BROWNING RD AT WHITE RD, 1.8 MI NW OF BROWNING RD AT COUNTY LINE RD, 6.4 MI NE OF DUNNIGAN.
19980617	UNKNOWN	None	Threatened	G5	S2	BLM_S; IUCN_LC		SACRAMENTO RIVER MILE 160.5, RIGHT BANK, ABOUT 0.9 MI NE OF STEGEMAN.
20170409	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	MOUTH OF HOLSTEN CHIMNEY CANYON, ALONG HIGHWAY 16, 4.4 MILES SOUTH OF HIGHWAY 20, CACHE CREEK NATURAL AREA.
20190225	UNKNOWN	None	None	G2G3	S3	BLM_S; IUCN_NT	SSC	COUNTY HIGHWAY E4, 3.3 ROAD MILES WEST OF INTERSTATE 5, WEST OF DUNNIGAN.
19910516	PVT	Threatened	None	G3T2	S3			CAPAY VALLEY, ON THE WEST SIDE OF CACHE CREEK, AT THE JUNCTION OF HWY 16 AND ROAD 40A, 0.6 MILE NW OF RUMSEY.
20070429	BLM	None	None	G5T2	S2	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); BETWEEN THOMPSON CANYON AND CRAIG CANYON.
20090318	BLM	None	None	G2G3	S2S3	BLM_S; SB_CalBG/RSABG; SB_UCBG		BEAR CREEK RANCH (PAYNE RANCH); BETWEEN CRAIG CANYON AND THOMPSON CANYON, ON SE SIDE OF BLUE RIDGE.
20010510	UNKNOWN	None	None	G4	S3	BLM_S; IUCN_LC; USFWS_BCC	SSC	1 MILE WEST OF GLENN-COLUSA CANAL, 7.5 MILES NNW OF MAXWELL.
20070429	BLM	None	None	G2	S2	BLM_S; SB_CalBG/RSABG		BEAR CREEK RANCH (FORMERLY PAYNE RANCH); BETWEEN CRAIG CANYON AND THOMPSON CANYON.
20131127	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	OLGERT CANYON, 0.2 MILE EAST OF BEAR CREEK, 1.1 MILE NORTH OF CACHE CREEK, IN CACHE CREEK NATURAL AREA.
19550325	UNKNOWN	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	HIGHWAY 16, ABOUT 9.4 ROAD MILES NW OF GUINDA, EAST OF CACHE CREEK CANYON REGIONAL PARK.
20160406	BLM	None	None	G3G4	S3	BLM_S; IUCN_VU; USFS_S	SSC	BEAR CREEK AT THE MOUTH OF BROPHY CANYON, ABOUT 0.5 MILES WSW OF BILLYS HILL & 2.5 MILES SSE OF CA-16 AT CA-20.
20090325	BLM	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		BEAR CREEK RANCH (PAYNE RANCH); CANYON TO THE NORTH OF BROPHY CANYON 0.1 AIR MILE NW OF BEAR CREEK.
19580421	UNKNOWN	None	None	G1	S1	BLM_S		ALONG STATE HIGHWAY 16, 6.5 MILES NORTHWEST OF RUMSEY, YOLO COUNTY.
20090506	BLM	None	None	G4T3	S3	BLM_S		BEAR CREEK RANCH (PAYNE RANCH); ALONG BEAR CREEK APPROXIMATELY 0.8 MILE SOUTH OF BROPHY CANYON.
19970708	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	CONFLUENCE OF CACHE CREEK AND BEAR CREEK, NEAR HIGHWAY 16, CACHE CREEK NATURAL AREA.
20090325	BLM	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		BEAR CREEK RANCH (PAYNE RANCH); CANYON TO THE NORTH OF BROPHY CANYON 0.5 AIR MILE WNW OF BEAR CREEK.
20030324	UNKNOWN	None	None	G3	S3	BLM_S; SB_UCBG; SB_UCSC		VICINITY OF SITES, HILLS NORTH OF THE SITES-LODOGA RD, AND STONE CORRAL CREEK.
20150713	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	FISKE CREEK, 0.2 TO 0.5 MILE SOUTH OF ITS CONFLUENCE WITH CACHE CREEK, JUST SE OF CACHE CREEK CANYON REGIONAL PARK.
20010604	UNKNOWN	None	Threatened	G5	S3	BLM_S; IUCN_LC; USFWS_BCC		ALONG DUNNIGAN CREEK RD, ABOUT 1 MILE NW OF RD 6 AT RD 91A AND 1.2 MILES EAST OF 1ST & MAIN IN DUNNIGAN.
20040715	PVT-WILDLANDS INC	Threatened	Threatened	G2	S2	IUCN_VU		WEST OF COLUSA BASIN DRAINAGE CANAL, ABOUT 2.5 MILES ENE OF DUNNIGAN. WILDLANDS PROPERTY.
20150519	BLM	None	None	G1	S1	BLM_S		FISKE CREEK; ALONG COUNTY ROAD 40 ABOUT 0.5 MILE SOUTH OF CACHE CREEK.
20160212	BLM	None	Endangered	G3	S3	BLM_S; IUCN_NT; USFS_S	SSC	BEAR CANYON, 0.3 MI W OF FISKE CREEK, S OF CACHE CREEK CANYON REGIONAL PARK, BERRYESSA SNOW MOUNTAIN NATIONAL MONUMENT.
20040719	PVT-WILDLANDS INC	Threatened	Threatened	G2	S2	IUCN_VU		WEST OF COLUSA BASIN DRAINAGE CANAL, ABOUT 2.5 MILES EAST OF DUNNIGAN. WILDLANDS PROPERTY.



Location Details

MAPPED TO LOCATION DESCRIPTION OF RESSEGUIE'S ARBUCKLE 1 SITE.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORMS FOR RESSEGUIE'S ARBUCKLE 1 (NORTH, ACTIVE 2000) & ARBUCKLE 7 (SOUTH, ACTIVE 2006) SITES.  
MAPPED TO POINT FROM CDFW SHAPEFILE OF SWAINSON'S HAWK NEST RECORDS FROM 2009.  
MAPPED TO PROVIDED COORDINATES.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORMS FOR RESSEGUIE'S X SITE (2000), COORDINATES FROM CDFW NEST RECORDS (2002, 2003), AND POINT FROM CDFW SHAPEFILE OF NESTS RECORDED IN 2009. 2003 NEST SOUTH OF CRAWFORD RD, OTHER NESTS TO NORTH.  
MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S SITE ARBUCKLE 2, CDFW NEST RECORDS FROM 2009, & COORDINATES GIVEN ON 2016 FIELD SURVEY FORM.  
3 FEATURES INSPECTED SOMEWHERE IN SECTIONS 2 & 11. TWO CONTAINED LEPIDURUS PACKARDI. NO BRANCHINECTA LYNCHI OBSERVED.  
COLONY OF APPROX 1125 BIRDS OBS BY NEFF NESTING IN CATTAILS.  
MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS.  
COLONY DATA STORED IN UC DAVIS TRBL PORTAL; SITE NAME "WILLIAMS." EXACT LOCATION UNKNOWN, LOCATION DESCRIPTION WAS ONLY "NEAR WILLIAMS." MAPPED GENERALLY TO POSSIBLE MARSH AREA DEPICTED ON A 1952 USGS TOPO MAP FOR WILLIAMS QUAD.  
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG STATE ROUTE 20 IN THE VICINITY OF WILLIAMS.  
MAPPED ACCORDING TO PROVIDED LOCATION DESCRIPTION OF "HWY 20 AT FRESHWATER LATERAL JCT, W OF I-5."

MAPPED ACCORDING TO PROVIDED LOCATION DESCRIPTION OF "SALT CK AT OLD HWY 99 W, 0.5 MILES N OF WILLIAMS."  
MAPPED TO PROVIDED LOCATION DESCRIPTION OF "RICHMOND GUN CLUB, HWY. 20 & HAUSTED RD, T 15N, R 2/3W, SECTIONS 7/12." COULD NOT LOCATE "RICHMOND GUN CLUB" IN THE VICINITY. "HAUSTED RD" PRESUMED TO BE HUSTED RD.  
MAPPED TO COORDINATES FOM CDFW NEST RECORDS FROM 2000-2004 AND POINT FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009.

MAPPED GENERALLY TO 1992 LOCATION DESCRIPTION OF "0.5 MILE NORTH OF HUSTED ROAD/HIGHWAY 20 INTERSECTION." COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "HUSTED ROAD."  
MAPPED TO POINT FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009.  
MAPPED TO PROVIDED COORDINATES. BRANSFORD SITE; SEE ALSO OCC #413 & 414.  
MAPPED BY CNDDDB AS BEST GUESS 4 AIR MILES EAST OF WILLIAMS.  
MAPPED GENERALLY TO PROVIDED LOCATION DESCRIPTIONS. 1932: "FOUR MILES NORTHEAST OF WILLIAMS." 1981: "HWY 20 & LONE STAR RD." EXACT LOCATION UNKNOWN.  
MAPPED GENERALLY TO PROVIDED LOCATION DESCRIPTION OF "S. HAHN RD BY LONE STAR RD, COLUSA CA."  
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB IN THE GENERAL VICINITY OF CANALS 3 ROAD MILES NNW OF WILLIAMS.  
MAPPED TO PROVIDED COORDINATES. BRANSFORD SITE; SEE ALSO OCC #412 & 414.  
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB IN THE VICINITY OF THE SOUTHERN BORDER OF THE REFUGE.

MAPPED BY CNDDDB AROUND HIGHWAY 20. TWO COLLECTIONS ATTRIBUTED TO THIS SITE: "3 MILES WEST OF COLUSA" AND "4 MILES EAST OF WILLIAMS". SITE MAPPED TO REPRESENT BOTH COLLECTIONS.  
MAPPED TO PROVIDED COORDINATES. CAPTURED SNAKES WERE WEIGHED, MEASURED, PIT TAGGED, IDENTIFIED, AND RELEASED. USGS HAS BEEN MONITORING SNAKE POPULATIONS SINCE 1995.  
MAPPED BY CNDDDB BASED ON 1992 FIELD SURVEY IN THE SW 1/4 OF SW 1/4 SECTION 23. SURVEYS FROM 1995 AND LATER FOUND ADDITIONAL PLANTS IN WEST, CENTER, AND NORTH PORTIONS OF TRACT 18; BETTER MAP DETAIL NEEDED FOR THESE POPULATIONS.  
LOCATION DESCRIPTION WAS "TRACTS 21 & 22, WEST OF OHM ROAD, COLUSA NWR." COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAMES "COLUSA NWR T21 & T22." FEATURE REPRESENTS AT LEAST 2 POTENTIAL COLONIES AND 4 SUBCOLONIES.  
MAPPED TO PROVIDED COORDINATES. BRANSFORD SITE; SEE ALSO OCC #412 & 414.  
MAPPED TO PROVIDED COORDINATES. 2015: 24-11, 24-7, & GCID SITES. 1 GRAVID SNAKE COLLECTED FOR REPRODUCTIVE ECOLOGY STUDY 1995-97, LOCATION UNKNOWN. SNAKES CAUGHT IN TRAPS, BY HAND, OR OBSERVED; & WERE MEASURED, PIT TAGGED, & RELEASED.  
3 POLYGONS. COLONIES IN T21, T22, & P3 (2 SOUTHERN POLYGONS) MAPPED BY CNDDDB BASED ON SPECIFIC MAPS FROM FIELD SURVEYS. NORTH POLYGON MAPPED AS THE EXTENT OF TRACT T24.13, AS ONLY AVAILABLE INFO FOR THIS SITE IS THE TRACT NUMBER.  
NESTED SUSPECTED AT THE HILLS BROTHERS' DUCK CLUB, NEAR COLUSA NWR, IN THE LATE 1970'S & 1980'S.  
MAPPED IN THE SE 1/4 NE 1/4 SECTION 26 ACCORDING TO TRS ON COLLECTION LABEL. DISTANCE IS 0.5-0.75 MILES N OF WARE ROAD BASED ON TRS.  
MAPPED BY CNDDDB TO ENCOMPASS GIVEN TRS: T15N R02W SE 1/4 NE 1/4 SECTION 26.

MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S ARBUCKLE 12 SITE.  
MAPPED GENERALLY TO COORDINATES FOR 2013-14 DETECTIONS; EXACT LOCATIONS UNKNOWN, UTMS WERE ROUNDED TO NEAREST 1,000M (E) & 10,000M (N) TO PROTECT LANDOWNER PRIVACY. 2015 DETECTIONS ALONG SAN JOSE RD JUST S OF LURLINE AVE; GRIFFITH SITE.  
MAPPED TO PROVIDED COORDINATES. CAPTURED SNAKES WERE WEIGHED, MEASURED, PIT TAGGED, IDENTIFIED, AND RELEASED. USGS HAS BEEN MONITORING SNAKE POPULATIONS SINCE 1995.  
MAPPED ACCORDING TO PROVIDED LOCATION DESCRIPTIONS FOR TWO 1933 COLONIES; "4 MILES SOUTH OF MAXWELL" & "1 MILE SOUTHWEST OF CORTENA." EXACT LOCATION UNK, MAPPED TO INCLUDE BOTH LOCATIONS. UCD TRBL PORTAL: SOUTH MAXWELL & SOUTHWEST CORTENA.  
W SIDE OF POOL 3 ON THE S END OF THE REFUGE. IN THE SW 1/4 SW 1/4 SECTION 24. DISTANCE FROM WARE ROAD IS APPROXIMATELY 1.25 MILES BASED ON TRS GIVEN BY SOURCE.  
WEST SIDE OF POOL 3. MAPPED BY CNDDDB ACCORDING TO T-R-S INFORMATION PROVIDED BY OSWALD: T15N, R2W, SW 1/4 OF THE SW 1/4 OF SECTION 24.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S WILLIAMS 4 SITE.

1992 LOCATION DESCRIPTION WAS "0.5 MILE NORTH OF HAHN RD ON OHM RD. NE OF ARBUCKLE." MAPPED ACCORDING TO NESTING AREA IDENTIFIED ON PROVIDED MAP. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "OHM RD."  
2 BURROWS LOCATED IN CREEK WASH, ONE ON SE BANK AND ONE ON NW BANK.  
MAPPED TO PROVIDED COORDINATES. 2015: 27 CANAL & J DRAIN SITES. MANY SNAKES RECAPTURED IN SAME & SUBSEQUENT YEARS. DETECTED SNAKES EITHER CAPTURED IN TRAPS, BY HAND, OR OBSERVED ONLY. SNAKES WERE MEASURED, WEIGHED, PIT TAGGED, & RELEASED.  
1934 LOCATION GIVEN AS "5 MI W OF COLUSA." 1971 LOCATION GIVEN AS 4.5 MI W OF COLUSA. 1992 LOCATION GIVEN AS "N OF ACRE FARMS AT 6271 LURLINE RD." 2007 LOCATION IS PIONEER DUCK CLUB, 6271 LURLINE RD. UNK NUMBER BANDED IN 2007.  
1980 COLLECTION FROM "LEVY TOP 0.1 MI N SACHREITER RD (CA 3 MI N GRIMES-ARBUCKLE RD) ON COLUSA BASIN DRAINAGE CANAL-E LEVY, SW COLUSA CO." MAPPED TO COORDINATES GIVEN FOR 2015 DETECTIONS.  
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS IN THE VICINITY OF THE OLD DAVIS LEVEE AND SYCAMORE SLOUGH.  
MAPPED TO SPECIFIC COORDS GIVEN FOR ONE OF THE 2011 DETECTIONS. EXACT LOCATION OF 2014 & OTHER 2011 TRAPS UNKNOWN; UTMS WERE ROUNDED TO NEAREST 1000M E & 10000M N TO PROTECT LANDOWNER PRIVACY (585000-4330000, 586000-4330000, 587000-4330000)  
EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG OLD HIGHWAY 99W AROUND 3 ROAD MILES SOUTH OF MAXWELL.

SITE CONTAINS 5 EAST-FACING BURROWS.  
MAPPED TO PROVIDED LOCATION DESCRIPTION OF "LURLINE AVE, 1 MILE WEST OF HWY I-5, 5.5 MILES NW OF WILLIAMS."

EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS THE EXTENT OF TRACT T11.

NEST TREE ON BANK OF DRY CREEK (SALT CREEK); MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S ARBUCKLE 10 SITE. A POSSIBLE 2ND TERRITORY WAS OBSERVED IN 2006 ABOUT 1.1 MI TO N (ARBUCKLE 13); NEST NOT FOUND, DETECTION INCLUDED HERE.  
MAPPED ACCORDING TO PROVIDED COORDINATES. 2012-2104: SITE NAME "COLUSA NWR." 2015: COLUSA "EAST POND" & BRENNAN 7 TRAPLINES.  
0.25-0.5 MI SW OF REFUGE HEADQUARTERS. ON BOTH SIDES OF DIRT TRACK. MOST PLANTS WEST OF TRACK. MAPPED BY CNDDDB BASED ON 1992 FIELD SURVEY AND MAP IN THE EAST HALF OF SECTION 2.  
MAPPED GENERALLY ACCORDING TO PROVIDED LOCATION DESCRIPTION OF "THREE MILES SOUTHEAST OF MAXWELL." COLONY DATA ADDITIONALLY STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE "SOUTHEAST MAXWELL." EXACT LOCATION OF HISTORIC COLONY UNKNOWN.  
MAPPED ACCORDING TO PROVIDED COORDINATES. COORDINATES ARE PRESUMABLY FOR LOCATION OF TRAP. SITE NAME WAS "COLUSA NWR."  
MAPPED TO COORDINATES FORM CDFW 2000-2004 NEST RECORDS.  
SITE REFERRED TO AS CAPITOL OUTING [DUCK CLUB] AND POSSIBLY COLUSA OUTING CLUB BY NEFF. 2001 SURVEYS CONDUCTED BY PRBO; ADDITIONALLY, PRBO COMPILED AND REPORTED HISTORICAL DATA FOR SITE. MAPPED ACCORDING TO PROVIDED COORDINATES AND MAPS.

LOCATION REFERRED TO AS THE "GREY HILL DUCK CLUB" DURING THE 2001 SURVEY. COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "GREY HILL DUCK CLUB."  
MAPPED ACCORDING TO PROVIDED MAP AND LOCATION DESCRIPTION OF TOWNSHIP 16N, RANGE 2W, NE 1/4 OF SECTION 20.

MAPPED TO COORDINATES PROVIDED FOR 2015 DETECTIONS; BRENNAN 9 SITE. EXACT LOCATION OF 2014 & 2011 TRAPS UNKNOWN; UTMS WERE ROUNDED TO NEAREST 1000M E & 10000M N TO PROTECT LANDOWNER PRIVACY (585000-4330000, 586000-4330000, 587000-4330000)  
MAPPED ACCORDING TO PROVIDED MAP. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "WESCOTT ROAD." PROVIDED LOCATION DESCRIPTION WAS "0.5 MILE N OF ABEL RD AND WESSCOTT RD INTERSECTION."

MAPPED TO VICINITY OF TERRITORY #CO024 FROM CDFW 1979-1994 SWAINSON'S HAWK OBSERVATIONS DATABASE SLONG THE CANAL, AND COORDINATES FROM CDFW 2000-2004 NEST RECORDS NEAR SYCAMORE SLOUGH. EXACT NEST TREE LOCATIONS UNCERTAIN.  
MAPPED ACCORDING TO PROVIDED COORDINATES AND MAPS. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "LURLINE ROAD." MAPPED TO POSSIBLE NESTING AREA ALONG BOTH SIDES OF LURLINE AVE.

MAPPED TO THE PROVIDED COORDINATES.  
MAPPED TO POINT FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009.  
MAPPED TO TRS GIVEN FOR TERRITORIES #CO025 (SOUTH) AND CO027 (NORTH) FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE 1979-1994. EXACT LOCATIONS UNKNOWN, ONLY DESCRIPTIONS ARE "MAIN CANAL-II" AND "MAIN CANAL-III."  
MAPPED GENERALLY TO PROVIDED COORDINATES. EXACT LOCATION OF TRAPS UNKNOWN, COORDINATES WERE ROUNDED TO NEAREST THOUSAND METERS (EASTINGS) AND TEN THOUSAND METERS (NORTHINGS) IN ORDER TO PROTECT LAND OWNER PRIVACY.  
VICINITY OF TERRITORY #CO011 FROM CDFW 1979-1994 SWAINSON'S HAWK OBSERVATIONS DATABASE. MAPPED TO COORDINATES FROM CDFW 2000-2004 SWHA NEST RECORDS.  
VICINITY OF TERRITORY #CO012 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE. MAPPED TO TRS GIVEN FOR 1988 NEST DETECTION.  
MAPPED ACCORDING TO PROVIDED COORDINATES AND MAPS. AT LEAST 2 COLONIES WITHIN CLOSE PROXIMITY TO EACH OTHER. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAMES WERE "HARBISON ROAD" AND "HARBISON ROAD AT JAMESON ROAD."  
VICINITY OF TERRITORY #CO010 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE. MAPPED TO COORDINATES FROM CDFW NEST RECORDS FROM 2000-2004.  
MAPPED GENERALLY TO INCLUDE BOTH 1932 COLONY LOCATIONS DESCRIPTIONS OF "2 MILES SOUTHWEST OF MAXWELL" & "3 MILES SOUTHWEST OF MAXWELL." COLONY DATA STORED IN UC DAVIS TRBL PORTAL; SITE NAMES "SOUTHWEST MAXWELL" & "SOUTHWEST MAXWELL #2."

MAPPED TO STATED LOCALITY "COLUSA;" EXACT LOCATION UNKNOWN.  
EXACT LOCATION UNKNOWN. PROVIDED LOCATION STATED ONLY AS "COLUSA." MAPPED TO COLUSA CITY CENTER. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE "COLUSA." 2014 SURVEYS CONDUCTED IN THE VICINITY OF COLUSA.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S WILDWOOD SCHOOL 4 SITE.  
MAPPED TO PROVIDED COORDINATES.  
MAPPED TO COORDINATES FROM CDFW SWAINSON'S HAWK NEST RECORDS AND FIELD SURVEY FORM FOR RESSEGUIE'S ARBUCKLE 8 SITE.  
MAIN BURROW SITE CONSISTS OF 3 BURROWS, WITH A SECONDARY BURROW LOCATED 0.3 MILE AWAY.

HERBARIUM LABEL GIVES LOCATION AS SACRAMENTO VALLEY, NEAR COLLEGE CITY, NEAR THE SACRAMENTO RIVER.  
"AT TULE LEVEL" ACCORDING TO COLLECTION LABEL.

MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S WILLIAMS 3 SITE.  
VICINITY OF TERRITORIES #C0002 AND C0003 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE. THERE IS MUCH OVERLAP BETWEEN THE TERRITORIES AND THE STATED LOCATIONS FOR THESE TERRITORIES IN THE 1992 & 1994 DATABASES.  
BURROW IS LOCATED IN A SWALE, 285' WEST OF AN EXISTING PIPELAINE AND 510' FROM MP 207.9, AT 300-DEGREES TRUE NORTH.  
MAPPED TO THE PROVIDED COORDINATES.  
MAPPED TO VICINITY OF INTERSECTION, WHICH PRESUMABLY WAS THE CLOSEST LANDMARK TO THE LOCATION WHERE THE TURTLE WAS FOUND AND RELEASED.

MAPPED TO COORDINATES FROM SCP; BRENNAN 10 SITE.  
MAPPED GENERALLY TO 1932 LOCATION DESCRIPTION OF "5 MILES SOUTHWEST OF GRIMES;" MEASURED AS AIR MILES. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "SOUTHWEST GRIMES."  
MAPPED TO VICINITY OF COORDINATES GIVEN FOR USFWS BEACH SEINE STATION SR144W (COLUSA ST PARK BOAT RAMP).  
1982 LOCALITY STATED AS "ACROSS RIVER FROM COLUSA-SACTO R.S.P.;" ASSUMED TO BE REFERRING TO COLUSA-SACRAMENTO STATE RECREATION AREA. MAPPED TO PROVIDED RIVER MILES AND SHAPEFILES GEOREFERENCED TO TOPO MAP, NOT AERIALS; RIVER CHANNEL MOVED.  
MAPPED TO PROPERTY BOUNDARIES; NO SPECIFIC LOCATION GIVEN FOR OCCUPIED POOLS.  
MAPPED ALONG THE SACRAMENTO RIVER. NONE FOUND IN 2001-2004 SURVEYS OF 16 SITES FROM COLUSA TO BUTTE CITY AND 18 SITES FROM COLUSA TO SACRAMENTO.  
EXACT LOCATION UNKNOWN. MAPPED BY CNDDb ALONG THIS ENTIRE STRETCH OF HIGHWAY.  
FOUR PATCHES OF MIXED RIPARIAN EXTENDING FROM VICINITY OF ARNOLD BEND UPSTREAM FOR ABOUT THREE MILES.

MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. INCLUDES LOCALITIES SRA "50 M BACK," "200 M BACK," "500 M BACK," "RIVER EDGE," & "RIVER EDGE BLUFF."  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. INCLUDES LOCALITIES SRA "50 M BACK," "200 M BACK," "500 M BACK," "RIVER EDGE," & "RIVER EDGE BLUFF."  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. INCLUDES LOCALITIES SRA "50 M BACK," "200 M BACK," "500 M BACK," "RIVER EDGE," & "RIVER EDGE BLUFF."  
BURROW IS LOCATED IN A SWALE.  
EXACT LOCATIONS FOR 2005 & 2007 DETECTIONS NOT GIVEN, MAPPED TO LOCATION OF OCCUPIED POOL GIVEN IN 2012 REPORT.  
MAPPED TO POINTS FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009.  
MAPPED TO LOCATIONS PROVIDED FOR OCCUPIED POOLS.  
1977 DETECTION AT SR29, "W BANK 0.5 MI N OF COLUSA (COLUSA STATE PK);" POINT GIVEN ON MAP MAY BE INACCURATE (NOT MAPPED HERE). 1987-1990: SITES #72 & 73 AT RM145. MAPPED TO COORDS GIVEN FOR 2013 DETECTION, ADJUSTED FOR BEARING & DISTANCE.  
MAPPED TO PROVIDED COORDINATES. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "DELEVAN T42.2." 1994 LOCATION DESCRIBED AS BEING "4 MILES EAST OF MAXWELL, DELEVAN NWR."  
MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS. FIRST OBSERVED ON 6 APR PERCHED BY "WINDSOCK AT LANDING STRIP," WHICH PROBABLY REFERS TO THAYER AVIATION AIRPORT 2 MI ESE. LOCATION NEEDS FIELD WORK.

MAPPED TO PROVIDED COORDINATES. COLONY DATA STORED IN UC DAVIS TRBL PORTAL; SITE NAME "DELEVAN T43." GRAINS MAY HAVE BEEN AVAILABLE IN THE FORM OF RICE SPILLED WHILE PLANTING FROM AIRCRAFT. OVER 2K BIRDS IN REFUGE BANDED BY 2009.

MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS.  
MAPPED GENERALLY TO PROVIDED 1932 LOCATION DESCRIPTION OF "1 MI. W MAXWELL." EXACT LOCATION UNKNOWN, 1 MILE MEASURED FROM MAXWELL TOWN CENTER. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "WEST MAXWELL."  
MAPPED APPROXIMATELY TO "SAC RIVER, 2 MI S OF COLUSA."  
A TOTAL OF 22 NATURAL BURROW SITES, ALL CONTAINING SIGN, FOUND AT THIS SITE IN 1992. THESE WERE REPLACED BY ARTIFICIAL BURROWS AS MITIGATION FOR IMPACTS TO THIS SITE.  
SINGLE PATCH OF COTTONWOOD RIPARIAN ALONG THE EAST SIDE OF THE RIVER.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S MOULTON WEIR 1 SITE.  
MAPPED TO PROVIDED COORDINATES. LOCATION DESCRIBED AS "APPROXIMATELY 0.35 MILES WEST OF I-5 AND 0.23 MILES NORTH OF MAXWELL-COLUSA ROAD."  
TERRITORY #C0026 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE 1979-1994, LOCALITY GIVEN AS "TULE RD-MAIN CANAL."  
1986: VICINITY OF TERRITORY #C0017 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE (GIVEN LOCATION "RM 141.2"). 2003: MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS.  
WEST OF TRANSMISSION LINE. MAPPED IN THE SW 1/4 SW 1/4 SECTION 14 BASED ON TRS PROVIDED BY SOURCE.  
IN OPEN PASTURE WEST OF POWERLINES. ATRIplex PARISHII AND A. PATULA SPICATA AROUND POOL EDGES.  
SEVERAL HUNDRED METERS WEST OF TRANSMISSION LINE.  
EXACT LOCATION UNKNOWN, MAPPED BY CNDDb AS A BEST GUESS.  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "2 KM S COLUSA, LEVEE ALONG SACRAMENTO RIVER."  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "2 KM S COLUSA, LEVEE ALONG SACRAMENTO RIVER."

1987-1990: HALTERMAN SITE #70 &71, AT RM 147 & 146.5.  
MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS.

TERRITORY #C0009 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE.  
MAPPED TO COORDINATES GIVEN IN CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS.  
MAPPED TO PROVIDED 1975 LOCATION DESCRIPTION OF "EAST SIDE OF HIGHWAY 99, 1 MILE NORTH OF MAXWELL." COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "HIGHWAY 99 AT MAXWELL." RESEARCH NEEDED TO CONFIRM COLONY STATUS.  
MAPPED TO UTMS GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S SITE GRIMES 13.

MAPPED TO PROVIDED RIVER MILES AND SHAPEFILES AND WITH RESPECT TO AERIAL IMAGES.  
MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS.  
MAPPED TO PROVIDED COORDINATES. COORDINATES FOR CAPTURED SNAKES ARE PRESUMABLY FOR TRAP LOCATION. STUDY SITE NAME WAS "DELEVAN NWR."  
MAPPED TO STREAM SURVEY REACH, APPROXIMATELY 1.4 MILES LONG.  
STEIDLEMAYER RANCH, 1984. STEIDLEMAYER RANCH AND BUTTE SINK, 1985-86.  
TWO PATCHES OF COTTONWOOD RIPARIAN, ONE ON EACH SIDE OF THE RIVER, EXTENDING FROM 2/5 MILE UPSTREAM OF COBBS BEND UPSTREAM FOR ABOUT 1.25 MILES.  
MAPPED TO PROVIDED COORDINATES.

MAPPED TO LOCALITY PROVIDED IN HOWARD DATABASE FOR UNDATED CAS SPECIMEN (NOT IN CAS' ONLINE DATABASE AS OF AUG 2020).  
HISTORICAL 1933-35 LOCATION DESCRIBED ONLY AS "NEAR MERIDIAN." MAPPED GENERALLY AROUND MERIDIAN TOWN CENTER. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAMES "MERIDIAN" & "MERIDIAN #2."

MAPPED ACCORDING TO PROVIDED COORDINATES FOR SHRUB LOCATION. SHRUB MONITORED BY PG&E. 2009 EXIT HOLE COUNT LIKELY AN OVERESTIMATION. 2010-2011 RE-EVALUATION BY PG&E/GARCIA & ASSOCIATES, DETERMINED VELB EXIT HOLES TO BE PRESENT.  
LOCATION MAPPED ACCORDING TO BIOS (ID=240-242).  
NEST TREE AT 90-DEGREE BEND IN UNNAMED FARM ROAD. MAPPED TO COORDINATES GIVEN IN CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS.  
MAPPED BY CNDDb BASED ON 1992-1994 FIELD SURVEYS, IN THE EAST HALF OF SECTION 29 AND THE SW 1/4 SECTION 28. >200,000 PLANTS OBSERVED AT DELEVAN NWR IN 2013; UNCLEAR WHICH SITES ARE INCLUDED IN THIS POPULATION COUNT.  
LOCATION MAPPED ACCORDING TO BIOS (ID=236-239).  
NEST TREE IS A DECIDUOUS TREE LOCATED BETWEEN HIGHWAY 99W AND THE RAILROAD TRACKS TO THE EAST OF THE HIGHWAY.  
TWO PATCHES OF COTTONWOOD RIPARIAN: THE LARGER IS ALONG THE WEST SIDE OF THE RIVER, THE SMALLER IS ALONG THE EAST SIDE OF THE RIVER.  
MAPPED GENERALLY TO PROVIDED COORDINATES, THOUGH COORDINATES WERE ROUNDED TO NEAREST THOUSAND METERS (EASTINGS) AND TEN THOUSAND METERS (NORTHINGS) IN ORDER TO PROTECT LAND OWNER PRIVACY.  
ABOUT 1 MILE NE OF INTERSECTION OF SAND CREEK ROAD AND GREEN ROAD.

SINGLE PATCH OF MIXED RIPARIAN ALONG THE WEST SIDE OF THE RIVER.  
TERRITORY #C0014 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE. PAIR AT THIS SITE COULD BE BIRDS FROM TERRITORY #C0013.



MAPPED TO COORDINATES FROM CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS.  
LOCATION MAPPED ACCORDING BIOS (ID=234, 235).  
MAPPED TO COORDINATES FROM CDFW 2000-2004 NEST RECORDS; ADDRESS GIVEN IS 1916 HWY 45.  
LOCATION DESCRIPTION WAS "STONE CORRAL CR, 1/4 MILE E OF DANLEY RD, 10 MILES NW OF WILLIAMS" AND "3.5 MILES WEST MAXWELL, STONE CORRAL CREEK."  
MAPPED TO APPROPRIATE HABITAT AT RIVER MILES USING THE SACRAMENTO RIVER ATLAS (1988) AND 1998-2010 AIR PHOTOS.  
NEST TREE WAS LOCATED NEAR AN RV PARK AND BOAT DOCK.  
MAPPED TO PROVIDED COORDINATES. COORDINATES ARE PRESUMABLY FOR TRAP LOCATION. STUDY SITE NAME WAS "DELEVAN NWR."

SINGLE PATCH OF MIXED RIPARIAN ALONG THE WEST SIDE OF THE RIVER.  
TERRITORY #C0013 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE 1979-1994.  
MAPPED ACCORDING TO COORDINATES PROVIDED WITH 2009 HELMKAMP COLLECTION.  
MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S GRIMES 12 SITE.

MAPPED IN GENERAL VICINITY OF MOUNTAIN HOUSE, ALONG LEESVILLE ROAD JUST NORTH OF THREE SISTERS.  
MAPPED TO DELEVAN NWR T45.1, PART OF THE RENNICK PROPERTY, BASED ON USFWS HABITAT MANGEMENT MAP. ANECDOTAL REPORTS OF BREEDING AT THIS SITE IN THE 1980'S & 1990'S. COLONY DATA STORED IN UC DAVS TRBL PORTAL; SITE NAME "DELEVAN T45.1."  
MAPPED ACCORDINT TO PROVIDED COORDINATES FOR YEARS 1997 & 2005. EXACT LOCATION OF 1981 DETECTION UNK, DESCRIBED ONLY AS "DELEVAN NWR" & ATTRIBUTED TO THIS OCCURRENCE. CAPTURED SNAKES WERE WEIGHED, MEASURED, PIT TAGGED, AND RELEASED.  
1 MILE NNW OF BM 86.  
MAPPED TO GENERAL AREA OF PROVIDED COORDINATES AND TRS.  
SINGLE PATCH OF MIXED RIPARIAN SURROUNDING A PATCH OF AGRICULTURE.  
MAPPED USING SAC RIVER ATLAS (1988). ID=218-223. RM 129.3: BURROWS OBSERVED ON RIGHT BANK DURING 1987 AND ON LEFT BANK DURING 1994 AND 1999. RM 129.5: BURROWS OBSERVED ON RIGHT BANK DURING 1996 AND ON LEFT BANK DURING 1997.  
1977: GAINES SITE SR28, "0.6 MI NE OF HAMILTON BEND." 1987-1990: HALTERMAN SITE #67, AT RM 150; 1987 DETECTION MAPPED TO LOCATION GIVEN IN HAL87U0001, WHICH IS ABOUT 0.6 MILE NW OF RM 150 AS MARKED.  
MAPPED ACCORDING TO PROVIDED MAP AND LOCATION DESCRIPTIONS OF "SACRAMENTO RIVER LEVEE, 5 MILES SOUTHEAST OF COLUSA" & " SACRAMENTO RIVER AT RIVER MILE 137.7-138.8" SITE WAS SURVEYED BY JONES & STOKES ASSOCIATES IN 1987.  
MAPPED TO PROVIDED COORDINATES. COORDINATES ARE PRESUMABLY FOR TRAP LOCATION. STUDY SITE NAME WAS "DELEVAN NWR." CANAL WAS ORIENTED EAST-WEST, NEAR CENTER OF WILDLIFE REFUGE.  
TRACTS 7, 8, 9, 10, 11, 12, 18, 19, AND 24. POLYGONS IN TRACTS 7-12 AND 18 ARE FROM SPECIFIC DATA. POLYGONS MAPPED AS THE EXTENT OF TRACTS 19, 24 (24.1 AND 24.2) ARE FROM NON-SPECIFIC DATA.  
MAPPED TO POINT FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009. RESSEGUIE'S SITE SITES 2.  
TWO PATCHES OF COTTONWOOD RIPARIAN. ONE ALONG THE WEST SIDE OF THE RIVER ON TWENTYMILE BAR, THE OTHER ALONG THE EAST SIDE OF THE RIVER AND IMMEDIATELY WEST OF MERIDIAN LEVEE ROAD.  
TERRITORIES #5U0006 AND C0018 FROM CDFW SWAINSON'S HWAK OBSERVATIONS DATABASE. GIVEN LOCATIONS ARE RM 134.5 AND "BUTTE FARMS" OR "BUTTE FARMS POND."

MAPPED TO PROVIDED MAP, COORDINATES, AND LOCATION DESCRIPTION. COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME WAS "PYLE'S RANCH."  
SINGLE PATCH OF WILLOW SCRUB.  
LOCATION DESCRIPTION FOR 1932 COLONIES DESCRIBED ONLY AS "5 MI. NE MAXWELL." MAPPED GENERALLY TO PROVIDED LOCATION DESCRIPTION. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "NORTHEAST MAXWELL."

MINIMAL USE OF THIS AREA BY BIRDS; GENERALLY, ONLY FOUND HERE WHEN FRIGHTENED FROM BUTTE CREEK FARMS, NOV 1978. BIRDS FED AND ROOSTED ON WILBUR FARMS, EARLY AND LATE NOV 1984.  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "SUTTER COUNTY LINE, LEVEE ALONG RIVER" AND "MOON'S BEND."  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "MOON'S BEND."  
MAPPED ACCORDING TO LAT/LONG COORDINATES PROVIDED BY SOURCE. SOURCE GIVES LOCALITY AS "SUTTER COUNTY LINE, LEVEE ALONG RIVER" AND "MOON'S BEND."

MAPPED APPROXIMATELY TO STATED LOCALITY "BUTTE CREEK, 3 MI NE COLUSA;" EXACT LOCATION UNKNOWN.  
NO BURROWS OBS AT RM 127.7 WHERE OBSERVED IN 1986. 1986: BURROWS AT RM 127.9 ON RIGHT & LEFT BANKS. 1987: BURROWS AT RM 128.1 ON LEFT BANK. 1993-97: BURROWS AT RM 128.1 ON RIGHT BANK. 2000: BURROWS AT RM 120.0. GRAPHIC MAPPED TO TOPO.  
MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY SOURCE, DATUM NOT GIVEN. SOURCE ALSO STATES LOCATION AS RIVER MILE 153.8, RIGHT BANK.  
MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S SITE GRIMES 4.

MAPPED APPROXIMATELY TO THE BANK SWALLOW HABITAT NEAR RM 129 USING THE SACRAMENTO RIVER ATLAS (1988).  
SINGLE PATCH OF MIXED RIPARIAN ALONG THE WEST SIDE OF THE RIVER.

MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S GRIMES 5 SITE.

MAPPED TO PROVIDED SHAPEFILE, WHICH USED COORDINATES FROM RAW DATA THAT SHIFTED THE LOCATION SOUTH FROM RM 153. COLONY WAS ALONG THE RIGHT BANK.

LOCATION DESCRIBED AS "INTERIOR SITE IN WEST-CENTRAL PORTION OF DELEVAN NATIONAL WILDLIFE REFUGE." COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "DELEVAN T17.1." MAPPED TO THE PERIMETER OF THE T17.1 MANAGEMENT UNIT.  
NEST MOST EASILY OBSERVED FROM THE LEVEE ROAD ON THE EAST SIDE OF THE RIVER, OFF RIVER ROAD.  
LOCATION GIVEN ONLY AS "NEAR GRIMES", MAPPED MOSTLY ON THE SUTTER COUNTY SIDE OF THE SACRAMENTO RIVER AS SILLS LAKE AND MANY DRAINAGE CANALS ARE IN THAT AREA.  
UNDER PG&E POWERLINE. MAPPED AS 2 POLYGONS ACCORDING TO 2010 SCHWEITZER DIGITAL DATA, IN THE SW 1/4 OF THE NE 1/4 OF SECTION 6.  
MAPPED TO PROVIDED MAP AND LOCATION DESCRIPTIONS OF "RIVER MILE 126.5W, NEAR GRIMES" AND "1 MI NORTH OF GRIMES, WEST BANK OF SACRAMENTO RIVER."  
MAPPED ACCORDING TO PROVIDED MAP LOCATIONS. PROVIDED ADDRESS WAS 2701 BUTTE SLOUGH RD, COLUSA.

MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORM FOR RESSEGUIE'S SITE GRIMES 6. NEST TREE IS ABOUT 290 M WEST OF POUNDSTONE ROAD.  
MAPPED BY CNDDB IN THE NW 1/4 NE 1/4 SECTION 21 BASED ON 1992 & 1993 FIELD SURVEYS.  
MAPPED TO LOCATION DESCRIPTION AND ATTACHED MAP FROM FIELD SURVEY FORM FOR RESSEGUIE'S GRIMES 7 SITE (GIVEN UTMS WAS SLIGHTLY FURTHER NE, POSSIBLY TAKEN AT AN OBSERVATION POINT).

LOCATION INCLUDES BIOS (ID=200-207). COLONIES WERE AT RM 125.7 (LEFT & RIGHT BANK), 126.0 (RIGHT BANK), & 126.1 (RIGHT BANK).  
1979 LOCALITY GIVEN ONLY AS "NEAR GRIMES," ATTRIBUTED HERE. NW POLYGON MAPPED TO 1980S NEST LOCATIONS FOR TERRITORIES #5U016 AND #5U028. SE POLYGON MAPPED TO COORDINATES FOR 2003 CDFW NEST RECORD.  
MAPPED TO TRS AND LOCATION GIVEN FOR TERRITORY #C0028 FROM CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE, "WEST OF I-5, NORTH OF COUNTY LINE ROAD."  
ABOUT 30 M E OF AN OLD BARN ALONG THE LOWER (TOE) SLOPE ABOVE A SEASONALLY FLOODED POND. IN REFUGE CELL/TRACT 12. SE 1/4 SECTION 17.  
SOUTH POLYGON MAPPED TO COORDINATES FROM FIELD SURVEY FORMS AND CDFW NEST RECORDS FROM 2000-2004. NORTH POLYGON MAPPED TO CDFW NEST RECORDS FROM 2009.  
SINGLE PATCH OF COTTONWOOD RIPARIAN ALONG THE EAST SIDE OF THE RIVER.  
0.47 MILES NORTH OF BM 126.  
BIRDS ROOSTED NIGHTLY AT THE PONDED SACRAMENTO OUTING CLUB, 1978. BIRDS ALSO OCCURRED AT BUTTE CREEK FARMS DURING 1977 AND 1978. BIRDS ROOSTED AT BUTTE SINK DURING 1984.  
MAPPED TO PROVIDED SHAPEFILE, WHICH USED COORDINATES FROM RAW DATA THAT SHIFTED THE LOCATION SOUTH FROM RM 154 & 154.6.  
MAPPED TO PROVIDED SHAPEFILE, WHICH WAS BASED ON RAW DATA UTMS.  
COLONY LOCATED JUST N OF HUNTING BLIND #4. MAPPED TO PROVIDED COORDINATES. COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME "DELEVAN BLIND 4." THERE WAS A METAL GATE WITH A METAL "4" ON THE EAST SIDE OF FOUR MILE RD.  
UNDER PG&E POWERLINE. MAPPED ACCORDING TO 2010 SCHWEITZER DIGITAL DATA, IN THE NW 1/4 OF THE SW 1/4 OF SECTION 6.

1960: BUTTES. 1971: WEST BUTTE ROAD, 5 MILES EAST OF COLUSA. 1972: SUTTER BUTTES, 5 MILES E OF COLUSA. EXACT LOCATION UNKNOWN, MAPPED GENERALLY TO AREA 5 MI E OF COLUSA CITY. COLONY DATA STORED IN UC DAVIS TRBL PORTAL; SITE "SUTTER BUTTES."  
MAPPED TO PROVIDED SHAPEFILES AS WELL AS RIVER MILES BASED ON HISTORIC AIR PHOTOS AND SACRAMENTO RIVER ATLASES (1988 & 1991).

BESIDE SOUTH EDGE OF SHALLOW EPHEMERAL STREAM CHANNEL DRAINING EASTWARD OUT OF HILLS EAST OF GOLDEN GATE. EXACT LOCATION UNKNOWN. MAPPED BY CNDDB AS BEST GUESS AROUND THE PORTION OF FUNKS CREEK AT ~170 TO 180 FEET IN ELEVATION.

ADJ TO AG, SACRAMENTO WILDLIFE AREA.  
NEST TREE LOCATED NW OF THE LEVEE ROAD BEFORE THE CHANNEL BREAKS AWAY.  
NEAR BOTTOM OF SECLUDED E-W TRENDING SIDE CANYON.  
MOULTON SOUTH UNIT. 1987-1990: HALTERMAN SITE #65, AT RM 155.5. 1987 DETECTION ON WEST SIDE OF RIVER, 2012 DETECTIONS ON EAST SIDE.  
SINGLE PATCH OF COTTONWOOD RIPARIAN ALONG THE WEST SIDE OF THE RIVER.  
MAPPED TO POINT FROM CDFW SHAPEFILE OF NEST RECORDS FROM 2009.  
TWO NEST SITES REPRESENTED. SW SITE ACTIVE IN 2000 (NE 1/4 SEC 17), EXACT NEST LOCATION UNKNOWN; MAPPED TO UTMS GIVEN FOR RESSEGUIE'S MAXWELL 1 SITE. NE SITE ACTIVE 2006 (SW 1/4 SEC 9), MAPPED TO UTMS FOR RESSEGUIE'S MAXWELL 9 SITE.

MAPPED TO LOCATION DESCRIPTIONS OF "4 MI E OF DELEVAN" & "7 MI NE MAXWELL." COLONY DATA STORED IN UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAMES "EAST DELEVAN" & "DELEVAN NWR-NORTHEAST CORNER." 2 POTENTIAL COLONIES INCLUDED IN FEATURE. UNDER PG&E POWERLINE. MAPPED ACCORDING TO 2010 SCHWEITZER DIGITAL DATA, IN THE SW 1/4 OF THE SE 1/4 OF SECTION 1. MAPPED BY CNDDDB ALONG THE EAST SIDE OF HIGHWAY 20, CENTERED ON MILEPOST 6.42 BASED ON INFORMATION ON COLLECTION LABEL. MAPPED TO PROVIDED COORDINATES. EAST SIDE OF SACRAMENTO RIVER. PROBABLY ACCESSIBLE FROM RIVER ROAD. WITHIN RARE TERRESTRIAL COMMUNITY #44 OF GREAT VALLEY MIXED RIPARIAN FOREST (PROBABLY PARTIALLY DESTROYED). MAPPED TO UTMS GIVEN ON FIELD SURVEY FORMS FOR RESSEGUIE'S MAXWELL 3 SITE. COORDINATES FROM CDFW NEST RECORDS FROM 2003, 2004, AND 2009 INDICATE THAT SAME OR ADJACENT TREE WAS USED IN SUCCESIVE YEARS. MAPPED ACCORDING TO PROVIDED MAPS AND COORDINATES. COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME WAS "MAXWELL SITES ROAD."

MAPPED TO PROVIDED COORDINATES. STUDY SITE NAME WAS "DELEVAN NWR." CANAL WAS ORIENTED EAST-WEST. OBSERVED IN THE IMPOUNDMENTS SOUTH OF PIPELINE RIGHT-OF-WAY BETWEEN FOUR-MILE ROAD AND TWO-MILE ROAD. MAPPED TO POOL T3-1 AS INDICATED BY PROVIDED COORDINATES. MAPPED TO COORDINATES FROM CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS. "N OF DELEVAN BARN." MAPPED ACCORDING TO TRS PROVIDED WITH 2011 CASTRO COLLECTIONS: NE 1/4 OF NW 1/4 OF SECTION 23. TWO SITES SEEN WITHIN THIS AREA: ALONG NW EDGES OF MARSH 0.2 MI NE OF CANAL, AND AT SW END OF N-TRENDING SWALE 800 FT NE OF CANAL. FEATURE REPRESENTS AT LEAST 3 NEST SITES WITHIN ROADSIDE TREE ROW N OF #4789 99W. MAPPED TO COORDINATES FROM FIELD SURVEY FORMS (RESSEGUIE'S MAXWELL 8 SITE) AND CDFW NEST RECORDS.

1987-1990: HALTERMAN SITE #64 AT RM157. 2010-2012: MAPPED TO GIVEN COORDINATES ADJUSTED FOR BEARING AND DISTANCE.

SINGLE PATCH OF WILLOW SCRUB ALONG THE WEST SIDE OF THE RIVER. MAPPED TO COORDINATES FROM CDFW NEST RECORDS 2000-2004, AND POINT IN CDFW SHAPEFILE OF NEST LOCATIONS FROM 2009. PLANTS OBSERVED ON RIDGELINE OF 40 ACRE PARCEL WITHIN THE SE 1/4 OF THE SW 1/4 OF SECTION 25.

BURROW LOCATED NEAR THE TOP OF A SMALL HILL. MAPPED TO THE PROVIDED COORDINATES. MAPPED TO PROVIDED COORDINATES. MAPPED BY CNDDDB AS BEST GUESS ALONG SAND CREEK ROAD NEAR THE COUNTY LINE AND ALONG THE STEEPEST PART OF THE GRADE TO ENCOMPASS INFORMATION FROM SEVERAL VAGUE COLLECTION LABELS. EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ALONG THE STEEPEST PART OF THE ROAD. MAPPED TO COORDINATES GIVEN ON 2006 FIELD SURVEY FORM FOR RESSEGUIE'S SITE DUNNIGAN 6. 2007 DETECTION AT ESTEP'S YO-28 SITE IN SAME OR ADJACENT TREE. THREE NEST SITES, FROM W: RESSEGUIE'S MAXWELL 6 SITE BETWEEN HWY 99W & I-5, ACTIVE IN 2000; SITE FROM CDFW NEST RECORDS/FSFS, 2ND NEST IN 2003, ACTIVE IN 2004; NEST SITE FROM FSFS/CDFW RECORDS, ACTIVE 2002 & 2003 (1ST ATTEMPT). MAPPED GENERALLY TO PROVIDED COORDINATES. EXACT LOCATION OF TRAP UNKNOWN, COORDINATES WERE ROUNDED TO NEAREST THOUSAND METERS (EASTINGS) AND TEN THOUSAND METERS (NORTHINGS) IN ORDER TO PROTECT LAND OWNER PRIVACY. MAPPED APPROXIMATELY TO PROVIDED RIVER MILES AND SHAPEFILES. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG ARBUCKLE ROAD (ALSO NAMED SAND CREEK ROAD IN COLUSA CO) IN THE VICINITY OF THE HIGHEST ELEVATION. SW 1/4 OF SW 1/4 OF SECTION 34. MAPPED TO COORDINATES FROM CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS. "S. OF PRINCETON, RM 158."

SNAKE FOUND ON A CROP DUSTER AIRSTRIP, ON A BARE PATCH USED FOR ACCESS TO THE PIPELINE RIGHT-OF-WAY.

SINGLE PATCH OF COTTONWOOD RIPARIAN ALONG THE EAST SIDE OF THE SACRAMENTO RIVER.

MAPPED ACCORDING TO UTM COORDINATES PROVIDED BY SOURCE, DATUM NOT GIVEN. SOURCE ALSO STATES LOCATION AS RIVER MILE 158.5, RIGHT BANK. SINGLE PATCH OF MIXED RIPARIAN VEGETATION EXTENDING FOR ABOUT 1.5 MILES ALONG THE WEST SIDE OF THE RIVER. LOCATED IN A FENCED OAK WOODLAND SETTING ON THE EAST SIDE OF STATE ROUTE 20 ABOUT 200 M NORTH OF THE JUNCTION OF SR 20 AND SR 16. MAPPED IN THE NE 1/4 OF THE SE 1/4 OF SECTION 36 BASED ON 2020 FERGUSON COORDINATES.

NW POLYGON: 1977 DETECTION AT SITE SR27, "W BANK 0.5 MI SSE OF STEGEMAN." SE POLYGON: 2012 DETECTION, MAPPED TO UTMS ADJUSTED FOR DISTANCE AND BEARING. 1987-1990 HALTERMAN SURVEY SITE #62 AT RM 159.5. MAPPED ACCORDING TO PROVIDED MAPS AND TRS OF T 18N, R 3W, 1/4 NW SEC 36. COLONY DATA STORED IN THE UC DAVIS TRICOLORED BLACKBIRD PORTAL; SITE NAME WAS "SACRAMENTO NWR-POOL 11.3." MAPPED BY CNDDDB AS 6 POLYGONS BASED ON A 1988 BITTMAN MAP, 2000 AND 2002 THOMSEN COORDINATES AND LOCATION DESCRIPTIONS (ACCURACY OF COORDINATES UNKNOWN), 2005 URS MAP DATA, AND 2019 POTTER COORDINATES. GROWING ON BOTH SIDES OF FIRE BREAK CREATED IN 2005. MAPPED NEAR THE CENTER OF THE NE 1/4 OF SECTION 1 ACCORDING TO 2009 DEAN DIGITAL DATA AND 2016 O'DELL COORDINATES. MAPPED APPROXIMATELY TO PROVIDED RIVER MILES AND SHAPEFILES. MAPPED JUST NW OF DUNNIGAN AS CNDDDB'S BEST GUESS. VAGUE LOCATION. MAPPED APPROXIMATELY 1 MILE NW OF DUNNIGAN. EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS JUST NORTHWEST OF DUNNIGAN. MAPPED BY CNDDDB AS 5 POLYGONS ACCORDING TO 2005 URS MAP DATA AND 2009 DEAN DIGITAL DATA. SPECIMEN LABELS ALSO NOTE POPULATIONS OCCURRING ALONG BEAR VALLEY ROAD; NEED ADDITIONAL MAP DETAIL FOR THIS INFORMATION. SEPT LOCATION GIVEN AS "NEAR THE INTERSECTION OF DIRKS AND MCDERMOTT RD". OCTOBER LOCATION GIVEN AS "15 FEET FROM MCDERMOTT RD". JUST NORTH OF BM 100. MAPPED BY CNDDDB AS SEVERAL POLYGONS ACCORDING TO 2009 DEAN DIGITAL DATA AND 2017 O'DELL COORDINATES. ON EAST SIDE OF UNNAMED DRAINAGE THAT FLOWS NORTH TOWARD HWY 20. NORTH POLYGON IN A ROCK OUTCROP SLOPE ON THE S SIDE OF HWY 20 JUST EAST OF DRAINAGE AND KP 4.8 (PM 3.0). 3 POLYGONS MAPPED IN THE NW 1/4 SEC 1 AND THE SE 1/4 SEC 36. MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA. GGS WAS LOCATED APPROXIMATELY 150 FEET FROM THE NEAREST DRAINAGE. MAPPED TO COORDINATES ON FIELD SURVEY FORM AND FROM CDFW 2000-2004 NEST RECORDS. EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB IN THE SE 1/4 OF THE NE 1/4 OF SECTION 35 ACCORDING TO T-R-S PROVIDED BY MANGAN. HOTHEN SITE 28 & 22. 1958 SPECIMEN COLLECTED FROM "HWY 16, 3.6 MI N YOLO CO LINE, CACHE CRK." JUST WEST OF PARKING LOT ON WEST SIDE OF BEAR CREEK. MAPPED TO TRS AND COORDINATES GIVEN FOR TERRITORY "CO" (NO # ASSIGNED) IN CDFW SWAINSON'S HAWK OBSERVATIONS DATABASE. COORDINATES APPEAR TO BE ROUNDED & APPROXIMATED; EXACT LOCATION UNKNOWN. APPROXIMATELY 1000 FEET NW OF PARKING LOT. ON BOTH SIDES OF UNNAMED DRAINAGE THAT FEEDS INTO BEAR CREEK. ACROSS FROM BLM CAMPING AREA CALLED COWBOY CAMP. MAPPED WITHIN THE SW 1/4 OF THE SE 1/4 OF SECTION 1 ACCORDING TO 2009 DEAN DIGITAL DATA.

2001-2002 NEST WAS LOCATED AT THE 90% HEIGHT OF THE NEST TREE, LOCATED ABOVE THE ROAD EDGE. MAPPED TO UTMS GIVEN ON FIELD SURVEY FORMS FOR RESSEGUIE'S DUNNIGAN 4 SITE. MAPPED BY CNDDDB AS 3 POLYGONS ACCORDING TO 2009 DEAN DIGITAL DATA. MAPPED TO COORDINATES PROVIDED. FELLERS SITE ID #P-465, MAPPED TO PROVIDED COORDINATES. EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB AT THE SOUTH END OF BENJAMIN CANYON. MAPPED BY CNDDDB AS 8 POLYGONS. ID CONFIRMED BY ELIZABETH ZACHARIAS AT HARVARD; HOWEVER, ROB PRESTON NOTES THAT THE SEEDS OF THESE PLANTS ARE LARGER THAN NORMAL AND HAIRS ARE SOMEWHAT DIFFERENT. ALONG BEAR VALLEY ROAD TOWARDS LODOGA, ABOUT 0.7 MILE FROM JUNCTION WITH HIGHWAY 20. MAPPED IN THE SE 1/4 OF THE SE 1/4 OF SECTION 35. MAPPED TO PROVIDED COORDINATES. MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA NEAR THE SECTION LINE BETWEEN THE SW 1/4 OF SECTION 7 AND THE SE 1/4 OF SECTION 12.

BURROW COMPLEX MADE UP OF 10 HOLES. MAPPED APPROXIMATELY TO PROVIDED RIVER MILES AND SHAPEFILES. E-MOST POLYGON MAPPED TO AREA SURVEYED IN 2005, FROM CAMP HASWELL TO 5.3 MI UPSTREAM (W); ALSO CONTAINS 2 DETECTIONS FROM 2016. 2008: EXACT LOCATIONS UNKNOWN. W-MOST 2 POLYGONS MAPPED TO 2016 DETECTIONS IN CACHE & BEAR CREEKS. SITE (SMALL POND) IS LOCATED EAST OF THE COMMUNICATIONS TRANSMITTER. NO OTHER LOCATION INFORMATION GIVEN.

REPORT ON: TAXONOMY; DISTRIBUTION; LIFE HISTORY; HABITAT; FIELD TECHNIQUES & OBSERVATIONS; BEETLE RECOVERY. 2001 & 2003: NEST SITE IS LOCATED JUST NORTH OF RIVER MILE 160. 2004: NEST SITE IS LOCATED AT RIVER MILE 160.3, RIGHT BANK. ON WEST SIDE OF BASIN AREA WITH MULTIPLE SEEPS THAT POOL AT THE BOTTOM OF THE BASIN AND THEN DRAIN TO THE EAST DOWN TO BEAR CREEK VIA MEADOW OPPOSITE COWBOY CAMP. POP CONTINUES UP WESTERN SIDE OF BASIN IN NOOKS & CRANNIES OF CHAPARRAL AREA. SITE IS CALLED "RARE PLANT BASIN." MAPPED BY CNDDDB AS 2 POLYGONS ACCORDING TO 2009 DEAN DIGITAL DATA. MAPPED TO COORDINATES GIVEN ON FIELD SURVEY FORMS FOR "APPROXIMATE" NEST LOCATION; EXACT LOCATION OF NEST TREE NOT KNOWN. MAPPED BY CNDDDB AS 7 POLYGONS ACCORDING TO 2009 DEAN DIGITAL DATA. SOUTH SIDE OF UNIMPROVED ROAD OPPOSITE LARGE SERPENTINE BALD. MAPPED IN THE NW 1/4 OF THE SE 1/4 OF SECTION 12 BASED ON 2009 DEAN DIGITAL DATA. MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA. ALONG UNDEVELOPED ROAD THAT FOLLOWS DRAINAGE. MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA. LOCATED JUST OFF THE NORTH SIDE OF ROAD E4. SITE 1 OF DEPT OF FISH & GAME TIGER SALAMANDER SURVEY.



EXACT LOCATION UNKNOWN. MAPPED TO LOCALITY ON SPECIMEN RECORD AND IN FIELD NOTES OF 3 MI WNW OF RUMSEY ON THE S SLOPE OF CACHE CREEK AND 1/4 MI W OF BRIDGE 2219.

MAPPED BY CNDDDB AS A SMALL POLYGON BASED ON 2009 DIGITAL DATA. ID CONFIRMED BY ELIZABETH ZACHARIAS AT HARVARD; HOWEVER, ROB PRESTON NOTES THAT THE SEEDS OF THESE PLANTS ARE LARGER THAN NORMAL AND HAIRS ARE SOMEWHAT DIFFERENT.

LOCALITY DESCRIBED AS A SMALL 14 INCH POOL, 150-200 FEET ABOVE CACHE CREEK, WEST OF HIGHWAY 16, 8.3 MILES NORTH OF GUINDA.

MAPPED TO PROVIDED COORDINATES. DOHERTY SITE.

MAPPED APPROXIMATELY TO PROVIDED RIVER MILES AND SHAPEFILES.

JUST EAST OF THE HIGH BRIDGE TRAILHEAD.

MAPPED TO COORDINATES PROVIDED.

REPORT ON: TAXONOMY; DISTRIBUTION; LIFE HISTORY; HABITAT; FIELD TECHNIQUES & OBSERVATIONS; BEETLE RECOVERY.

MAPPED BY CNDDDB AS 2 POLYGONS ACCORDING TO 2009 DEAN DIGITAL DATA.

PLANTS ALONG DIRT ROAD CONNECTING CRAIG AND THOMPSON CANYONS, EXTENDING 0.4 MI UP RIDGE, AS WELL AS 0.4 MI N OF ROAD NEAR CRAIG CANYON. MAPPED AS 5 POLYGONS BASED ON 2009 DIGITAL DATA, IN THE EAST 1/2 SECTION 11 AND THE SW 1/4 SECTION 12.

LOCATED JUST WEST OF THE PG&E COMPRESSOR STATION.

MAPPED BY CNDDDB AS A SMALL POLYGON ALONG 4WD ROAD,BASED ON 2009 DIGITAL DATA. ID CONFIRMED BY ELIZABETH ZACHARIAS AT HARVARD; HOWEVER, ROB PRESTON NOTES THAT THE SEEDS OF THESE PLANTS ARE LARGER THAN NORMAL AND HAIRS ARE SOMEWHAT DIFFERENT.

EAST OF HIGHWAY 16.

LOCALITY DESCRIBED AS 9.4 MILES NORTH AND WEST OF GUINDA ON HIGHWAY 16, EAST OF ROAD.

MAPPED TO PROVIDED COORDINATES.

MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA IN THE NW 1/4 NW 1/4 SECTION 30.

EXACT LOCATION UNKNOWN. MAPPED AS BEST GUESS BY CNDDDB ALONG HWY 16 AROUND 6.5 ROAD MILES WEST OF RUMSEY, IN THE VICINITY OF THE COUNTY LINE.

NEAR MOUTH OF CANYON LOCATED TO THE SOUTH OF BROPHY CANYON.

SITES 20, 23. 26.

MAPPED BY CNDDDB ACCORDING TO 2009 DEAN DIGITAL DATA IN THE NE 1/4 SECTION 25.

EXACT LOCATION(S) UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS BASED UPON ABOVE SITE DESCRIPTION AND T-R-S OF T17N, R5W (NO SECTIONS GIVEN). BOTH SITES AND LODOGA QUADS LISTED BY THE COLLECTORS. ELEVATIONS GIVEN AS: 650-750', 910', AND 1060'.

FELLERS SITE ID #P-466.

MAPPED TO COORDINATES FROM CDFW 2000-2004 SWAINSON'S HAWK NEST RECORDS.

SOUTH OF ROAD 40 AND CREEK. MAPPED FROM 2015 GOWEN COORDINATES, IN THE WEST 1/2 OF SECTION 9.

MAPPED TO COORDINATES PROVIDED.





NESTING SUBSTRATE REPORTED AS CATTAIL MARSH IN 1961. URBAN ENVIRONMENT, SCHOOLYARD, NOTHING REMOTELY LIKE NESTING HABITAT REPORTED IN 2014. NEST HIGH ON EAST SIDE OF THIRD TREE FROM THE NORTH, IN GROUP OF SCATTERED TREES IN A RUDERAL AREA SURROUNDED BY ORCHARDS.

2001, 2006 NEST IN BLACK WALNUT. 2002 NEST TREE WAS "OTHER EXOTIC." 2009 NEST IN WILLOW. GOOGLE STREET VIEW (2012) & AERIAL IMAGES INDICATED THE BLACK WALNUT WAS REMOVED; POSSIBLE NEST VISIBLE IN REMAINING TREE. HABITAT CONSISTS OF GRASSLAND IN THE VICINITY OF NORTH FORK OF ELK CREEK.

IN ALKALI SOIL IN OVERFLOWED LANDS AT TULE MARSHES.  
NEST AT 80% HEIGHT OF FARMYARD TREE. SURROUNDING HABITAT WAS MOSTLY RICE FIELDS.  
1979 PRODUCTIVE NEST WAS IN OAK NEXT TO BARN. POSSIBLE SECOND NEST "NEAR THE WHITE HOUSE ON THE NORTH SIDE OF SYCAMORE SLOUGH" (SOME UNCERTAINTY DUE TO INCONSISTENCY IN RECORDS).  
HABITAT CONSISTS OF RUDERAL GRASSLAND; SURROUNDED BY AGRICULTURAL FIELDS.  
SANDY WASH IN GRASSLAND.  
DETECTED ON HIGHWAY THROUGH AREA OF AGRICULTURE AND RURAL HOUSING LESS THAN A MILE WEST OF THE SACRAMENTO RIVER.

BEACH SEINING CONDUCTED AT THIS SITE WEEKLY, BEGINNING 24 MAR 1981. THIS IS NORTHMOST DETECTION RECORDED FROM THE SACRAMENTO RIVER, FAR UPSTREAM OF CENTER OF MAIN SPAWNING GROUNDS BELOW RIO VISTA. RM 144.4 DESTROYED BY RIPRAP IN 1987. ROUGH-WINGED SWALLOWS WERE ALSO BREEDING IN THE BANKS (1987). NO ACTIVE COLONIES NOTED IN 1995 & 1998. GENERAL COMMENTS ARE LISTED BY YEAR: # OF COLONIES IF MORE THAN 1 FOUND (# OF BURROWS). ANNUAL GRASSLAND WITH NATURALLY OCCURRING VERNAL POOLS AND SWALES, EMERGENT MARSH, AND SCATTERED VALLEY OAKS. SURROUNDING LAND USES ORCHARDS AND CATTLE GRAZING.

SPECIES WHICH MAY OCCUR HERE INCLUDE *POPULUS FREMONTII*, *SALIX LASIANDRA*, *SALIX GOODINGII* VAR. *VARIABILIS*, *PLATANUS RACEMOSA* AND *ACER NEGUNDO*. SHADE TOLERANT SHRUBS AND EXTENSIVE LIANA DEVELOPMENT IN THE UNDERSTORY. LOW TERRACE NOT SUITABLE FOR ELDERBERRY AND INACCESSIBLE DUE TO DENSE WILD GRAPE, ELDERBERRY FOUND ON OUTER EDGES; STANDS WITH HIGH PROPORTION OF YOUNG PLANTS. COTTONWOOD/SYCAMORE. DOMINATED BY MATURE *POPULUS FREMONTII*, *PLATANUS RACEMOSA*. RIPARIAN FOREST THAT IS AT LEAST 50 M WIDE ON AT LEAST ONE SIDE OF THE RIVER. COTTONWOOD/SYCAMORE. DOMINATED BY MATURE *POPULUS FREMONTII*, *PLATANUS RACEMOSA*. RIPARIAN FOREST THAT IS AT LEAST 50 M WIDE ON AT LEAST ONE SIDE OF THE RIVER. COTTONWOOD/SYCAMORE. DOMINATED BY MATURE *POPULUS FREMONTII*, *PLATANUS RACEMOSA*. RIPARIAN FOREST THAT IS AT LEAST 50 M WIDE ON AT LEAST ONE SIDE OF THE RIVER.

250-ACRE CONSERVATION BANK; ANNUAL GRASSLAND WITH NATURALLY OCCURRING VERNAL POOLS AND SWALES, EMERGENT MARSH, AND SCATTERED VALLEY OAKS. USED FOR GRAZING. SURROUNDED BY ORCHARDS, PASTURE, RICE, MARSH HABITAT. NEST IN 70-75' EUCALYPTUS IN RESIDENTIAL AREA, WITH CROPS TO THE SOUTHWEST.

250-ACRE CONSERVATION BANK WITH ABOUT 24 ACRES OF NATURAL VERNAL POOLS AND SWALES IN ANNUAL GRASSLAND USED FOR LIVESTOCK GRAZING. BRANCHINECTA LYNCHI ALSO OBSERVED.

2013: BIRD DETECTED IN TALL COTTONWOODS.

HABITAT COMPOSED OF CATTAILS AND BULRUSH. 1994 COLONY PERCHED IN WILLOWS. COLONY ANECDOTALLY REPORTED AS PRESENT IN 1993.

NEST IN 50' VALLEY OAK SURROUNDED BY CROPLAND.

NESTING SUBSTRATE CONSISTS OF A DENSE STAND OF EUCALYPTUS WITHIN A FENCED AREA; SURROUNDED BY RESIDENTIAL AND COMMERCIAL LAND USE. LOCAL RESIDENTS ARE UNHAPPY ABOUT THE PRESENCE OF THESE RAUCOUS BIRDS AND THE MESS LEFT UNDER THE TREES.

NESTING SUBSTRATE CONSISTS OF A DENSE STAND OF EUCALYPTUS WITHIN A FENCED AREA; SURROUNDED BY RESIDENTIAL AND COMMERCIAL LAND USE. LOCAL RESIDENTS ARE UNHAPPY ABOUT THE PRESENCE OF THESE RAUCOUS BIRDS AND THE MESS LEFT UNDER THE TREES.

BULRUSH/TULE. BASIN WAS MOIST & HAD PUDDLES; NOT COMPLETELY FLOODED. COLONY NOTED TO HAVE OCCURRED NEAR STONE CORRAL CREEK PRIOR TO 2011. 2014 HABITAT DESCRIBED AS COMPOSED OF CATTAILS; TALL, LUSH, GREEN, NO THATCH; GOOD NESTING CONDITIONS.

NEST IN 60' COTTONWOOD WITH RIPARIAN TO EAST AND ORCHARDS TO WEST.  
CATTAIL MARSH (1932). WEEDY CANOLA FIELD (2014).

HABITAT SURROUNDING BURROWS CONSISTS OF RUDERAL GRASSLAND (SHEEP PASTURE).  
DOMINATED BY *POPULUS FREMONTII*. *SALIX GOODINGII* VAR. *VARIABILIS* MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE *SALIX HINDSIANA*, *SALIX LASIANDRA*, AND *SALIX LAEVIGATA*.  
NEST AT 85% HEIGHT OF TREE IN REMOTSIDE ROW OF ENGLISH WALNUTS. YOUNG ALMOND ORCHARD TO WEST AND RICE TO EAST.  
AGRICULTURAL DITCH SUPPORTING DENSE GROWTH OF EMERGENT VEGETATION INCLUDING *TYPHA* SP. DITCH LIKELY NOT ROUTINELY MAINTAINED. BASKING SITES AND REFUGIA ON DITCH BANKS AND FURTHER BEYOND TO WEST. RICE FIELD LOCATED E AND FALLOW PASTURE W.  
NEST IN RIPARIAN COTTONWOOD. IT APPEARS IN 2012 AERIALS THAT THERE IS STILL SUITABLE NESTING AND FORAGING HABITAT IN THIS AREA.  
2003 NEST IN 60' COTTONWOOD WITH ORCHARDS AND CROPLAND TO THE EAST AND RIPARIAN HABITAT TO THE WEST.  
FOUND AROUND POOL EDGES. OTHER POOL TAXA INCLUDE *ERYNGIUM VASEYI* VAR. *VALLICOLA*, *FRANKENIA GRANDIFOLIA*, *PLANTAGO ELONGATA*, *PARAPHOLIS INCURVA*, *PLAGIOBOTHRYS* SP., *MYOSURUS MINIMUS* SSP. *APUS*, ETC. THE RARE *ATRIPLEX JOAQUINANA* ALSO PRESENT.  
POOL TAXA INCLUDE *ERYNGIUM VASEYI VALLICOLA*, *FRANKENIA GRANDIFOLIA*, *PLANTAGO ELONGATA*, *PARAPHOLIS INCURVA*, *PLAGIOBOTHRYS STIPITATUS MICRANTHUS*, *MYOSURUS MINIMUS APUS*, *CRYPISIS NILIACEA*, *CRESSA TRUXILLENSIS VALLICOLA* & *LYTHRUM TRIBRACTEATUM*.  
ALKALI MEADOW/NORTHERN CLAYPAN VERNAL POOL COMPLEX WITH *ERYNGIUM VASEYI VALLICOLA*, *MYOSURUS MINIMUS APUS*, *PLANTAGO ELONGATA*, *ATRIPLEX DEPRESSA*, ETC.  
VERNAL POOLS.  
COTTONWOOD/SYCAMORE. DOMINATED BY MATURE *POPULUS FREMONTII*, *PLATANUS RACEMOSA*. RIPARIAN FOREST THAT IS AT LEAST 50 M WIDE ON AT LEAST ONE SIDE OF THE RIVER.  
COTTONWOOD/SYCAMORE. DOMINATED BY MATURE *POPULUS FREMONTII*, *PLATANUS RACEMOSA*. RIPARIAN FOREST THAT IS AT LEAST 50 M WIDE ON AT LEAST ONE SIDE OF THE RIVER.  
PATCHES OF *ARISTIDA TERNIPES* VAR. *HAMULOSA* W/ *NASSELLA PULCHRA* & OTHER *STIPA* SP., *PLANTAGO*, *BROMUS* & *ERIDIUM* DOMINATES AREAS BETWEEN BUNCHES.  
1987-1990: 44 HA OF MIXED RIPARIAN, POINT BARS AND LOW WOODY VEGETATION PRESENT.  
NEST IN 45' WALNUT WITH COMMERCIAL DEVELOPMENT TO EAST AND FALLOW LAND TO WEST.  
ONE OF THE LARGEST KNOWN STANDS OF *ARISTIDA TERNIPES* VAR. *HAMULOSA* WITH *NASSELLA PULCHRA* & OTHER *NASSELLA* SP. STEEP SOUTH-FACING SLOPE SEVERAL BUNCHES *ARISTIDA* PER SQ M.  
HABITAT CONSISTED OF RIPARIAN/AGRICULTURE.  
NEST IN 50' COTTONWOOD SURROUNDED BY CROPLAND.  
TULELS AND WILLOWS; WATER 1 FOOT DEEP (1975). ANECDOTALLY REPORTED AS NESTING IN YEARS PRIOR TO 1975. SIZE OF COLONY APPROXIMATELY 1.5 ACRES. RED-WINGED AND BREWER'S BLACKBIRDS OBSERVED FORAGING IN 2011.  
NEST AT 85% HEIGHT ON SE SIDE OF LARGE OAK IN SMALL CLUMP OF BLACK WALNUT AND OAK; RAGGED ENGLISH WALNUT ON SE CORNER USED FOR PERCHING.  
ELDERBERRIES VERY ABUNDANT, FORMING CLOSED CANOPY AT ONE STAND; MANY VERY OLD PLANTS.  
RM 147.4 WAS RIPAPPED IN 1986. AREA NOT SURVEYED 1994 & 1995. NO ACTIVE COLONIES NOTED DURING 1996, 1998 & 1999 SURVEYS. RIVER HAS MOVED ABOUT 100 M SOUTH BETWEEN 1996 & 2011 IN SOME PLACES ALONG THIS STRETCH (AERIALS).  
NEST IN 55' COTTONWOOD WITH CROPS TO SOUTH AND RIPARIAN TO NORTH.  
HABITAT GENERALLY CLASSIFIED AS "CANAL."  
PERENNIAL STREAM WITH A GRAVEL AND COBBLE BED WITH MODERATE RIPARIAN VEGETATION (FREMONT COTTONWOOD, WILLOWS, VALLEY OAK). LITTLE OR NO EMERGENT MARSH VEGETATION IN CREEK. SURROUNDING LAND USED FOR CATTLE GRAZING AND HUNTING.  
HABITAT CONSISTS OF HARVESTED CORN FIELDS.  
DOMINATED BY *POPULUS FREMONTII*. *SALIX GOODINGII* VAR. *VARIABILIS* MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE *SALIX HINDSIANA*, *SALIX LASIANDRA*, AND *SALIX LAEVIGATA*.  
HILLS WITH OAK WOODLAND.

HOWARD REVISITED AREA IN 2009 BUT FOUND NO SUITABLE HABITAT TO SURVEY.  
1933-35 HABITAT DESCRIBED AS CATTAILS AROUND LAKE/CANAL (NEFF 1937). CLASSIFIED BY BEEDY (1991) AS PRESUMED EXTIRPATED. HISTORICAL USGS TOPO MAP (MERIDIAN QUAD, 1912) SHOWS A POSSIBLE LAKE JUST NW OF MERIDIAN TOWN. MINIMAL HABITAT.  
NEST TREE IS A LONE VALLEY OAK LOCATED IN THE MIDDLE OF A HAYFIELD.  
HABITAT GENERALLY DESCRIBED AS AGRICULTURAL. SHRUB APPEARS TO BE ALONG A DIRT ROAD BASED ON 2010 AERIAL IMAGERY. ADDITIONAL ELDERBERRIES LOCATED WITHIN THE VICINITY. PLANT HEALTH REPORTED AS "REPRODUCTIVE." PLANT UNDERGOES PRUNING BY PG&E.

NEST IN "SCRAPPY" 45' COTTONWOOD SURROUNDED BY CROPLAND.  
VALLEY SINK SCRUB WITH SALICORNIA, COTULA, CRYPTIS, CRESSA, DISTICHLIS, AND FRANKENIA. SEASONALLY MOIST ALKALINE SOIL.

NEST TREE IS A DECIDUOUS TREE WITH SEVERAL BARE BRANCHES ON TOP AND ON THE SOUTH SIDE.  
DOMINATED BY *POPULUS FREMONTII*. *SALIX GODDINGII* VAR. *VARIABILIS* MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE *SALIX HINDSIANA*, *SALIX LASIANDRA*, AND *SALIX LAEVIGATA*.  
HABITAT GENERALLY CHARACTERIZED AS A "CANAL."

NEST TREE IS A 50-FT COTTONWOOD; SURROUNDED BY AGRICULTURE. ROAD IS HEAVILY USED BY TRUCKS AND FARMING EQUIPMENT; LANDOWNER PLOWS DIRECTLY UNDER THE NEST TREE. AREA OVERGROWN BY DENSE WILD GRAPE, MOSTLY IMPENETRABLE; ELDERBERRY SCATTERED THROUGHOUT BUT MOST NOT ACCESSIBLE FOR SURVEY. SPECIES WHICH MAY OCCUR HERE INCLUDE *POPULUS FREMONTII*, *SALIX LASIANDRA*, *SALIX GOODINGII* VAR. *VARIABILIS*, *PLATANUS RACEMOSA* AND *ACER NEGUNDO*. SHADE TOLERANT SHRUBS AND EXTENSIVE LIANA DEVELOPMENT IN THE UNDERSTORY. NEST TREE WAS A COTTONWOOD; SURROUNDED BY GOOD QUALITY RIPARIAN VEGETATION.

NEST IN 50' VALLEY OAK IN FIELD, WITH RIPARIAN TO EAST AND CROPLAND TO WEST.

NEST IN 50' VALLEY OAK WITH FALLOW LAND TO THE SOUTH, RIPARIAN TO THE NORTHEAST AND CROPS TO THE NORTHWEST. 2002 SURVEYOR NOTED MOBBIING BY FLYCATCHERS AND OTHER SMALL BIRDS.

AERIAL PHOTOGRAPHS SHOW THAT CREEK WAS STRAIGHTENED AND BORDERED BY AGRICULTURAL FIELDS.

COLONY SITE IS NATURAL BANK, OPEN ABOVE; LEVEE 180 M BEHIND COLONY. NO COLONIES DETECTED 1998 & 1999. AREA NOT SURVEYED IN 2001-2008. LITTLE MIGRATION OF RIVER HERE BETWEEN 1996 & 2011 AERIALS.

NEST TREE WAS A LARGE COTTONWOOD; SURROUNDED BY AGRICULTURE (ROW CROPS) TO THE NE AND SE, AND RIPARIAN TO THE NW AND SW.

HABITAT GENERALLY CLASSIFIED AS "CANAL."

NESTING HABITAT CONSISTS OF RIPARIAN SURROUNDED BY AGRICULTURAL FIELDS.

EYRIE LOCATED ON A WEST-FACING ROCK ESCARPMENT CONTAINING VERTICAL POTHOLES AND LEDGES; SURROUNDING HABITAT CONSISTS OF CHAPARRAL AND SCRUB OAK.

SPECIES WHICH MAY OCCUR HERE INCLUDE POPULUS FREMONTII, SALIX LASIANDRA, SALIX GOODDINGII VAR. VARIABILIS, PLATANUS RACEMOSA AND ACER NEGUNDO. SHADE TOLERANT SHRUBS AND EXTENSIVE LIANA DEVELOPMENT IN THE UNDERSTORY.

HABITAT CONSISTED OF RIPARIAN/AGRICULTURE.

ON A ROCKY BANK WITH MUCH THYSANOCARPUS CURVIPES. IN A PINE/OAK WOODLAND.

NEST AT 80% HEIGHT OF LONE COTTONWOOD, WITH ALFALFA TO THE EAST AND CULTIVATED LAND TO THE WEST.

PRIOR TO 2011 COLONY, BASIN HAD NOT BEEN OCCUPIED SINCE 2001. 2014: BASIN DRY OR NEARLY DRY, CATTAILS IN HORRIBLE SHAPE, BULRUSH ISLANDS. UNATTRACTIVE TO NESTING TRICOLORS, NO CHANCE FOR BREEDING HERE THIS YEAR.

SITE GENERALLY CHARACTERIZED AS "CANAL." FEMALE CAPTURED IN 2005 WAS RECAPTURED WITHIN THE SAME SURVEY PERIOD, ABOUT 130 METERS SOUTH OF ORIGINAL TRAP LOCATION.

SURROUNDING AREA USED FOR AGRICULTURAL.

AN ESTIMATE OF 65 BREEDING PAIRS LOST HABITAT TO BANK STABILIZATION PROJECTS IN 1986. AREA NOT SURVEYED IN 1994 & 1995. NO ACTIVE COLONIES NOTED IN THIS AREA IN 1991-1993, 1996, 2000, 2001, 2003, & 2004.

SPECIES WHICH MAY OCCUR HERE INCLUDE POPULUS FREMONTII, SALIX LASIANDRA, SALIX GOODDINGII VAR. VARIABILIS, PLATANUS RACEMOSA AND ACER NEGUNDO. SHADE TOLERANT SHRUBS AND EXTENSIVE LIANA DEVELOPMENT IN THE UNDERSTORY.

COLONY LOCATED IN NATURAL BANK WITH RIPARIAN VEGETATION ABOVE; LEVEE ON OTHER SIDE OF RIVER.

1977: GREAT VALLEY MIXED RIPARIAN FOREST. 1987-1990: 30 HECTARES OF MIXED RIPARIAN, POINT BARS AND LOW WOODY VEGETATION ABSENT.

HABITAT WAS A HIGH TERRACE OF MIXED RIPARIAN, WITH QUERCUS LOBATA, POPULUS FREMONTII, AND PLATANUS RACEMOSA DOMINATING THE CANOPY; SAMBUCUS SPECIES (VELB HOST PLANT) WAS A COMMON UNDERSTORY PLANT.

HABITAT GENERALLY CLASSIFIED AS "CANAL."

HIGHLY DISTURBED MEADOW W/MANY NONNATIVE SPECIES PRESENT. ASSOCIATED WITH FRANKENIA GRANDIFLORA CAMPESTRIS, DISTICHLIS SPICATA, RUMEX CRISPUS, HORDEUM GENICULATUM, ATRIPLEX TRIANGULARIS, ETC. ANOTHER RARE PLANT PRESENT: ATRIPLEX DEPRESSA.

2006: TWO NEST ATTEMPTS IN BLUE GUM EUCALYPTI SOUTH OF MAXWELL SITES RD. 2009: NEST IN 65' EUCALYPTUS. SURROUNDING HABITAT WAS GRASSLAND WITH FALLOW LAND TO THE NW, OLD RAILROAD CARS NORTH OF MAXWELL SITES RD.

DOMINATED BY POPULUS FREMONTII. SALIX GOODDINGII VAR. VARIABILIS MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE SALIX HINDSIANA, SALIX LASIANDRA, AND SALIX LAEVIGATA.

NESTS IN COTTONWOOD SURROUNDED BY RIPARIAN AND AGRICULTURAL HABITAT.

RICE FIELD.

HABITAT COMPOSED OF CATTAILS AND AGRICULTURAL FIELDS. POND APPEARED TO BE VULNERABLE TO PREDATORS.

SCRUB DOMINATED BY SALIX HINDSIANA.

CATTAILS ALONG SLOUGH (1932). COLONY PRESUMED TO BE EXTIRPATED BY BEEDY (1991). HISTORICAL TOPO MAP (MAXWELL QUAD, 1952) SHOW POSSIBLE NESTING AREA ABOUT 5 MI NE OF MAXWELL TOWN.

COTTONWOOD/SYCAMORE. DOMINATED BY MATURE TREES. CONSISTS OF STRIP THAT IS 2-3 TREES WIDE.

COTTONWOOD/SYCAMORE. DOMINATED BY MATURE TREES. CONSISTS OF STRIP THAT IS 2-3 TREES WIDE.

COTTONWOOD/SYCAMORE. DOMINATED BY MATURE TREES. CONSISTS OF STRIP THAT IS 2-3 TREES WIDE.

CLIMAX & SUBCLIMAX VEG. SLOPE SLIGHT. ASPECT 0. SANDY SILTY LOAMS. SPP PRESENT INCLUDE COTTONWOOD, SYCAMORE, VALLEY OAK, ALDER & WILLOWS. PARTLY OPEN CANOPY.

THIS IS IN THE AREA OF BUTTE SINK AND SEVERAL PRIVATE WATERFOWL HUNT CLUBS, SPECIFICALLY THE BUTTE LODGE OUTING CLUB AND THE COLUSA SHOOTING CLUB. WATERFOWL LAND MANAGEMENT PRACTICES MAY BENEFIT SONG SPARROWS. RESEARCH NEEDED.

COLONY SITE LOCATED IN BANK WITH RIPARIAN ABOVE; LEVEE ALONG RIVER. NO ACTIVE COLONIES NOTED IN 1991, 1996-1999. AREA WAS NOT SURVEYED 2001-2008. RIVER HAS MOVED LITTLE HERE BETWEEN 1996 & 2011 AERIAL IMAGES.

COTTONWOOD.

NEST AT 85% HEIGHT ON EAST SIDE OF NORTHMOST OAK ON EAST SHOULDER OF LODI ROAD.

NEST TREE IS A COTTONWOOD; SURROUNDING HABITAT CONSISTS OF RIPARIAN TO THE NW AND SW, AND ORCHARDS TO THE NE AND SE.

NO ACTIVE COLONIES NOTED FOR 1996-1998 SURVEY YEARS. AREA WAS NOT SURVEYED 2001-2008.

SPECIES WHICH MAY OCCUR HERE INCLUDE POPULUS FREMONTII, SALIX LASIANDRA, SALIX GOODDINGII VAR. VARIABILIS, PLATANUS RACEMOSA AND ACER NEGUNDO. SHADE TOLERANT SHRUBS AND EXTENSIVE LIANA DEVELOPMENT IN THE UNDERSTORY.

NEST IN OAK, WITH ALFALFA TO THE SOUTH AND CULTIVATED LAND TO THE NORTH.

NEST TREE IS A LARGE COTTONWOOD WITHIN RIPARIAN.

PRIMARY SUBSTRATE WAS CATTAILS. SECONDARY SUBSTRATE WAS BULRUSH.

HABITAT CONSISTS OF RIVERINE.

OPEN GRASSLAND WITH BROMUS HORDEACEUS, TAENIATHERUM CAPUT-MEDUSAE, CENTAUREA SOLSTITIALIS, PLANTAGO ERECTA, ERODIUM CICUTARIUM, AND VULPIA BROMOIDES. 20-50% SLOPE, SW ASPECT, CLAY SOIL.

HABITAT WAS A THIN BAND OF RIPARIAN WOODLAND ABOUT 0.5 MI LONG. VEGETATION COMPOSED OF AN OPEN CANOPY OF ISOLATED FREMONT COTTONWOOD, WALNUT, AND WILLOW. UNDERSTORY VEGETATION COMPOSED OF BLACKBERRY AND WORMWOOD. 35 ELDERBERRY SHRUBS.

REPORTED AS "MIXTURE OF TYPES" AND "AGRICULTURE/RIPARIAN."

NEST TREE WAS A COTTONWOOD; SURROUNDED BY RIPARIAN TO THE NW AND SW, BY ROW CROPS TO THE NE, AND BY ORCHARDS TO THE SE.

NEST "IN NORTH LOBE OF LARGEST TREE;" SPECIES NOT RECORDED. RICE TO SOUTH AND CULTIVATED LAND TO NORTH.

UPLAND ALKALINE SOIL. ASSOCIATED WITH CENTROMADIA PARRYI RUDIS, HEMIZONIA CONGESTA LUZULIFOLIA, AND ATRIPLEX HETEROSPERMA.

NEST TREE SPECIES NOT RECORDED (WAS PROBABLY OAK, JUDGING FROM AERIALS). ALFALFA TO NORTH.

ON ALKALI PLAINS NEAR CREEK.

NEST TREE IS A DIGGER PINE; SURROUNDED BY ANNUAL GRASSLAND AND OAK WOODLAND.

COLONY SITE IS A NATURAL BANK WITH OPEN GRASSLAND ABOVE; LEVEE ALONG RIVER. NO ACTIVE COLONIES NOTED DURING SURVEYS IN 1997, 1998, & 1999; UNKNOWN IF THE SITE WAS SPECIFICALLY VISITED OR HOW MANY SURVEYS WERE DONE TO CONFIRM INACTIVITY.

1979 NEST IN COTTONWOOD. 2003 NEST IN 60' COTTONWOOD "RIGHT AT BEND IN RIVER." HABITAT CONSISTED OF RIPARIAN/AGRICULTURE.

NEST IN LONE VALLEY OAK.

HIGHLY DISTURBED MEADOW OF NONNATIVE SPECIES. ASSOCIATED WITH FRANKENIA GRANDIFOLIA VAR. CAMPESTRIS, ATRIPLEX TRIANGULARIS, A. ROSEA, DISTICHLIS SPICATA, RUMEX CRISPUS, HORDEUM SP., ETC. THE RARE CORDYLANTHUS PALMATUS IS ALSO PRESENT.

2000-2004 NESTS IN EUCALYPTI ALONG WEST SIDE OF HIGHWAY. 2009 NEST(S) IN WILLOWS ALONG FUNKS CREEK, ON EAST SIDE OF HIGHWAY AND RAILROAD TRACKS.

DOMINATED BY POPULUS FREMONTII. SALIX GOODDINGII VAR. VARIABILIS MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE SALIX HINDSIANA, SALIX LASIANDRA, AND SALIX LAEVIGATA.

SURROUNDING AREA USED FOR AGRICULTURE.

36 BIRDS OBSERVED FEEDING IN HARVESTED BEAN AND RICE FIELDS. FLOODED RICE FIELDS USED THROUGHOUT NOVEMBER 1978.

NOT SURVEYED IN 1994 & 1995. NO ACTIVE COLONIES NOTED IN THE AREA DURING SURVEYS IN 1997, 1998, 2000-2002, & 2004; NOT SPECIFIED IF THE SITE WAS SPECIFICALLY VISITED OR HOW MUCH EFFORT WAS SPENT TO CONFIRM INACTIVITY.

FORAGING ON THE W SIDE OF FOUR MILE RD. HUNTING BLIND VISIBLE IN AERIAL IMAGES STARTING IN 2009.

SEASONAL SWALE WITH ERODIUM CICUTARIUM, AVENA BARBATA, AND MICROSERIS. SANDY LOAM WITH GRAVEL, EAST ASPECT, 5-10% SLOPE.

NEST TREE WAS A VALLEY OAK; SURROUNDED BY GRAZING LAND TO THE NW AND SW, FALLOW/RUDERAL TO THE SE, AND ROW CROPS TO THE NE.

HABITAT CONSISTS OF ROLLING GRASSLAND AT THE EDGE OF AN INTERMITTENT WASH (PETROLEUM CREEK). A SMALL POND (PROBABLY A REMNANT GRAVEL POND) JUST TO THE NORTH SUPPORTED TADPOLES. PATCHES OF SANDY SOIL IN THE WASH COULD SUPPORT BURROW SITES.

1960 COLONY NESTING IN CATTAIL MARSH.1971 COLONY NESTING IN CATTAILS. 1972 BIRDS OBSERVED IN CATTAIL MARSH. LOCATION OF 1999 FLOCK WAS "ON W. BUTTE ROAD, 1.6 MI. N OF INTERSECTION W/ PASS ROAD."

RIPARIAN VEGETATION & ORCHARDS ABOVE THE COLONIES. RIVER COURSE HAS SHIFTED OVER TIME. THE LARGEST COLONY ON THE SACRAMENTO RIVER WAS AT RM 156.5. GENERAL COMMENTS = YEAR: BURROWS. MAINLY 4 COLONIES PER YEAR; RANGED FROM 2-5 COLONIES.

HABITAT SURROUNDING HIGHWAY 20 CONSISTS OF ANNUAL GRASSLAND WITH BLUE OAK AND VALLEY OAK WOODLAND.

ALKALINE / SALINE DRIED CLAY SOIL OF WEAK ALKALI SCALDS ALONG A COWPATH. ASSOC WITH FRANKENIA SALINA, ATRIPLEX DEPRESSA, A. FRUTICULOSA, HEMIZONIA PARRYI, HORDEUM MARINUM, BROMUS HORDEACEUS, AND LOLIUM.

ELDERBERRIES ABUNDANT IN MANY DIFFERENT VEGETATION ASSOCIATIONS; SOME AREAS HAD IMPENETRABLE WILD GRAPE.

3 PATCHES MIXED RIPARIAN: D/S PATCH W/YOUNG VALLEY OAK ON HIGH TERRACE W/GOOD REGENERATION. SPARSE SYCAMORES PRES. ELDERBERRY, BLACK WALNUT, BOX ELDER, SALIX SPP, POPULUS FREMONTII W/VARIOUS AGE CLASSES. LESS KNOWN ON VEG OF OTHER PATCHES.

NEST TREE WAS A LARGE COTTONWOOD; SURROUNDED BY RIPARIAN IN ALL DIRECTIONS.

BLUE OAK WOODLAND / ANNUAL GRASSLAND EDGE. N-FACING MODERATE SLOPE IN SEMI-SHADE. CRUMBLY CLAY SOIL WITH SCATTERED ARCTOSTAPHYLOS MANZANITA. ASSOC INCLUDE: ACHILLEA MILLEFOLIUM, GERANIUM MOLLE, MADIA GRACILIS, GALIUM SP, ANNUAL GRASSES.

DOMINATED BY POPULUS FREMONTII. SALIX GOODDINGII MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE SALIX HINDSIANA, S. LASIANDRA, & S. LAEVIGATA. 2012-2013: BREEDING STATUS UNCONFIRMED.

DOMINATED BY POPULUS FREMONTII. SALIX GOODDINGII VAR. VARIABILIS MAY ALSO OCCUR AS A CANOPY SUBDOMINANT. OTHER SPECIES WHICH MAY OCCUR HERE INCLUDE SALIX HINDSIANA, SALIX LASIANDRA, AND SALIX LAEVIGATA.

NEST IN 75' COTTONWOOD. SURROUNDING HABITAT WAS CROPLAND AND FALLOW LAND.

2000: PRESUMED NEST TREE IN ROW OF OLD, PRUNED COTTONWOOD; ONIONS TO N & S, SUNFLOWERS & WALNUTS TO E. 2006: NEST IN SMALL DECIDUOUS TREE ON NORTH BANK OF DITCH (=FUNKS CREEK), HAY/EQUIPMENT STORAGE/WALNUTS TO S, ALFALFA N, RICE W.

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UNUSUAL HABITAT FOR THIS SPECIES. FOUND ON SOUTH-FACING SERPENTINE SLOPE WITH ANNUAL GRASSLAND. ASSOCIATED WITH LASTHENIA, PLATYSTEMON, AND GILIA TRICOLOR.	Unknown
	Unknown
	Unknown
	Unknown
SURVEYS WERE CONDUCTED NEARLY YEARLY BETWEEN 1986-2009; NO COLONIES WERE NOTED IN ALL SURVEY YEARS EXCEPT 1998, BUT UNKNOWN IF SITE WAS SPECIFICALLY VISITED OR HOW MUCH EFFORT WAS PUT IN TO CONFIRM INACTIVITY FOR THE BREEDING SEASON.	Unknown
SMALL ROCKY CREEK.	Unknown
PLOWED PASTURE ON ONE SIDE OF ROAD AND ORCHARD ON THE OPPOSITE SIDE.	Unknown
HABITAT CONSISTS OF RIPARIAN/WOODLAND AREA INTERSPERSED WITH RESIDENTIAL DEVELOPMENT.	Unknown
SERPENTINE GRASSLAND. SOUTHEAST-FACING SLOPE. SIDE OF SEEP LEADING TO DRAINAGE THAT FEEDS THOMPSON CREEK. NAVARRETIA NIGELLIFORMIS NIGELLIFORMIS IS ALSO AT THIS SITE. ASTRAGALUS RATTANII AND FRITILLARIA PLURIFLORA ARE NEARBY.	Unknown
SERPENTINE CHAPARRAL AND GRASSLAND WITH SPARSE VEGETATION. ASSOCIATED WITH QUERCUS DURATA, ARCTOSTAPHYLOS, LINANTHUS JEPSONII, LOMATIUM HOOVERI, GRINDELIA, NASSELLA, AND ASTRAGALUS RATTANII VAR. JEPSONIANUS.	Unknown
HABITAT CONSISTS OF ROLLING HILLS WITH ANNUAL GRASSLAND, AT A TRANSITION AREA BETWEEN VALLEY FLOOR AND LOW COAST RANGE FOOTHILLS; DOMINANT PLANTS INCLUDE CENTAUREA SOLSTIALIS, TAENIATHERUM CAPUT-MEDUSAE, BROMUS DIANDRUS, ERODIUM BOTRYS.	Unknown
UNUSUAL HABITAT FOR THIS SPECIES. FOUND ON SOUTH-FACING SERPENTINE SLOPE WITH ANNUAL GRASSLAND. ASSOCIATED WITH LASTHENIA, PLATYSTEMON, AND GILIA TRICOLOR.	Unknown
SMALL CREEK IN BURNED CANYON.	Unknown
SEEPAGE IN LIMESTONE ROCKS 30 FEET ABOVE ROAD.	Unknown
SLOW-MOVING, PONDED SECTION OF BEAR CREEK, SURROUNDED BY GRASSLAND, OAK, AND GRAY PINE. OPEN SPACE USED FOR RECREATION. HABITAT DISTURBED BY PRESENCE OF TAMARISK.	Unknown
	Unknown
GROWING ON SHADE SLOPE, PINUS SABINIANA-QUERCUS ASSOCIATION.	Unknown
SANDY SOIL AT THE EDGE OF BEAR CREEK.	Unknown
HABITAT CONSISTS OF A DEEP CANYON, WITH AN OXBOW ADJACENT TO CACHE CREEK. BULLFROGS COLLECTED IN 1997.	Unknown
OAK WOODLAND WITH DEEP CLAY SOIL.	Unknown
GRASSY SLOPES IN BLUE OAK WOODLAND. CLAY SOILS. SW TO SSE-FACING SLOPES. ASSOC WITH CEANOTHUS CUNEATUS, JUNIPERUS CALIFORNICUS, THYSANOCARPUS CURVIPES, LUPINUS BICOLOR, GERANIUM MOLLE, AVENA, LOTUS WRANGELIANUS, L. HUMISTRATUS, ETC.	Unknown
SEASONAL CREEK WITH ROCKY STREAMBED AND ISOLATED POOLS THROUGH CHAPARRAL AND OAK WOODLAND.	Unknown
NEST IN 50' WALNUT SURROUNDED BY CROPLAND WITH RESIDENTIAL TO THE NORTH. SURVEYOR OBSERVED SWHA MALE FENDING OFF A PAIR OF CROWS.	Unknown
	Unknown
ON A NORTH-FACING GREY SHALE BANK.	Unknown
SHADED CREEK IN A DEEP RAVINE.	Unknown



Threat	Threat List
THREATENED BY TREE TRIMMING.	Other
VEHICULAR TRAFFIC.	Vehicle collisions
POTENTIAL THREAT DUE TO HERBICIDE SPRAYING.	Biocides
MOST OF THIS AREA HAS BEEN CONVERTED TO AGRICULTURE, BUT THERE MAY STILL BE SUITABLE HABITAT WITHIN THE COLUSA NWR.	Agriculture
AREA UNDER INTENSIVE AGRICULTURE, PRIMARILY FLOODED RICE FIELDS. MUCH OF THIS AREA HAS UNDERGONE INTENSIVE AGRICULTURE SINCE 1926.	Agriculture Agriculture
PREDATION BY NORTHEN HARRIERS AND BLACK-CROWNED NIGHT HERONS IN 1987 CAUSED COLONY TO FAIL.	Other
NEST TREE HAS BEEN REMOVED IN AGRICULTURAL AREA WITH FEW MATURE TREES.	Wood cutting or brush clearing
PREDATION BY BLACK-CROWNED NIGHT HERONS IN 2005.	Other
URBANIZATION, FLOODING, DROUGHT, WATER MGMT, POLLUTION, VEG CNTRL, BANK MAINTENANCE, AG/TRAFFIC, & INTRODUCED PREDATORS. AREA HIGHLY IMPACTED BY AGRICULTURE BASED ON 2015 AERIAL IMAGERY; POSSIBLY EXTIRPATED.	Agriculture; Altered flood/tidal/hydrologic regime; Development; Non-native animal impacts; Pollution; Vehicle collisions; Waterway bank protection/maintenance Agriculture
SITE SURROUNDED BY RICE & WHEAT FIELDS.	Agriculture
SHOOTING BY RICE FARMERS WHO SHOOT BLACKBIRDS FOR CROP PROTECTION.	Agriculture; Other
POTENTIAL THREAT DUE TO BLACK-CROWNED NIGHT HERON PREDATION.	Other

ORIGINAL NEST TREE WAS POSSIBLY REMOVED SOME TIME IN LATE 2010/EARLY 2011.

Wood cutting or brush clearing

THREATENED BY NATURAL GAS PIPELINE CONSTRUCTION.  
AREA IS UNDER EXTENSIVE AGRICULTURE.

Agriculture

AREA NOW COMPLETELY AGRICULTURAL.

Agriculture

VEHICLE TRAFFIC.

Vehicle collisions

BAY-DELTA POPULATION IN DECLINE DUE TO DIVERSION, DROUGHT, ENTRAINMENT, FOOD LIMITATION CAUSED BY INVASIVE AMUR CLAM.

Altered flood/tidal/hydrologic regime; Degraded water quality; Non-native animal impacts; Surface water diversion

FLOODPLAIN HABITATS ALONG THE FEATHER & SACRAMENTO RIVERS HAVE BEEN CHANGED & ARE NO LONGER SUITABLE FOR THIS SPECIES.

Surface water diversion

ADJACENT TO AGRICULTURE.

Agriculture

POSSIBLE THREAT FROM NEARBY ELECTRICAL TRANSMISSION LINES.  
ADJACENT TO AGRICULTURE.

Agriculture

AGRICULTURAL DEVELOPMENT, AGRICULTURAL TRAFFIC ON ADJACENT DIRT ROAD.

Agriculture; Vehicle collisions

1985: HEAVY SHEEP GRAZING, UPLANDS VERY WEEDY. BASED ON 2010 AERIAL PHOTO, SITE HAS BEEN CONVERTED TO AGRICULTURE.  
POSSIBLE SITE OF SMUD'S GPPL POWERLINE, HEAVY GRAZING, UPLANDS VERY WEEDY.  
1987: GRAZING, POWERLINE, SITE WEEDY. BASED ON 2012 AERIAL PHOTO, SITE HAS BEEN CONVERTED TO AGRICULTURE.  
BASED ON 2012 AERIAL PHOTO, THE MAJORITY OF THIS SITE HAS BEEN CONVERTED TO AGRICULTURE.

Agriculture; Grazing; Non-native plant impacts  
Development; Grazing; Non-native plant impacts  
Agriculture; Development; Grazing; Non-native plant impacts  
Agriculture

CATTLE GRAZING PRESENCE HIGH ON LANDS SURROUNDING CREEK.

Grazing

PART OF THIS OCCURRENCE IS ADJACENT TO AGRICULTURE.  
HIGHWAY TRAFFIC.

Agriculture  
Vehicle collisions

CHANNELIZATION HAS ELIMINATED HABITAT AT THIS SITE.

Channelization

ADJACENT TO AGRICULTURE.

Agriculture

THREATENED BY DISTURBANCE FROM AGRICULTURAL ACTIVITIES.

Agriculture

ADJACENT TO ROAD AND AGRICULTURE.

Agriculture



ADJACENT TO AGRICULTURE.

Agriculture

ROADS, FARMING EQUIPMENT.

Agriculture; Vehicle collisions

THIS OCCURRENCE IS SURROUNDED BY AND SURROUNDS AGRICULTURE.

Agriculture

COULD BE FLOODED IF EXCESS/ADDITIONAL WATER PROVIDED BY STATE OR FED PROJECTS. STAR THISTLE & COCKLEBUR COULD THREATEN.

Altered flood/tidal/hydrologic regime; Non-native plant impacts

ADJACENT TO AGRICULTURE.

Agriculture

ADJACENT TO AGRICULTURE.

Agriculture

MAY BE CONVERTED TO ORCHARDS.

ADJACENT TO AGRICULTURE.

Agriculture

OVERGRAZING AND INVASIVE SPECIES.

Grazing; Non-native plant impacts

GOOGLE STREET VIEW (2012) INDICATED TREES ALONG THE SE SIDE OF POUNDSTONE RD FROM FAXON RD TO CECIL RD WERE REMOVED.

Wood cutting or brush clearing

COULD BE FLOODED BY REFUGE IF EXCESS/ADDITIONAL WATER PROVIDED BY STATE OR FED WATER PROJECTS.

Altered flood/tidal/hydrologic regime; Non-native plant impacts

ADJACENT TO AGRICULTURE.  
ROADS, FARMING EQUIPMENT.

Agriculture  
Agriculture; Vehicle collisions

ENERGY DEVELOPMENT.

Development

RIPRAP DESTROYED BURROWS AT RM 155.1-156.2 IN 1986 & 1987; ATTEMPTS TO RELOCATE COLONY FAILED DUE TO VANDALISM.  
THREATENED BY LOSS OF OAK WOODLAND TO CLEARCUTTING FOR FIREWOOD.  
TRAMPLING BY CATTLE.

Waterway bank protection/maintenance  
Wood cutting or brush clearing  
Foot traffic/trampling

ADJACENT TO AGRICULTURE.  
ADJACENT TO AGRICULTURE.

Agriculture

OVER-GRAZING AND INVASIVE SPECIES.

THREATENED BY BURNING EXISTING MATURE RIPARIAN FOREST TO REMOVE VEGETATION IN ORDER TO PLANT WALNUT ORCHARD.

Grazing; Non-native plant impacts

Agriculture; Improper burning regime; Wood cutting or brush clearing

THREATENED BY AGRICULTURAL ACTIVITIES (2002).  
SOME TRESPASS GRAZING BUT PROBABLY NOT EXPERIENCING MUCH NEGATIVE IMPACT.

Agriculture  
Grazing

ROAD MORTALITIES.  
VEHICLE TRAFFIC; LIGHT VEHICLE TRAFFIC DAILY AND TRAFFIC TO AND FROM PG&E METERING STATION.

Vehicle collisions  
Vehicle collisions

BURROWS DESTROYED DURING BANK STABILIZATION PROJECTS IN 1986.

Waterway bank protection/maintenance

THREAT CONSISTS OF CONVERSION TO UNSUITABLE AGRICULTURE SUCH AS VINEYARDS.

Agriculture

THREATS INCLUDE HABITAT CONVERSION/AGRICULTURE.

Agriculture

ADJACENT TO AGRICULTURE.  
THREATS INCLUDE HABITAT CONVERSION/AGRICULTURE AND ALTERATION OF CONCRETE POOLS (ROAD CONSTRUCTION).

Agriculture  
Agriculture; Road/trail construction/maint.

ADJACENT TO AGRICULTURE.  
HEAVY GRAZING, OVER-COLLECTED (1988). SR 20 REROUTE & BRIDGE REPLACEMENT. SITE NOW FENCED; NO VISIBLE THREATS (2020).  
POSSIBLE THREAT FROM AGRICULTURAL CONVERSION TO VINEYARDS AND PRESENCE OF BULLFROGS.

Agriculture  
Grazing; Over-collecting/poaching; Road/trail construction/maint.  
Agriculture; Non-native animal impacts

NON-NATIVES, ROAD MAINTENANCE, AND SR 20 RE-ROUTE FOR BRIDGE REPLACEMENT MAY THREATEN.  
THREATENED BY WEEDS. AREA MANAGED FOR MEDUSAHEAD AND STAR THISTLE; BURNED IN 2005, LOOKS GOOD IN 2008. ORVS IN 2019.  
BURROWS WERE DESTROYED WHEN LEFT BANK WAS RIPRAPPED IN 1986 & SEP 1987, & 1988, FROM 159.3 TO 159.8.

Non-native plant impacts; Road/trail construction/maint.  
Non-native plant impacts; ORV activity  
Waterway bank protection/maintenance

AREA NOW UNDER INTENSIVE AGRICULTURE.  
AREA NOW UNDER INTENSIVE AGRICULTURE SINCE 1917. PROBABLY EXTIRPATED.  
HWY 20 RE-ROUTE AND BRIDGE REPLACEMENT BY CALTRANS IS A THREAT. GRAZING PRESENT BUT AREA LOOKS GOOD RIGHT NOW.  
ROADS, FARMING EQUIPMENT.

Agriculture  
Agriculture  
Road/trail construction/maint.  
Agriculture; Vehicle collisions

HIGHWAY 20 REROUTE AND BRIDGE REPLACEMENT BY CALTRANS.

Road/trail construction/maint.

THREATENED BY AGRICULTURAL ACTIVITIES.

Agriculture

THREATENED BY GRAZING & BULLFROGS.

Grazing; Non-native animal impacts

POSSIBLE THREAT FROM BULLFROGS.

Non-native animal impacts

GRAZING PRESENT BUT AREA LOOKED GOOD IN 2008.  
BULLFROGS, LIVESTOCK, ROAD MORTALITY, PLOWING

Grazing; Non-native animal impacts; Other; Vehicle collisions

GRAZING.

Grazing

LIVESTOCK TRAMPLING, DISKING, VEHICLE COLLISIONS, BULLFROGS.  
CATTLE GRAZING IS AFFECTING DRAINAGE WITH COW PRINTS ALL OVER DRAINAGE.

Disking; Foot traffic/trampling; Grazing; Non-native animal impacts; Vehicle collisions  
Foot traffic/trampling; Grazing

2005: POSSIBLY THREATENED BY REGULATED (VS NATURAL) FLOWS OF CREEK & RECREATIONAL USE. 2016: TAMARISK PRESENT.  
THREATS INCLUDE MOSQUITO FISH INTRODUCTION (NO AMBYSTOMA LARVAE HAVE BEEN SEEN SINCE THEIR INTRODUCTION).

Dam/Inundation; Recreational use (non-ORV)  
Non-native animal impacts

NEAR UNIMPROVED ROAD.

Road/trail construction/maint.

CATTLE GRAZING IS AFFECTING DRAINAGE.

Foot traffic/trampling; Grazing



GROWING IN UNIMPROVED ROAD. GRAZING MAY ALSO BE A THREAT.

Grazing; Road/trail construction/maint.

BULLFROGS, ROAD MORTALITY, HABITAT LOSS, PLOWING

Agriculture; Non-native animal impacts; Other; Vehicle collisions

GRAZING. MAJOR COW PRINT DISTURBANCE.  
SOME STEMS EATEN IN SECOND EASTERNMOST COLONY; GRAZING?  
THREATENED BY DEVELOPMENT OF A PROPOSED POWER PLANT.  
GROWING NEAR UNIMPROVED ROAD. GRAZING MAY ALSO BE A THREAT.

Foot traffic/trampling; Grazing  
  
Development  
Grazing; Road/trail construction/maint.

THREATENED BY OVER-GRAZING, EROSION, BULLFROGS.

Erosion/runoff; Grazing; Non-native animal impacts

**General Notes**

ACTIVE NEST MONITORED OVER 5 VISITS 20 JUL-28 AUG FLEDGED 1 IN 2006.

NESTING ACTIVITY OBSERVED BETWEEN 20 APR-8 AUG 2000; NO YOUNG FLEDGED. NESTING PAIR OBS 21 APR-14 MAY; NEST LATER ABANDONED.

NEST WITH YOUNG OBSERVED ON 22 MAY 2009; FLEDGING SUCCESS UNKNOWN.

1 ADULT OBSERVED DEAD ON SHOULDER OF ROAD ON 29 AUG 2016.

2 YOUNG FLEDGED IN 2000. 2 YOUNG PRODUCED IN 2002, PRESUMED FLEDGED. 2 FLEDGED IN 2003. NEST WITH YOUNG OBSERVED ON 20 JUN 2009, FLEDGING SUCCESS UNKNOWN.

ACTIVE NEST FLEDGED 1 IN 2006. NEST WITH YOUNG OBSERVED ON 26 MAY 2009; FLEDGING SUCCESS UNKNOWN. NESTING PAIR OBSERVED IN 2016.

SUGNET RECORD NUMBERS 189 & 190. 8 INDIVIDUALS COLLECTED 21 FEB 1971, DEPOSITED IN SHASTA COLLEGE COLLECTION.

PRESUMED EXTIRPATED ACC TO BEEDY 1991.

NEST MONITORED APR-JUL 2003; 1 FLEDGED.

TWO NESTING COLONIES OBSERVED ON 28 MAY 1936 (NEFF 1937); ONE COLONY ESTIMATED AT 2,000 NESTS, THE SECOND COLONY ESTIMATED AT 3,000 NESTS. 0 OBSERVED ON 18 APR 2014.

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1916 COLLECTION BY HELLER. NEEDS FIELDWORK.

AT LEAST 1 COLLECTED ON 29 SEP 1973; J. BRODE FG #756.

ONE SUBADULT FOUND DOR (LSU #45410).

UNKNOWN NUMBER OF SNAKES OBSERVED DURING 1986.

COLONY OF 239 BIRDS OBSERVED ON 19 MAY 1981; NESTS ABANDONED WHEN CATTAILS STARTED DYING, POSSIBLY FROM HERBICIDE SPRAYING. 0 BIRDS OBSERVED ON 15 APR 2011 AND 19 APR 2014.

NEST MONITORED IN 2004 PRODUCED 2 YOUNG, BOTH PRESUMED FLEDGED. NEST WITH YOUNG OBSERVED ON 15 MAY 2009, FLEDGING SUCCESS UNKNOWN.

SNAKE OBSERVED AT SITE DURING THE 1986-87 STUDY. UNKNOWN NUMBER OBSERVED DURING 1991.

APPROXIMATELY 700 OBSERVED ON 1 JUL 1992. 0 OBSERVED ON 15 APR 2011 AND 19 APR 2014.

NEST WITH YOUNG OBSERVED ON 28 JUL 2009; FLEDGING SUCCESS UNKNOWN.

12 CAPTURES, 28 RECAPTURES, AND 4 SIGHTINGS DURING 2015 STUDY.

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1917 COLLECTION BY FERRIS. NEEDS FIELDWORK.

APPROXIMATELY 20,000 NESTS OBSERVED ON 1 MAY 1932 (NEFF 1937). APPROXIMATELY 1330 BIRDS OBSERVED ON 19 MAY 1981; NESTING ABANDONED. 0 OBSERVED ON 1 JUL 1992.

1 GIANT GARTER SNAKE COLLECTED ON 1 SEP 1974 BY A.H. SARTAIN (CAS# 178586).

OCCURRENCE IS BASED ON A 1976 COLLECTION BY YEO. VICINITY SEARCHED BY TAYLOR IN 2013; NO PLANTS FOUND, BUT TAYLOR BELIEVES THAT HETERANTHERA MAY STILL BE PRESENT.

1 CAPTURED DURING 2015 STUDY.

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1980 COLLECTION BY STERN. NEEDS FIELDWORK.

TYPE COLLECTION. ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1926 FERRIS COLLECTION. IN 2002, NO NATURAL HABITAT OBSERVED IN VICINITY. NO PLANTS OBSERVED, PROBABLY EXTIRPATED.

BOTH SPECIMENS ANNOTATED TO L. GLABRATA COULTER BY ORNDUFF IN 1961. ANNOTATION ON 1917 COLLECTION SAYS "POSSIBLY A HYBRID DERIVATIVE X L. CHRYSANTHEA". ANNOTATION ON 1926 COLLECTION SAYS "RESERVATIONS ABOUT THE SSP".

1 FEMALE CAPTURED BY HAND OR NET ON 2 MAY 1996. 8 FEMALES CAPTURED BETWEEN 2 MAY-7 AUG 2001. 11 FEMALES & 11 MALES CAPTURED IN TRAP OR BY HAND/NET BETWEEN 6 MAY-29 AUG 2002; 11 SNAKES WERE RECAPTURED BTWN 1-6 TIMES, 2 ALSO CAPTURED IN 2001.

2000-5000 PLANTS OBSERVED IN 1993, 3700-3800 IN 1995, 5000-7000 IN 1997, 3900 IN 1998, 12,200 IN 2000, 10,692 IN 2001, 12,670 IN 2003, 4320 IN 2004, 3162 IN 2006, 1345 IN 2007. INCLUDES FORMER EO #30.

2K OBS BTWN MAY-JUN 1987; COLONY FAILED. 2K BIRDS OBS IN JUN & AUG 1988; NIGHT ROOST ONLY. 1K PAIRS OBS BTWN 26 MAY-6 JUL 1989; 4 SUBCOLONIES OF 200-300 PAIRS EACH. POSSIBLE NESTING IN 1992. 0 OBS ON 19 APR & 22 MAY 1995. 0 IN APR 2000.

1 CAPTURED DURING 2015 STUDY.

3 DETECTED IN 1996. 25-53 IN 1997-1998. 25-116 IN 2000-2005. 18 MALES & 17 FEMALES IN 2012. 17 MALES & 15 FEMALES IN 2013. 23 FEMALES, 10 MALES, & 1 OF UNK SEX JUL-AUG 2014. 49 CAPTURES, 186 RECAPS, 8 SIGHTINGS, & 1 MORTALITY IN 2015.

6000-20,000 PLANTS OBSERVED IN 1992, 2000-6000 IN 1993, 2550-4700 IN '97, 4700 IN '98, 4023 IN '00, 2771 IN '01, 9077 IN '02, 27,158 IN '03, 2280 IN '04, 138 IN '05 (T24.13), 5949 IN '06, 1990 IN '07. INCLUDES FORMER EO #17.

IN 1985, 28 NESTS WITH YOUNG, AND 100 ADULT BIRDS OBSERVED. IN 1989, ~750 ADULTS OBSERVED (ESTIMATED 500 BREEDING PAIRS); 20 ABANDONED, NON-VIABLE EGGS COLLECTED FOR CONTAMINANT ANALYSIS.

NEEDS POPULATION DATA. 1980 STERN COLLECTION FROM "VERNAL POOL, SOUTH CENTRAL BORDER AREA OF COLUSA NATIONAL WILDLIFE REFUGE, 150 FT" ATTRIBUTED TO THIS SITE. TAYLOR 1993 COLLECTION ANNOTATED TO A. DEPRESSA BY ZACHARIAS IN 2010.

ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1988 TAYLOR COLLECTION. NEEDS FIELDWORK.

SNAKE OBSERVED PRIOR TO, BUT NOT DURING THE 1986-87 STUDY.

ACTIVE NEST MONITORED APR-AUG 2006, INCUBATION OBSERVED ON 11 MAY.

3 MALES AND 1 FEMALE CAPTURED BETWEEN 13-17 JUL 2013. 31 FEMALES AND 24 MALES CAPTURED BETWEEN 15 MAY-2 JUL 2014; SNAKES WERE PIT TAGGED. 9 CAPTURES AND 4 RECAPTURES IN 2015.

2 MALES CAPTURED BY HAND/NET AND 3 ADDITIONAL SNAKES OBSERVED BETWEEN 22 APR & 19 MAY 1998.

A COLONY ESTIMATED AT 4,000 ON 4 MAY 1933 (NEFF 1937). A SECOND COLONY ESTIMATED AT 2,000 ON 9 MAY 1933 (NEFF 1937). 0 OBSERVED ON 18 APR 2014 AT EITHER COLONY. PRESUMED TO BE EXTIRPATED BY BEEDY (1991).

"OCCASIONAL" PLANTS IN 1993.

ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1993 COLLECTION BY OSWALD, ET AL.

ACTIVE NEST MONITORED APR-AUG 2006; DOWNY CHICK SEEN IN NEST ON 12 JUN, FLEDGING SUCCESS UNKNOWN.

SNAKE OBSERVED AT SITE DURING 1986-87 STUDY. UNKNOWN NUMBER OF SNAKES OBSERVED DURING 1991.

SNAKE OBSERVED AT SITE DURING THE 1986-87 STUDY.

APPROXIMATELY 2,000 BIRDS OBSERVED NESTING/FORAGING ON 1 JUL 1992. 0 OBSERVED ON 18 APR 2014 DURING A STATEWIDE SURVEY.

ONE OWL FLUSHED FROM THE BURROW IN THE SE BANK; SOME WHITEWASH. FOUR OTHER 4-6 INCH DIAMETER HOLES NEARBY, BUT NO OWLS OBSERVED.

28-43 DETECTED EACH YEAR IN 1996-1998. 43-67 DETECTED IN 2000-2002. 19-44 IN 2003-2005. 12 FEMALES (F) & 9 MALES (M) IN 2012. 11F & 11M IN 2013. 15F & 11M IN 2014. 74 CAPTURED, 57 RECAP, 2 MORTALITIES, 4 SIGHTINGS IN 2015.

COLONIES OF 7K & 15K NESTS OBS IN 1934. 19K NESTED IN 1959. 25K NESTING IN 1971. 5-50K NESTING IN 1992. 6K-10K NESTING IN 1999-2000. 5K IN 2001. 20K NESTING IN 2005. NESTING IN 2007. 0 NESTING IN 1995/2008/2011/2014. 3.5K NESTING IN 2013.

1 COLLECTED ON 19 MAY 1980 (CAS #178589). 1 MALE AND 2 FEMALES CAUGHT & RELEASED IN 2015.

ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1916 STINCHFIELD COLLECTION. NEEDS FIELDWORK.

1 MALE CAPTURED ON 9 JUN & 1 ON 21 SEP 2011. 10 MALES, 8 FEMALES, & 1 UNKNOWN CAPTURED 28 MAY-27 AUG 2014; SNAKES WERE TRAPPED, WEIGHED, MEASURED, PIT TAGGED, VENTRAL SCUTE MARKED, PHOTOGRAPHED, AND RELEASED (SEE ALSO OCC#409).

ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1958 CRAMPTON COLLECTION. NEEDS FIELDWORK.

2 MALES CAPTURED BY HAND OR NET ON DRY LAND ON 31 MAR 1997. SNAKES WERE WEIGHED, MEASURED, PIT TAGGED AND RELEASED.

BURROWS OBSERVED WITH CASTINGS PRESENT; NO OWLS OBSERVED.

TWO FEMALE SNAKES COLLECTED ON 12 MAY 1984 BY D. ROSSMAN AND G. STEWART AND DEPOSITED IN THE LOUISIANA STATE UNIVERSITY MUSEUM OF ZOOLOGY (#44369 & 44386).

1 MALE CAPTURED BY HAND OR NET ON DRY LAND ON 22 MAY 1996. SNAKE WAS WEIGHED, MEASURED, PIT TAGGED AND RELEASED.

>100,000 PLANTS OBSERVED IN 1994, 3000-5000 IN 1997, 0 IN 1998, 6500 IN 1999, 5844 IN 2000, 2498 IN 2001, 8940 IN 2003, AND 7890 IN 2004, 20,980 IN 2005, 12,890 IN 2006, 6742 IN 2007.

1 MALE CAPTURED BY HAND OR NET ON DRY LAND ON 8 APR 1997. SNAKE WAS WEIGHED, MEASURED, PIT TAGGED AND RELEASED.

ACTIVE NEST FLEDGED 1 IN 2006; DEFENSIVE BEHAVIOR OBSERVED AT POSSIBLE TERRITORY TO NORTH.

1 MALE (M) CAPTURED 4 JUN 1996; 1 FEMALE (F) CAUGHT 5 SEP 1996 WAS A RECAPTURE FROM 1.22 MI TO THE NW. 1 DETECTED ON 11 JUN 2012. 19F & 6M CAUGHT IN 2012, 19F & 5M IN 2013; 20F & 10M IN 2014 (INCLUDING RECAPS). 4-5 CAUGHT IN 2015 SURVEYS.

1 PLANT OBSERVED IN 1988, ~5000 IN 1991, 30,000-50,000 IN 1992, 10,000-30,000 IN 1993, 20,000-30,000 IN 1997, 600 IN 1998, 34,700 IN 1999, 46,815 IN 2000, 46,079 IN 2001, 134,620 IN 2003, 55,203 IN 2004. SEE CNDDDB FOR 2005-07 POP. NUMBERS.

APPROXIMATELY 7,500 NESTS OBSERVED ON 6 JUN 1934 (NEFF 1937). PRESUMED EXTIRPATED BY E. BEEDY (1991). FURTHER RESEARCH NEEDED TO CONFIRM COLONY STATUS.

1 MALES WAS CAPTURED USING A FLOATING TRAP ON 14 SEP 2014; SNAKE WAS PIT TAGGED.

NEST MONITORED APR-JUL 2002; 1 CHICK AT FLEDGING STAGE BY 13 JUL.

10K NESTS OBSERVED BY NEFF IN 1933. COLONY OF 120-150K IN 1950'S. 60K IN 1992. 3K IN 1993. 60K IN 1994. 0 IN 1995. 80K IN 1997. 6K IN 1999. 31K IN 2000; BREEDING CONFIRMED. 0 IN 2001. ALL YEARS PRESUMED TO BE NESTING COLONIES.

SNAKE OBSERVED AT SITE DURING THE 1986-87 STUDY.

ABOUT 25,000 OBSERVED ON 23 JUN 2000 BY B. HAMILTON; EXACT LOCATION UNKNOWN, THE COLONY MAY HAVE BEEN PART OF THE COLONY TO THE W (OCC. 33). ABOUT 8,000 BIRDS OBSERVED IN 2001; PRESUMED BREEDING.

ABOUT 5,000 OR 50,000 OBSERVED IN 1992; PRESUMED NESTING. 0 BIRDS OBSERVED ON 22 APR 1995.

A COLLECTION WAS MADE IN THIS VICINITY ON 8 MAR 1942. ACCORDING TO JENNINGS AND LIND, RANA BOYLII IS EXTIRPATED FROM THIS SITE.

20 SNAKES TRAPPED IN THE VICINITY IN 2011 & 2014 (SEE ALSO OCC #343). 5 CAPTURES & 1 SIGHTING DURING TRAPPING MAR-JUN 2015.

APPROXIMATELY 1000 BIRDS OBSERVED NESTING/FORAGING ON 1 JUL 1992.

6-INCH DIAMETER BURROW FOUND, ALTHOUGH NO OWL SIGN; OWL FLUSHED FROM NEARBY "BORROW PIT."

ACTIVE NEST WITH 1 YOUNG OBSERVED IN 1988. NEST FLEDGED 2 IN 2002.

APPROXIMATELY 300 BIRDS OBSERVED NESTING ON 1 JUL 1992. APPROXIMATELY 50 BIRDS OBSERVED ON 27 APR 1997; NON-BREEDING. APPROXIMATELY 100 BIRDS (2 FLOCKS) OBSERVED FORAGING ON 25 APR 2008. 0 OBSERVED ON 15 APR 2011.

1 SNAKE SIGHTED ON 8 APR 1997.

1 VERY LARGE ADULT FEMALE OBSERVED AND PHOTOGRAPHED ON 4 MAR 2017. SPADEFOOT WAS OBSERVED NEAR ROAD AWAY FROM SUITABLE HABITAT.

NEST WITH YOUNG OBSERVED ON 10 JUN 2009; FLEDGING SUCCESS UNKNOWN.

TWO ACTIVE NESTS OBSERVED IN 1988; ONE JUVENILE OBSERVED AT NORTHMOST NEST. PAIR OBSERVED SOARING IN VICINITY IN 1994.

1 MALE DETECTED ON 8 JUN 2011. 13 FEMALES & 4 MALES DETECTED BETWEEN 2-21 AUG 2012. 6 MALES & 4 FEMALES DETECTED BETWEEN 14 MAY-7 JUL 2014. SNAKES WERE PIT TAGGED.

NEST FLEDGED 1 IN 1988. ADULTS PERCHED NEAR NEST THROUGHOUT SEASON IN 2002, BUT NO INCUBATION/YOUNG OBSERVED (DIFFICULT TO SEE INTO TREE).

2 SWAINSON'S HAWKS SIGHTED IN VICINITY IN 1983. NESTING PAIR OBSERVED IN 1988.

ABOUT 5,000 OBSERVED IN 1992; POSSIBLY UP TO 30,000 BIRDS OBS. ANECDOTALLY PRESENT AS NESTING COLONIES IN 1993. 0 OBS ON 24 APR 1999. ABOUT 400 BIRDS OBS NESTING ON 5 JUN 1999. 7,500 OBS ON 1 JUL 2000; NESTING UNKNOWN. 0 OBS ON 15 APR 2011.

2 ADULTS OBSERVED IN FLIGHT IN VICINITY, 1982; NEST NOT FOUND. ACTIVE NEST OBSERVED IN 1988; SUCCESS UNKNOWN. NEST WITH 1 YOUNG NEAR FLEDGING OBSERVED 6 JUL 2002. NEST FLEDGED 2 IN 2003.

2 NESTING COLONIES OBSERVED ON 20 JUN 1932; ONE COLONY ESTIMATED AT 200 NESTS, THE SECOND COLONY ESTIMATED AT 1000 NESTS. 0 OBSERVED ON 18 & 20 APR 2014.

ONE SNAKE COLLECTED 1 JUL 1986 AND DEPOSITED IN CAS (#178602). PART OF THE 1986-87 STUDY.

Area	Perimeter	Symbology (AVL)	Code	CNDDDB Symbology	Quad Key	Quad Name	County Key	Elevation
64953.94291	1062.722492		20301		203 3912211	Arbuckle	COL	90
40115.95576	1004.704812		20201		202 3912211	Arbuckle	COL	95
20023.32386	502.1364014		20101		201 3912212	Cortina Creek	COL	100
70685.20568	942.475713		20401		204 3912222	Williams	COL	90
77500.4356	1152.703931		20201		202 3912222	Williams	COL	90
46798.90287	823.8395426		20201		202 3912211	Arbuckle	COL	92
5434909.867	9898.038929		20301		203 3912222	Williams	COL	75
8006521.304	10043.37076		20901		209 3912211	Arbuckle	COL	75
20023.32386	502.1364014		20101		201 3912222	Williams	COL	80
8042068.815	10052.96885		20901		209 3912222	Williams	COL	90
861319.7222	11018.24388		10301		103 3912222	Williams	COL	0
282659.3667	1884.815631		20501		205 3912222	Williams	COL	75
281483.1507	1883.144902		20501		205 3912222	Williams	COL	70
282659.3684	1884.815639		20501		205 3912222	Williams	COL	75
289498.8082	3867.419915		20301		203 3912222	Williams	COL	65
20023.32386	502.1364014		20101		201 3912222	Williams	COL	70
281485.7305	1883.153504		20501		205 3912222	Williams	COL	73
1130890.887	3769.842466		20601		206 3912222	Williams	COL	65
20023.32386	502.1364014		20101		201 3912212	Cortina Creek	COL	125
190753.3317	3372.44669		20201		202 3912221	Colusa	COL	60
8042068.815	10052.96885		10901		109 3912221	Colusa	COL	0
8042067.605	10052.96816		20901		209 3912221	Colusa	COL	50
8042068.814	10052.96885		20901		209 3912211	Arbuckle	COL	90
8042068.892	10052.9689		10901		109 3912222	Williams	COL	75
20105.87043	502.6528832		20101		201 3912221	Colusa	COL	55
5309022.051	8168.037238		10801		108 3912211	Arbuckle	COL	150
8006487.456	10043.34858		10902		809 3912221	Colusa	COL	40
8006487.456	10043.34858		10902		809 3912221	Colusa	COL	50
132960.852	2091.031669		20201		202 3912211	Arbuckle	COL	50
39738.08299	719.9215736		10201		102 3912221	Colusa	COL	50
818063.459	3754.280097		20301		203 3912221	Colusa	COL	50
20105.85213	502.6526545		20101		201 3912221	Colusa	COL	60
891024.9738	11267.49473		20201		202 3912221	Colusa	COL	50
404010.4047	4740.092631		10201		102 3912221	Colusa	COL	45
281478.16	1883.131543		20501		205 3912221	Colusa	COL	40
171194.8264	1655.08995		10302		803 3912211	Arbuckle	COL	45
171194.8264	1655.08995		10302		803 3912211	Arbuckle	COL	45
281490.9847	1883.171123		20501		205 3912222	Williams	COL	113
20023.32386	502.1364014		20101		201 3912211	Arbuckle	COL	50
17829596.52	16130.22265		20301		203 3912221	Colusa	COL	54
20023.32357	502.1364014		20101		201 3912221	Colusa	COL	50
8042068.813	10052.96885		20901		209 3912222	Williams	COL	85
234541.3681	1940.939433		10302		803 3912221	Colusa	COL	50
234541.3681	1940.939433		10302		803 3912221	Colusa	COL	50
20023.32421	502.1364014		20101		201 3912222	Williams	COL	75
282659.3653	1884.815628		20501		205 3912222	Williams	COL	75
281491.5987	1883.17314		20501		205 3912222	Williams	COL	115
98977.5657	1489.864955		20301		203 3912211	Arbuckle	COL	60
20016.92711	502.1763784		20101		201 3912212	Cortina Creek	COL	225
546197.6476	7838.171202		20201		202 3912221	Colusa	COL	40
1788937.43	5736.703378		20301		203 3912221	Colusa	COL	50
60278.92091	1507.71811		20201		202 3912211	Arbuckle	COL	42
8041669.312	10052.84402		10901		109 3912211	Arbuckle	COL	40
20105.8835	502.6530465		20101		201 3912211	Arbuckle	COL	45
506758.1609	6585.798808		10301		103 3912222	Williams	COL	80
20023.32478	502.1364099		20101		201 3912221	Colusa	COL	40
20017.18299	502.1795664		20101		201 3912212	Cortina Creek	COL	170
282659.3587	1884.815607		20501		205 3912222	Williams	COL	80
20023.32134	502.1363698		20101		201 3912221	Colusa	COL	45
338035.645	3040.622118		10301		103 3912221	Colusa	COL	40
20023.32126	502.1363558		20101		201 3912221	Colusa	COL	40
20023.32386	502.1364014		20101		201 3912211	Arbuckle	COL	70
223426.9876	3703.901793		20201		202 3912221	Colusa	COL	35
309038.5468	2126.600015		10201		102 3912221	Colusa	COL	40
8042068.814	10052.96885		20901		209 3912222	Williams	COL	55
20023.32386	502.1364014		20101		201 3912221	Colusa	COL	45
20023.32386	502.1364014		20101		201 3912211	Arbuckle	COL	40
3141434.056	6283.12323		20701		207 3912221	Colusa	COL	50
281471.4437	1883.105882		20501		205 3912211	Arbuckle	COL	40
282659.366	1884.815631		20501		205 3912221	Colusa	COL	50
70602.6002	942.2002625		20401		204 3912221	Colusa	COL	55
1130970.992	3769.9096		20601		206 3912212	Cortina Creek	COL	300
70568.78774	1335.518421		20201		202 3912221	Colusa	COL	35
203359.0536	2795.987667		20301		203 3912221	Colusa	COL	40
20016.71829	502.1737789		20101		201 3912212	Cortina Creek	COL	285
1130890.888	3769.842466		20601		206 3912211	Arbuckle	COL	40
282659.366	1884.815631		20501		205 3912221	Colusa	COL	50
20023.32668	502.1364368		20101		201 3912221	Colusa	COL	35
20105.86655	502.6528347		20101		201 3912211	Arbuckle	COL	175
20023.32386	502.1364014		20101		201 3912222	Williams	COL	75
2260458.681	7538.589528		20301		203 3912118	Grimes	COL	35
4515839.289	7657.038497		20301		203 3912118	Grimes	COL	50
20023.32386	502.1364014		20101		201 3912118	Grimes	COL	40
281464.2677	1883.081853		20501		205 3912118	Grimes	COL	55
853754.242	3786.714179		20301		203 3912211	Colusa	COL	45
70602.6002	942.2002625		20401		204 3912118	Grimes	COL	45
8042068.814	10052.96885		20901		209 3912232	Maxwell	COL	105
281492.8028	1883.177081		20501		205 3912222	Williams	COL	119



1 COLLECTED (CAS #82055) BY C. LITTLEJOHN ON 17 MAY 1919. 5 MALES AND 1 FEMALE COLLECTED (MVZ #83188, 106540, 106541, & 106544-6) BY A.C. BROOKS JR. ON 2 & 6 MAR 1923. APPROXIMATELY 4,000 NESTS OBSERVED IN OCT 1961 (PAYNE 1969); AUTUMNAL BREEDING COLONY; NEST BUILDING BEGAN ON 19 OCT. NONE OBSERVED ON 18 & 19 APR 2014. NEST MONITORED OVER 7 VISITS, APR-AUG 2006; SWHA OBSERVED SITTING TIGHT ON NEST 23 MAY, NO LATER SIGHTINGS. 1 HAND-CAUGHT AND RELEASED ON 12 JUN 2015. NEST PRODUCED 2 YOUNG IN 2001, PRESUMED FLEDGED. 2 FLEDGED IN 2002. INCUBATION OBSERVED 10 JUN 2006, NEST LATER ABANDONED. NEST WITH YOUNG OBS 26 MAY 2009, FLEDGING SUCCESS UNKNOWN. ONE OWL WAS FLUSHED FROM THE PRIMARY BURROW SITE, CONSISTING OF 3 BURROWS AND OWLS DROPPINGS. A SECOND OWL WAS FLUSHED FROM THE SECONDARY SITE, WHERE NO OBVIOUS OWL SIGN COULD BE FOUND. ONE OWL WAS FLUSHED AT THE BURROW ON 11 FEB 1992. SITE WAS MONITORED ON 7 MAR 1992; NO OWLS OR SIGN WERE FOUND, SO BURROW SITE WAS EXCAVATED ON 8 MAR 1992 FOR CONSTRUCTION OF PIPELINE (WITH AGENCY PERMISSION). ONLY SOURCE IS 1905 COLLECTION BY JEFFREYS, ANNOTATED TO VAR. FERRISIAE BY LISTON IN 1989. FORMERLY VAR. TENER, OCC #42. IN 2002 NO NATURAL HABITAT SEEN IN VICINITY OF COLLEGE CITY TO THE RIVER. NO PLANTS SEEN, PROBABLY EXTIRPATED. ONLY SOURCE OF INFORMATION ON THIS SITE IS 1916 COLLECTION BY STINCHFIELD. AREA NEEDS FIELDWORK TO DETERMINE IF SUITABLE HABITAT IS STILL PRESENT. ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1905 COLLECTION BY KING. THIS IS THE ISOTYPE, SEEN IN 1916. IN 1960'S, CHUANG & HECKARD VISITED ALL KNOWN SITES & COULD NOT RELOCATE THIS OCCURRENCE ALTHOUGH LOCALITY INFORMATION IS EXTREMELY VAGUE. LIKELY EXTIRPATED BY AGRICULTURE. NEST MONITORED OVER 7 VISITS APR-AUG 2006; DOWNY CHICK OBSERVED IN NEST ON 2 JUL, FLEDGING SUCCESS UNKNOWN. 2 ADULTS AND 1 YOUNG OBSERVED AT THE NEST ON 5 JUN 1979. (POSSIBLE 2ND NEST OBS, NO YOUNG PRODUCED.) NO ADULTS OR NEST FOUND IN 1980 OR 1982. 2 SOARING ADULTS SIGHTED IN 1983, NO NEST FOUND. 1 OWL WAS FLUSHED FROM THE BURROW ON 11 FEB 1992. 1 ADULT OBSERVED AND PHOTOGRAPHED ALONG EDGE OF ROAD ON 4 MAR 2017. 1 ADULT FOUND CROSSING THE HIGHWAY ON 4 JUN 2017, INTERCEPTED BY COUNTY SHERIFF'S DEPUTY, & DELIVERED AFTER HOURS TO COUNTY ANIMAL SHELTER. THE NEXT MORNING, THE TURTLE WAS IDED & RELEASED AT THE SIDE OF THE ROAD NEAR WHERE IT WAS FOUND. BIRDS FEED IN HARVESTED CORNFIELD. 1 MORTALITY, 2 CAPTURES, 3 RECAPTURES & 1 SIGHTING DURING 2015 SURVEYS. APPROXIMATELY 250 NESTS OBSERVED ON 13 JUN 1932 (NEFF 1937); PRESUMED EXTIRPATED ACCORDING TO BEEDY (1991). 0 OBSERVED ON 18 APR 2014. USFWS BEACH SEINES CAUGHT 4 LONGFIN SMELT, 67-91 MM FL, ON 6 MAR 1986. SUBSEQUENT EFFORTS DETECTED NO LONGFIN SMELT. '82:1. '86:(500). '87:2(390/640). '88:(550). '89:(60). '90:2(230/310). '91:(356). '93:(70). '94:(48). '96:(110). '97:2(30/50). '99:(10). '00:(200). '01:(70). '02:4(30-260). '03:(110). '04:(210). '05:(80). '07:3(20-120). '09:2(8/48). 100S OBSERVED IN 2 ADJACENT NATURAL VERNAL POOLS ON 28 FEB 2002. 100 ADULTS/100 JUVENILES OBSERVED DURING 3 VISITS TO THIS SITE IN JAN 2005. NONE OBSERVED IN 25 POOLS SAMPLED IN 2012. HISTORICAL RECORD. 1 COLLECTED 15 AUG 1955 & 2 COLLECTED 1 AUG 1957. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 2002 SPENCER COLLECTION. NEEDS FIELDWORK. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 8 EXIT HOLES OBSERVED IN 5 PLANTS, 7 OLD AND 1 NEW. NO ADULTS OBSERVED. BAT(S) DETECTED ON 26 AUG 1999. IDENTIFICATION IS BASED ON VISUAL AND ACOUSTIC OBSERVATION BUT IS "SOMEWHAT UNCERTAIN." BAT(S) DETECTED ON 26 AUG AND 22 SEP 1999. BAT(S) DETECTED ON 22 SEP 1999. ONE OWL FLUSHED ON 2 FEB 1992, AND ANOTHER FLUSHED FROM THE SAME AREA ON 8 MAR 1992. 50 ADULTS/50 JUVENILES OBSERVED DURING 3 VISITS TO THIS SITE IN JAN 2005. 10 OBSERVED IN 1 OUT OF 25 POOLS SAMPLED FEB-MAR 2007. TENS OBSERVED IN 1 OUT OF 25 POOLS SAMPLED FEB-APR 2012. NEST WITH YOUNG OBSERVED ON 15 MAY 2009; FLEDGING SUCCESS UNKNOWN. 5 ADULTS OBSERVED IN 3 POOLS ON 15 FEB 2017. REPORTEDLY FORAGED IN ORCHARDS NEAR COLUSA UNTIL THE 1940S. 2 POSSIBLY NESTING BIRDS OBSERVED, 1977. NONE DETECTED IN YEARLY SURVEYS 1987-1990. 1 SEEN AND HEARD (COOS, CONTACT CALLS), 12 JUL 2013. NESTING IN 1993. 400 BIRDS OBS IN 1994; 2 FLOCKS OF 200 INDIVIDUALS, NON-BREEDING. 0 OBS ON 28 APR 1994. 1-1.5K OBS ON 1 JUN 1995; SINGING & CARRYING NEST MATERIAL NOTED. 0 IN 2000. 150 OBS ON 15 APR 2011; CARRYING FOOD OR NEST MATERIAL. ACTIVE NEST MONITORED 2 MAY-9 JUL 2002; ADULTS SEEN AT AND NEAR NEST BUT COULDN'T SEE INTO NEST TO FIND YOUNG. ESTIMATED 50 ADULT NIGHT HERONS AND 200 ADULT SNOWY EGRETS NESTING ON 9 AUG 2007; CATTLE EGRETS ALSO PRESENT. ESTIMATED 200 ADULT SNOWY EGRETS AND 50 ADULT NIGHT HERONS NESTING ON 9 AUG 2007; CATTLE EGRETS ALSO PRESENT. ANECDOTALLY REPORTED AS NESTING IN 1993-98. 2R OBS IN 1999; CARRYING FOOD, NESTING. 0 IN 2000. 40K OBS IN JUN 2005; SINGING & CARRYING NEST MATERIAL. NESTING IN 2009. 250 OBS ON 15 APR 2011; CARRYING FOOD & NEST MATERIAL. 0 OBS 1 JUN 2014. BAT(S) DETECTED ON 23 SEP 1999. BAT(S) DETECTED ON 23 SEP 1999. ACTIVE NEST MONITORED 7 APR-16 JUL PRODUCED 1 FLEDGLING IN 2003. APPROXIMATELY 500 NESTS OBSERVED ON 20 JUN 1932 (NEFF 1937). 0 OBSERVED ON 18 APR 2014. PRESUMED EXTIRPATED BY BEEDY (1991). 0 OBSERVED ON 18 APR 2014. NEW COLONY OF 30 NEST HOLES; OBSERVED BY BRUCE DEUEL IN 1984. OWLS FIRST OBSERVED IN FEBRUARY 1992. 5 PAIRS WITH 21 YOUNG OBSERVED, APR-SEP 1992. ARTIFICIAL BURROWS WERE INSTALLED TO MITIGATE IMPACTS TO NATURAL BURROWS IN 1992. 21 OWLS (7 AD, 14 JUV) Banded IN 1993; OWLS NESTED IN ARTIFICIAL BURROWS. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. NEST OBSERVED OVER 5 VISITS 25 APR-23 JUL FLEDGED 1 IN 2006. 1 JUVENILE OBSERVED FORAGING IN INUNDATED AGRICULTURAL DITCH ON 4 AUG 2008. NEST WITH ONE OR MORE YOUNG OBSERVED IN 1988. NEST WITH 1 YOUNG OBSERVED IN 1986. NEST MONITORED 7 APR-16 JUL PRODUCED 1 FLEDGLING IN 2003. 100-200 PLANTS ESTIMATED IN 1985. BASED ON RECENT AERIAL PHOTOS, THIS OCCURRENCE HAS BEEN EXTIRPATED; ALL OF THE SITE HAS BEEN CULTIVATED. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 200-400 PLANTS SEEN IN 1987. BASED ON RECENT AERIAL PHOTOS, THIS OCCURRENCE HAS BEEN EXTIRPATED; ALL OF THE SITE HAS BEEN CULTIVATED. ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1985 COLLECTION BY MCCARTEN. NEEDS FIELDWORK. BAT(S) DETECTED ON 22 SEP 1999. BAT(S) DETECTED ON 22 SEP 1999. ONE OF FEW AREAS WHERE ARISTIDA TERNIPES VAR. HAMULOSA IS KNOWN FROM GREAT VALLEY. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. ONE UNMATED MALE OBSERVED BETWEEN 5 JUN AND 20 AUG 1987. 3 PAIRS DETECTED IN 1988. AN ADDITIONAL UNMATED BIRD WAS DETECTED DURING ANNUAL SURVEYS 1987-1990. PAIR ACTIVE IN AREA APR-JUL 2003; NEST FOUND 18 JUL, SUSPECTED FAILED/ABANDONED. ONE OF FEW POPS OF ARISTIDA TERNIPES VAR. HAMULOSA KNOWN FROM GREAT VALLEY. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 1 IMMATURE OBSERVED, BUT NO NEST FOUND IN 1981 (LATER VERSIONS OF THE CDFW DATABASE AMENDED THIS RECORD TO A SIGHTING OF A SINGLE ADULT). NO ACTIVITY OBSERVED IN 1982. NEST MONITORED FROM 12 APR-23 JUL; COPULATION OBS MAY, INCUBATION OBS JUN, FAILED TO PRODUCE YOUNG. APPROXIMATELY 15,000 BIRDS OBSERVED ON 6 JUN 1975; PROBABLY NESTING. 0 OBSERVED 1 JUL 1992. 3 MALES OBSERVED FORAGING ON W SIDE OF OLD HWY 99 ON 15 APR 2011; SITE WAS CAREFULLY SURVEYED. 0 OBSERVED ON 18 APR 2014. NEST MONITORED 10 JUN-5 AUG PRODUCED 2 YOUNG; 1 FLEDGED, 1 POSSIBLY BRANCHING CHICK FOUND DEAD UNDER NEST 5 AUG. 22 EXIT HOLES OBSERVED, ALL OLD; SURVEYED IN SPRING. NO ADULTS OBSERVED. 1986: 1 COLONY (260 BURROWS). '90: 2 (70/380). '91: 1 (870). '92: 2 (20/450). '93: 2 (50/280). '97: 1 (350). '00: 1 (400). '01: 1 (850). '02: 2 (80/180). '03: 1 (300). '04: 1 (980). '05: 1 (80). '07: 2 (50/200). '08: 1 (320). '09: 1 (66). NEST MONITORED 27 MAY-16 JUL FLEDGED 2 IN 2003. 2 FEMALES CAPTURED WITH FLOATING TRAPS ON 9 JUL 2005; 1 OF THESE FEMALES WAS RECAPTURED ON 11 JUL 2005 ALONG WITH AN ADDITIONAL FEMALE THAT WAS CAPTURED BY HAND/NET. SNAKES WERE WEIGHED, MEASURED, PIT TAGGED, AND RELEASED. 20 TO 30 JUVENILES/SUBADULTS OBSERVED ON 8 SEP 1993. BIRDS FED IN HARVESTED CORN FIELDS EARLY/LATE NOV THRU EARLY DEC, 1984. UP TO 5 FLOCKS IN HARVESTED CORN FIELDS, OCT-NOV 1985. BIRDS AT STEIDLEMAYER, 24 FEB 1986. STEIDLEMAYER & BUTTE SINK, WINTER 1986/87 (LAST OBS DATE 26 JAN 1987). SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 1 BADGER FOUND DEAD ON ROAD ON 6 APR 2016. 1 MALE CAPTURED IN A TRAP ON 24 JUL 2002. THIS SNAKE WAS A RECAPTURE THAT WAS ORIGINALLY PIT TAGGED ON 15 JUN 2002, 6.2 MILES DUE WEST ON COLUSA NWR. REPORTEDLY COLLECTED ON AN UNKNOWN DATE. ABOUT 500 NESTS OBSERVED ON 19 MAY 1933. ABOUT 2,500 NESTS OBSERVED ON 24 MAY 1934. ABOUT 750 NESTS OBSERVED ON 20 MAY 1935. 0 BIRDS OBSERVED DURING 15 APR 2011 & 18-19 APR 2014 STATEWIDE SURVEYS. FURTHER RESEARCH NEEDED FOR COLONY STATUS. 2 ADULTS OBSERVED NESTING IN 1985. A CLUMP OF ELDERBERRY SHRUBS WITH 10+ EXIT HOLES REPORTED AS BEING DETECTED ON 18 NOV 2009; HOLES FOUND 12 FT ABOVE GROUND LEVEL. UNKNOWN NUMBER OF EXIT HOLES OBSERVED NOV 2010-FEB 2011. 308 BURROWS (AREA ACTIVE) OBSERVED ON 28 MAY 1991. ACTIVE BURROWS NOT OBSERVED JUN 1993, 28 APR 1994, 9 JUN 2004, 13 JUL 1995. 13 JUL MAY BE TOO LATE TO DETECT A BREEDING POPULATION. NEST MONITORED 7 APR-25 JUL FLEDGED 2 IN 2003. TENS OF THOUSANDS OF PLANTS OBSERVED IN 1993, 80,000 IN 1995, 100,000 IN 1997, 67,200 IN 1998, 40,000 IN 1999, 98,400 IN 2000, 53,600 IN 2001, 214,000 IN 2002, 156,040 IN 2003, 74,080 IN 2004, 69,101 IN 2006, AND 181,914 IN 2007. NO COLONIES NOTED DURING 1996-1998 SURVEYS. ACTIVE WITH 150 BURROWS OBSERVED AT RIGHT BANK ON 9 JUN 1999. 80 BURROWS OBSERVED 6 JUN 2000. AREA WAS NOT SURVEYED BETWEEN 2001-2008. 84 BURROWS OBSERVED 9-11 JUN 2009. NESTING ACTIVITY OBSERVED FROM 20 APR-1 AUG 2000 (12 VISITS); 1 CHICK OBSERVED ON 26 JUN 2000, 1 YOUNG FLEDGED. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 1 FEMALE WAS CAPTURED WITH FLOATING TRAP ON 26 AUG 2011; SNAKE WAS WEIGHED, MEASURED, PIT TAGGED, AND RELEASED. 1 ADULT OBSERVED ON 23 APR 2016. ONE ADULT OBSERVED NESTING ON 18 APR 2001; NEST FAILED. 4 EXIT HOLES OBSERVED, ALL OLD; SURVEYED IN SPRING. NO ADULTS OBSERVED. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES. 2 ADULTS OBSERVED AND NEST FOUND ON 28 JUN 1984. NO BIRDS FOUND ON 1 JUL 1986.

8042068.814	10052.96885	20902	809	3912221	Colusa	COL	50
8042068.814	10052.96885	20902	809	3912221	Colusa	COL	50
20023.32386	502.1364014	20101	201	3812281	Wildwood School	COL	225
20105.8415	502.6525214	20101	201	3912128	Meridian	COL	35
20023.32386	502.1364014	20101	201	3912211	Arbuckle	COL	55
281485.6614	1883.153588	20501	205	3812282	Rumsey	COL	320
20017.58144	502.1845111	20101	201	3912223	Manor Slough	COL	120
8006305.176	10043.23603	10904	809	3912211	Arbuckle	COL	60
8006305.176	10043.23603	10904	809	3912211	Arbuckle	COL	60
8006305.176	10043.23603	10904	809	3912211	Arbuckle	COL	60
8006305.176	10043.23603	10904	809	3912211	Arbuckle	COL	0
20023.32434	502.1364014	20101	201	3912222	Williams	COL	110
1130890.887	3769.842466	20601	206	3912118	Grimes	COL	30
20023.3251	502.136417	20101	201	3912223	Manor Slough	COL	130
20105.85984	502.6527507	20101	201	3912212	Cortina Creek	COL	462
1130970.714	3769.908877	20601	206	3912221	Colusa	COL	60
8006007.024	10043.04802	20901	209	3912128	Meridian	COL	45
67545.31095	1376.179772	20201	202	3912128	Meridian	COL	40
8042068.815	10052.96885	20901	209	3912118	Grimes	COL	30
84113.91007	1302.555479	20301	203	3912221	Colusa	COL	40
385555.6853	5110.077924	20301	203	3912221	Colusa	COL	50
1237348.37	4677.435894	20301	203	3912128	Meridian	COL	45
324284.1182	4304.599577	20201	202	3912221	Colusa	COL	50
914552.5418	11683.86458	10301	103	3912128	Meridian	COL	50
1024964.921	12957.02909	30201	302	3912221	Colusa	COL	60
409944.0968	2760.010422	20301	203	3912221	Colusa	COL	40
186895.6636	2251.587352	20303	803	3912221	Colusa	COL	50
186895.6636	2251.587352	20303	803	3912221	Colusa	COL	50
186895.6636	2251.587352	20303	803	3912221	Colusa	COL	50
20017.66237	502.185524	20101	201	3912223	Manor Slough	COL	155
20023.32399	502.1364014	20101	201	3912128	Meridian	COL	45
20023.32386	502.1364014	20101	201	3912232	Maxwell	COL	90
56822.60666	1261.330858	20201	202	3912128	Meridian	COL	49
70602.60068	942.2002625	20401	204	3912221	Colusa	COL	50
282659.366	1884.815631	20501	205	3912231	Moulton Weir	COL	60
20023.32386	502.1364014	20101	201	3912118	Grimes	COL	40
11136.10202	541.1133437	20202	802	3912232	Maxwell	COL	90
11136.10202	541.1133437	20202	802	3912232	Maxwell	COL	90
1130890.888	3769.842466	20601	206	3912231	Moulton Weir	COL	60
70602.60293	942.2002807	20402	804	3912128	Meridian	COL	60
70602.60293	942.2002807	20402	804	3912128	Meridian	COL	60
20023.32386	502.1364014	20101	201	3912128	Meridian	COL	50
3141433.192	6283.105593	20701	207	3912232	Maxwell	COL	100
281464.5356	1883.082588	20501	205	3912128	Meridian	COL	50
20017.67838	502.1857193	20101	201	3912223	Manor Slough	COL	130
190650.3757	1807.712707	30201	302	3912221	Colusa	COL	60
20023.32386	502.1364014	20101	201	3912231	Moulton Weir	COL	55
20023.32386	502.1364014	20101	201	3912232	Maxwell	COL	85
1130892.407	3769.846183	20601	206	3912118	Grimes	COL	40
20023.32386	502.1364014	20101	201	3912128	Meridian	COL	50
148707.1623	1553.228995	10303	803	3912223	Manor Slough	COL	140
148707.1623	1553.228995	30303	803	3912223	Manor Slough	COL	140
148707.1623	1553.228995	10303	803	3912223	Manor Slough	COL	140
282659.3678	1884.815638	10501	105	3912223	Manor Slough	COL	160
70602.60326	942.2002853	20402	804	3912128	Meridian	COL	60
70602.60326	942.2002853	20402	804	3912128	Meridian	COL	60
178787.4267	3142.490613	30201	302	3912223	Manor Slough	COL	400
1130888.987	3769.841148	20601	206	3912221	Colusa	COL	60
20023.32386	502.1364014	20101	201	3912232	Maxwell	COL	90
654085.4341	3651.218739	30201	302	3912213	Salt Canyon	COL	480
281460.2571	1883.068418	20501	205	3912118	Grimes	COL	45
20023.32335	502.1364014	20101	201	3912128	Meridian	COL	50
1130890.888	3769.842466	20601	206	3912232	Maxwell	COL	80
20023.32386	502.1364014	20101	201	3912118	Grimes	COL	40
282722.3373	1884.909684	20501	205	3912221	Colusa	COL	60
287665.7795	4134.357258	20301	203	3912128	Meridian	COL	60
20023.32358	502.1364014	20101	201	3912128	Meridian	COL	50
77289.5203	1774.07594	20201	202	3912231	Moulton Weir	COL	55
380661.8703	4606.778677	20301	203	3912213	Salt Canyon	COL	428
8042068.951	10052.96893	20901	209	3912128	Meridian	COL	52
383749.1511	4366.439237	30201	302	3912221	Colusa	COL	60
282742.1195	1884.953622	20501	205	3912213	Salt Canyon	COL	382
20023.32826	502.1364567	20101	201	3912118	Grimes	COL	45
8042068.816	10052.96885	20902	809	3912128	Meridian	COL	40
8042068.816	10052.96885	20902	809	3912128	Meridian	COL	40
281499.8566	1883.200634	20501	205	3912223	Manor Slough	COL	180
20023.32386	502.1364014	20101	201	3912118	Grimes	COL	45
32114.43172	653.3754783	20301	203	3912128	Meridian	SUT	52
70602.6002	942.2002625	20401	204	3912128	Meridian	COL	45
277366.2213	2547.083413	10201	102	3912231	Moulton Weir	COL	55
70602.60202	942.2002723	20401	204	3912128	Meridian	COL	50
20023.08066	502.1333521	20101	201	3912232	Maxwell	COL	85
198562.0309	3715.092472	30201	302	3912118	Grimes	COL	50
8042068.814	10052.96885	20901	209	3912231	Moulton Weir	COL	60
20105.85689	502.6527139	20101	201	3812282	Rumsey	COL	600
20022.731	502.1289678	20101	201	3912118	Grimes	COL	35
282726.2209	1884.932737	20501	205	3912231	Moulton Weir	COL	60
503247.0708	8028.081835	30201	302	3912231	Moulton Weir	COL	55
281458.8913	1883.063858	20501	205	3912118	Grimes	COL	50

NEST PRODUCED 2 YOUNG IN 2003; ONLY 1 FLEDGLING CONFIRMED.	20023.32393	502.1364014	20101	201	3912128	Meridian	COL	50
169 BURROWS (AREA ACTIVE) OBSERVED DURING JUN 1993. 38 BURROWS (AREA ACTIVE) OBSERVED ON 28 APR 1994. 100 BURROWS OBS 1996. 130 BURROWS OBS 1997. ACTIVE BURROWS NOT OBSERVED ON 13 JUL 1995; MAY BE TOO LATE TO DETECT BREEDING POPULATION.	70602.60489	942.2002919	20401	204	3912128	Meridian	SUT	40
NEST MONITORED MAY-JUL 2002; 2 FLEDGED.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	40
1 MALE SNAKE COLLECTED 12 MAY 1984 BY D. ROSSMAN AND G. STEWART; DEPOSITED IN LOUISIANA STATE UNIVERSITY MUSEUM OF ZOOLOGY (#44368).	282659.366	1884.815631	20501	205	3912232	Maxwell	COL	120
1986: 1159 BURROWS. 10 JUN '87: 1050 BURR, <20% BREEDING OCC. 28 MAY '91: 898 BURR. JUN '93: 1101 BURR. '94: 1154 BURR (ACTIVE APR NOT JUN) & 919 BURR (JUN). 13 JUL '95: 453 BURR. '96: 540 BURR. '97: 370 BURR. '00: 290 BURR. '09: 248 BURR.	332978.3654	2689.448137	20301	203	3912118	Grimes	COL	50
COURTSHIP DISPLAY AND AN OLD NEST WERE OBSERVED ON 3 APR 2003. ON 26 JUN 2003, 2 FLEDGLINGS WERE OBSERVED IN THE NEST TREE; NO SWHA PRESENT ON 2 JUL 2003.	20023.32386	502.1364014	20101	201	3912128	Meridian	SUT	50
1 FEMALE CAPTURED WITH FLOATING TRAP ON 21 JUL 2005; SNAKE WAS WEIGHED, MEASURED, PIT TAGGED, AND RELEASED.	20023.32386	502.1364014	20101	201	3912231	Moulton Weir	COL	60
DFG SWHA #5U011. 3 MEDIUM ADULTS OBSERVED SOARING SOUTH OF THIS SITE IN 1982, BUT NO NEST FOUND. IN 1986, NEST SITE WITH ONE ADULT WAS OBSERVED.	281461.3826	1883.07217	20501	205	3912128	Meridian	SUT	45
	150390774.7	49435.79455	99901	999	3812283	Glascocock Mtn.	YOL	2500
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	383865.0383	3384.282118	30201	302	3912118	Grimes	COL	50
1 ADULT OBSERVED ON NEST ON 25 MAY 1983. NO BIRDS FOUND ON 1 JUL 1986.	281458.2229	1883.061626	20501	205	3912118	Grimes	COL	50
COMMON IN 2009.	20105.87517	502.6529424	10101	101	3912213	Salt Canyon	COL	530
NEST OBSERVED OVER 8 VISITS 27 MAY-11 AUG; APPARENT INCUBATION OBSERVED 12 JUN 2006, NO YOUNG OBS/NEST SUCCESS UNKNOWN.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	35
1981: 1 ADULT MALE FOUND DEAD ON ROAD IN THE REFUGE (LSU #45802). NO SNAKES OBSERVED IN THE AREA DURING 1986-1987 STUDY; LEVEL OF EFFORT UNKNOWN. 1 SNAKE CAPTURED BY HAND OR NET ON DRY LAND ON 23 OCT 1996. SNAKE WAS PIT TAGGED AND RELEASED.	20023.32887	502.1364643	20101	201	3912231	Moulton Weir	COL	0
1884 COLLECTION BY BRANDEGEE (SN UC) MTN HOUSE IN COL CO IS ONLY SOURCE FOR THIS SITE. MTN HOUSE IN ALA CO SURVEYED IN 2002, NO HABITAT. RE-MAPPED IN COLUSA CO. NEEDS FIELDWORK.	282659.366	1884.815631	10501	105	3912223	Manor Slough	COL	250
ABOUT 10,000 BIRDS OBSERVED ON 1 JUN 2011; BEHAVIOR NOTED AS SINGING & CARRYING NEST MATERIAL. ABOUT 4000 BIRDS OBSERVED ON 11 JUN 2013; BEHAVIOR NOTED AS SINGING & CARRYING NEST MATERIAL, 1000 BIRDS BY END OF JUN. 0 OBS ON 1 JUN 2014.	215623.721	1940.752771	20301	203	3912232	Maxwell	COL	85
1 ADULT MALE FOUND DEAD ON ROAD ON 21 MAY 1981 (LSU #45802). NONE DETECTED IN 1986-1987 SURVEYS; LEVEL OF EFFORT UNKNOWN. 1 MALE CAPTURED BY HAND/NET ON 28 MAY 1997. 3 MALES & 1 FEMALE CAPTURED WITH FLOATING TRAPS 29 JUN-15 SEP 2005.	61700.66126	1062.582449	20201	202	3912231	Moulton Weir	COL	60
1 JUVENILE OBSERVED ON 2 SEP 2008 IN A SMALL ROADSIDE WETLAND (APPROX 20' LONG) IN A ROADSIDE DITCH (APPROX 3' WIDE). THIS DITCH PARALLELED AN AGRICULTURAL CANAL AND WADLEIGH RD.	20023.32468	502.1364117	20101	201	3912232	Maxwell	COL	90
AN ESTIMATE OF 351 BURROWS & 196 BREEDING PAIRS DURING JUN 1986. 70 BURROWS IN 1997. 20 BURROWS ON 17 JUN 1998. 60 BURROWS ON 9 JUN 1999.100 BURROWS ON 12 JUN 2002.	281474.4185	1883.115512	20501	205	3912231	Moulton Weir	COL	55
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	246978.1522	4526.14938	30201	302	3912128	Meridian	COL	50
COLONY OF 233 BURROWS OBSERVED DURING 1987; 20% BREEDING OCCUPANCY. 979 BURROWS OBS 9 JUN 1994; AREA NOT ACTIVE ON 28 APR 1994. 0 ACTIVE BURROWS OBS 13 JUL 1995. 10 BURROWS, 1996. 40 BURROWS, 1997. 40 BURROWS (AREA ACTIVE), 9 JUN 1999.	178839.407	1664.435332	20301	203	3912118	Grimes	SUT	33
TWO CUCKOOS OBSERVED BY LAYMON IN JUL 1977. 1 PAIR (1 OR 2 MATED BIRDS) DETECTED BETWEEN 5 JUN & 20 AUG 1987. AN ADDITIONAL UNMATED BIRD DETECTED DURING ANNUAL SURVEYS 1987-1990.	1130890.887	3769.842466	20601	206	3912231	Moulton Weir	COL	50
ONE MALE & ONE FEMALE COLLECTED (STORED AT UC BERKELEY, ESSIG #EMEC61129-30) ON 29 APR 1987; A THIRD SPECIMEN (MALE) WAS ALSO OBSERVED. 6 OLD & 2 NEW EXIT HOLES OBSERVED IN 1987. PARTS OF PROPERTY HAD BURNED IN YEARS PRIOR TO 1987.	260323.3843	2206.153013	20301	203	3912128	Meridian	COL	50
1 MALE CAPTURED WITH FLOATING TRAP ON 1 JUL 2005; SNAKE WAS WEIGHED, MEASURED, PIT TAGGED, AND RELEASED.	20023.32386	502.1364014	20101	201	3912231	Moulton Weir	COL	60
2500 PLANTS IN 1988, 1000+ IN 1989, ~10,000 IN 1991, <125,500 IN 1992, <100,000 IN 1993, 74,200 IN 1995, 25,050 IN 1997, 18,450 IN 1998, 83,530 IN 2000, 26,080 IN 2001, 54,840 IN 2002; SEE SILOU7U0002 FOR 2003-2007 POP. NUMBERS.	1578312.232	9298.728124	10301	103	3912231	Moulton Weir	COL	60
TWO NEST ATTEMPTS IN 2006; 1 FLEDGED. NEST WITH YOUNG OBSERVED ON 18 MAY 2009; FLEDGING SUCCESS UNKNOWN.	20023.32386	502.1364014	20101	201	3912233	Sites	COL	140
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	603883.3222	5169.564272	30201	302	3912118	Grimes	COL	50
ONE ADULT AND ONE YOUNG OBSERVED IN 1979 ON A COTTONWOOD ON THE SOUTH SIDE OF THE CREEK. NO BIRDS OR NEST OBSERVED IN 1982. NEST NEAR RM 134.5 FLEDGED 1 IN 1986.	281458.632	1883.062918	20501	205	3912128	Meridian	SUT	50
ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1953 COLLECTION BY TUCKER. AREA SHOULD BE FIELD CHECKED FOR PRESENCE OF SUITABLE HABITAT.	8005936.425	10043.00483	10901	109	3912118	Grimes	COL	25
1,000 OBSERVED IN 1992. 25 OBSERVED FLYING BACK & FORTH ON 23 APR 1994. 25 OBSERVED FORAGING ON 22 APR 1995. 350-400 OBSERVED SINGING & CARRYING FOOD ON 21 MAY 1995; NESTING ATTEMPT POSSIBLY FAILED. 0 BIRDS OBSERVED ON 24 APR 1999.	3141588.503	6283.183251	20701	207	3812281	Wildwood School	COL	233
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	121885.884	1346.455307	30201	302	3912118	Grimes	COL	55
2 COLONIES OBSERVED ON 12 MAY 1932; ONE ESTIMATED WITH 75 NESTS, THE SECOND ESTIMATED AT 1000 NESTS. 0 BIRDS OBSERVED ON 15 APR 2011.	8042068.814	10052.96885	20901	209	3912232	Maxwell	COL	70
ONE CUCKOO OBSERVED IN 1976 BY ROGER WILBUR.	8005974.304	10043.02674	20902	809	3912128	Meridian	SUT	45
BIRDS ROOSTED HERE IN 1977 AND LATE NOV 1978. COLUSA AREA PEAK FALL COUNT FOR 1984: 3000 BIRDS. APPROXIMATELY 1000 BIRDS OBSERVED HERE ON 15 NOV 1985.	8005974.304	10043.02674	20902	809	3912128	Meridian	SUT	45
BAT(S) DETECTED ON 22 SEP 1999.	70602.60556	942.2003038	20403	804	3912128	Meridian	COL	50
BAT(S) DETECTED ON 22 SEP 1999.	70602.60556	942.2003038	20403	804	3912128	Meridian	COL	50
BAT(S) DETECTED ON 22 SEP 1999.	70602.60556	942.2003038	20403	804	3912128	Meridian	COL	50
OUTSTANDING SITE. SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	312661.1058	2402.869609	30201	302	3912231	Moulton Weir	COL	55
4 MALES AND 4 FEMALES COLLECTED (MVZ #43730, 43732-36, 43741, & 43743) BY JOSEPH GRINNELL 2-5 MAR 1923.	8042068.872	10052.96889	20901	209	3912128	Meridian	SUT	50
342 BURROWS (30% BREEDING OCCUPANCY) 1986. 432 BURROWS 10 JUN 1987. 8 BURROWS JUN 1993. 33 BURROWS 28 APR 1994 (ABANDONED 9 JUN). 26 BURROWS 13 JUL 1995. 140 BURROWS JUN 2000. 84 BURROWS 9-11 JUN 2009.	85109.23027	1310.470592	20301	203	3912118	Grimes	COL	45
2 ADULTS AND NEST OBSERVED IN COTTONWOOD SNAG DURING SURVEY ON 10 JUN 2004.	70602.60436	942.2002903	20401	204	3912231	Moulton Weir	COL	70
NEST VISITED 9 TIMES BETWEEN 22 APR-11 AUG 2006; 1 FLEDGED.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	30
DFG SWHA #CO006. ACTIVE NEST FOUND IN 1981. NO BIRDS OR NEST FOUND IN 1982. NEST DISCOVERED ON 27 MAY 2003; 2 FLEDGLINGS OBSERVED IN NEST TREE ON 25 JUL 2003.	20023.32297	502.1364014	20101	201	3912118	Grimes	COL	40
AREA NOT ACTIVE 9 JUN 1994. 90 BURROWS OBSERVED (AREA ACTIVE) ON 6 JUN 2000. 90 BURROWS (ESTIMATED FROM 2000 DATA) LOCATED HERE DURING JUNE 2001-2004. 28 BURROWS OBSERVED 9-11 JUN 2009.	172285.6936	1620.632843	20301	203	3912118	Grimes	SUT	40
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	165062.9783	2407.596231	30201	302	3912118	Grimes	COL	40
DFG SWHA #SU018. 1 LIGHT-PHASE ADULT OBSERVED SOARING; NO NEST FOUND.	281460.2777	1883.068352	20501	205	3912128	Meridian	SUT	50
NEST MONITORED 22 APR-11 AUG; 1 FLEDGED IN 2006.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	30
BEHAVIOR OF ADULT PLACED THE NEST. NESTING ACTIVITY OBSERVED FROM 13 JUN-27 JUL 2000 (11 VISITS); 1 CHICK OBSERVED ON 22 JUL 2000, 1 YOUNG FLEDGED.	20023.11028	502.1337234	20101	201	3912232	Maxwell	COL	80
NO ACTIVE COLONIES NOTED DURING 1998-2003 SURVEYS. COLONY WITH 20 BURROWS FOUND 10 JUN 2004.	20023.32386	502.1364014	20101	201	3912231	Moulton Weir	COL	50
MVZ #18413.	8005919.433	10042.99253	20901	209	3912128	Meridian	SUT	0
0 BIRDS OBSERVED IN 2000. ABOUT 3,000 BIRDS OBSERVED ON 24 JUN 2011; BEHAVIOR REPORTED AS SINGING AND CARRYING NEST MATERIAL.	151370.342	1682.855937	20301	203	3912231	Moulton Weir	COL	60
PAIR OBSERVED IN 2003 DURING INCUBATION, CHICK-REARING, AND FLEDGING; ONE YOUNG CONFIRMED FLEDGED.	20023.32671	502.1364371	20101	201	3912231	Moulton Weir	COL	63
ONE ADULT COLLECTED BY J. RUNYAN IN APR 1983. CAS #178595. NOTED AS BEING FROM THE CALIFORNIA DEPT OF FISH AND GAME COLLECTION.	8042068.905	10052.96891	20901	209	3912118	Grimes	SUT	40
IN 2010, NE POLYGON HAD 2500+ PLANTS AND SW POLYGON HAD 5100+ PLANTS.	23962.39972	828.1908459	10201	102	3912213	Salt Canyon	COL	720
ONE FEMALE COLLECTED (ESSIG #EMEC61128) ON 3 MAY 1985; BEETLE FOUND ON A NEW GROWTH SHOOT; INITIALLY OBSERVED "RESTING." 3 OLD EXIT HOLES AND 0 NEW HOLES DETECTED DURING PREVIOUS WINTER SURVEYS.	281456.2677	1883.055127	20501	205	3912118	Grimes	COL	40
UNKNOWN NUMBER OF EXIT HOLES FOUND DURING NOV 2010-FEB 2011 SURVEYS. SURVEYS CONDUCTED BY GARCIA AND ASSOCIATES FOR PG&E.	20023.32386	502.1364014	20101	201	3912128	Meridian	COL	60
ONE ADULT OBSERVED IN NEST ON 27 MAY 2003. 2 PARTIALLY-FEATHERED YOUNG OBSERVED IN NEST ON 5 JUL 2003.	20023.32394	502.1364014	20101	201	3912118	Grimes	COL	30
ACTIVE NEST, INCUBATION OBSERVED 27 MAY & 12 JUN 2006; POSSIBLE CHICK SEEN ON 21 JUL.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	30
100'S OF PLANTS OBSERVED IN 1993, 400 IN 1995, 1200 IN 1997, 250 IN 1998, 1610 IN 2000, 390 IN 2001, 1460 IN 2002, 5190 IN 2003, 1000 IN 2004, 345 IN 2006, AND 2520 IN 2007.	20016.51735	502.1711306	10101	101	3912231	Moulton Weir	COL	50
NEST MONITORED 22 APR-11AUG 2006; FLEDGED 2.	70602.6002	942.2002625	20401	204	3912118	Grimes	COL	35
MAPPED AS PER CNPS.	281461.4662	1883.072261	10501	105	3912128	Meridian	COL	50
MAPPED AS PER CNPS.	281462.565	1883.075906	10501	105	3912128	Meridian	COL	50
NEST SITE FIRST OBSERVED IN 1985; INACTIVE AT THAT TIME. 1 ADULT AND 2 JUVENILES (4+ WEEKS OF AGE) OBSERVED AT THE NEST ON 24 APR 1986.	70602.60318	942.2002823	20401	204	3912223	Manor Slough	COL	600
213 BURROWS & 119 BREEDING PAIRS IN 1986. 170 BURROWS IN 1987. 85 BURROWS MAY 1991. 19 BURROWS IN 1993. NOT ACTIVE 9 JUN 1994. 21 BURROWS IN 1995. 10 BURROWS IN 1996. 142 BURROWS 9-11 JUN 2009.	141202.8717	1884.387795	20301	203	3912118	Grimes	COL	30
ACTIVE NEST FOUND ON 24 JUN 1979. 1 ADULT NESTING ON 25 MAY 1983. 1 ADULT NESTING ON 1 JUL 1986. 1 ADULT NESTING ON 1 JUN 1989. 1 FLEDGED IN 2003.	301548.9393	2385.626776	20301	203	3912118	Grimes	SUT	35
NESTING PAIR OBSERVED IN 1988; NEST SUCCESS UNKNOWN.	282659.366	1884.815631	20501	205	3812281	Wildwood School	COL	140
100 PLANTS ESTIMATED IN 1988.	24338.49689	667.6540403	10201	102	3912231	Moulton Weir	COL	60
2 NEST ATTEMPTS 2001; 1ST DESTROYED, 2ND FLEDGED 1. ACTIVE NESTS DESTROYED BY MAY STORMS 2002 & 2003. INCUBATION OBS BUT NO YOUNG OBS 2004; NEST FAILED. 1-2 NESTS WITH YOUNG OBS APR-MAY 2009, DEFENSIVE BEHAVIOR BUT NO YOUNG OBS JUL.	86418.23011	1583.633676	20201	202	3912232	Maxwell	COL	90
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL_COMM_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.	86547.73993	1404.944045	30201	302	3912118	Grimes	SUT	45
1 JUVENILE OBSERVED ON 16 SEP 2008 IN A NON-VEGETATED POOL (APPROX 3' X 10') IN AN AGRICULTURAL CANAL/DITCH APPROX 15' FROM MCDERMOTT RD. THIS DITCH IS ADJACENT TO RICE FIELDS.	20023.32468	502.1364117	20101	201	3912232	Maxwell	COL	120
UP TO 1500 PRESENT IN COLUSA AREA DURING THE WINTERS OF 1977 AND 1978. 1984: COLUSA PEAK FALL COUNT, 3000 BIRDS. 1985: ROOSTED AT BUTTE SINK WMA (THE BEAN PATCH) DURING 1985 AND1986. LAST SEEN IN COLUSA AREA ON 26 JAN 1987.	8042068.916	10052.96891	20901	209	3912128	Meridian	SUT	45
NO ACTIVE COLONIES NOTED DURING SURVEYS IN 1998-2003. 180 BURROWS ON THE LEFT BANK ON 10 JUN 2004. 100 BURROWS ON THE RIGHT BANK IN 2005. 91 BURROWS ON THE RIGHT BANK IN 2009.	158390.5866	1527.047252	20301	203	3912231	Moulton Weir	COL	50
260 BURROWS OBSERVED IN 1992. 870 BURROWS OBSERVED IN 1993. 40 BURROWS OBSERVED IN 1996. 190 BURROWS OBSERVED 9 JUN 1999. 190 BURROWS OBSERVED 11 JUN 2003.	39296.28325	742.8324366	20201	202	3912231	Moulton Weir	COL	50
0 OBSERVED IN 2000. APPROXIMATELY 500 BIRDS OBSERVED ON 15 APR 2011; BEHAVIOR DESCRIBED AS "CARRYING FOOD." FURTHER RESEARCH NEEDED TO DETERMINED COLONY NESTING STATUS. SMALL GROUPS OF MOSTLY FEMALE BIRDS OBSERVED IN FORAGING LINES.	20023.32386	502.1364014	20101	201	3912231	Moulton Weir	COL	65
3 PLANTS OBSERVED IN 2010.	2827.311346	188.4935836	10201	102	3912213	Salt Canyon	COL	675
PAIR OBSERVED NEST-BUILDING ON 6 APR 2002; ADULTS AND 2 BIG FEATHERED CHICKS OBSERVED ON 4 JUL 2002.	20023.32386	502.1364014	20101	201	3912118	Grimes	COL	35
FIRST FOUND ON 5 JUN 2000, WHEN MANY TADPOLES (ALSO WESTERN TOAD AND TREEFROGS) WERE CONCENTRATED IN A DRYING POOL; BY 8 JUN 2000, ALL THE TADPOLES WERE DEAD IN A DRY POOL.	20023.22655	502.1351813	20101	201	3812281	Wildwood School	COL	450
COLONY COMPOSED OF 6,000 NESTS OBS 10-17 MAY 1960. NESTING COLONY OF UNKNOWN SIZE OBS IN 1971. ~1,000 INDIVIDUALS OBS ON 21 APR 1972; NO APPARENT NESTING ACTIVITY NOTED. 150 OBS FORAGING ON 24 APR 1999. NONE OBS ON 15 APR 2011.	8042068.814	10052.96885	20901	209	3912128	Meridian	SUT	50
1986:10-1190. '87:35-1630. '90:360-1920. '91:520/2440. '92:160-3440. '93:250/1620. '96:10-1150. '97:10-620. '98:20-870. '99:30-1100. '00:260/810. '01:90-1270. '02:70-420. '03:50-1350. '04:60-400. '05:320-910. '07:100/290 '08:40-8 '09:41-269	1717553.028	12057.62332	20301	203	3912231	Moulton Weir	COL	60
ONE ADULT MALE FOUND DEAD (FOR SEVERAL DAYS) ALONG THE ROAD EDGE ON 6 JUL 2004.	20023.32386	502.1364014	20101	201	3912213	Salt Canyon	COL	250
VERY UNCOMMON AT SITE IN 2000. A FEW SCATTERED PLANTS OBSERVED IN 2002. ONLY SOURCES OF INFORMATION FOR THIS OCCURRENCE ARE A 2000 COLLECTION BY CASTRO & KUENSTER AND A 2002 COLLECTION BY JANEWAY. NEEDS FIELDWORK.	8042068.846	10052.96887	10901	109	3912233	Sites	COL	175
33 EXIT HOLES OBSERVED, 32 OLD AND 1 NEW; SURVEYED IN SPRING. NO ADULTS OBS								



APPROXIMATELY 2,500 NESTS OBSERVED ON 23 JUN 1932 (NEFF 1937). APPROXIMATELY 7,500 NESTS OBSERVED ON 6 JUN 1934 (NEFF 1937). 0 BIRDS OR NESTS OBSERVED ON 15 APR 2011.  
10,000+ PLANTS OBSERVED IN 2010.  
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 2009 GOWEN COLLECTION.  
TWO ADULTS WERE HEARD AND SEEN AT A NEST THAT APPEARED TO BE 1 OR 2 YEARS OLD ON 13 FEB 2014.  
1 FLEDGED IN 2000. ACTIVE NEST, INCUBATION OBSERVED BUT NO YOUNG SEEN IN 2003. ACTIVE NEST OBS, PRESUMED FAILED IN 2004. 1 FLEDGED IN 2006. YOUNG SEEN IN NEST ON 29 APR BUT NOT 26 JUN 2009; SUCCESS UNKNOWN.  
ANECDOTALLY REPORTED AS NESTING IN 1992, 1993, AND 1995. AN ESTIMATED 4,000 BIRDS OBSERVED ON 18 APR 1999. 500 OBSERVED ON 25 APR 1999. 500 WERE PRESUMED TO BE INCUBATING ON 27 APR 1999. 0 BIRDS OBSERVED ON 18 APR 2014.  
MVZ #43248; COLLECTED 4 OCTOBER 1929.  
1 FEMALE CAPTURED BY HAND/NET ON 20 JUN 2005; SNAKE WAS WEIGHED, MEASURED, PIT TAGGED, AND RELEASED.  
5 ADULTS AND 1 JUVENILE OBSERVED 20 JUN 2003 AND THROUGHOUT COURSE OF PROJECT. AFTER THE RICE FIELDS WERE FLOODED, IBIS WERE SEEN OVER A BROADER RANGE BUT THE INDICATED AREA REMAINED A FOCAL POINT OF THEIR ACTIVITY.  
FOUND IN POOL ON 11 MAR 1994.  
ACTIVE NEST, INCUBATION OBSERVED 9 JUN TO 7 JUL 2003; NO SWHA SEEN ON RETURN VISIT 17 JUL.  
MAIN SOURCES OF INFORMATION FOR THIS OCCURRENCE ARE 2 CASTRO COLLECTIONS FROM 2011. "VERY FEW PLANTS SEEN" IN 2011. A 2000 CASTRO COLLECTION FROM "VICINITY OF MAXWELL, FUNKS CREEK, AND THE GLENN-COLUSA CANAL" ALSO ATTRIBUTED HERE.  
ADULT OBSERVED DEFENDING NEST ON 8 AUG 2000. NEST ABANDONED/NO YOUNG OBS IN 2001. 2 YOUNG PRODUCED IN 2002; 1 FOUND DOR, 1 FLEDGED. 2 FLEDGED IN 2003. ACTIVE NEST, 1 SUSPECTED FLEDGLING IN 2006. NEST WITH YOUNG OBS ON 25 JUN 2009.  
1 LARGE PLANT SEEN IN 1977.  
NONE DETECTED DURING ANNUAL SURVEYS 1987-1990. 1 SEEN & HEARD (COOING) ON 15 JUL 2010. 1 SEEN & HEARD (CONTACT CALL) ON 29 JUL 2010. 1 SEEN FORAGING & HEARD, WITH POSSIBLE 2ND BIRD RESPONDING DURING PLAYBACK SURVEY 6 AUG 2012.  
2 PLANTS SEEN IN 1977.  
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.  
NEST MONITORED 25 APR-1 AUG 2002; YOUNG STILL ON NEST ON 1 AUG, BUT READY TO FLEDGE. NEST WITH YOUNG (EGGS?) OBSERVED ON 31 MAR 2009; NEST SUCCESS UNKNOWN.  
25 PLANTS OBSERVED IN 1993. PARCEL MAY BE EXCHANGED PENDING REVIEW OF THE RESOURCE VALUES.  
MVZ #12969.  
NOW OWL OBSERVED, BUT 3 CASTINGS AND SOME DROPPINGS WERE FOUND; SIGN APPEARED RECENT, BUT NOT FRESH.  
COLLECTED ON 16 MAY 1998. 1 FOUND & PHOTOGRAPHED ON 11 MAR 2016. 1 PHOTOGRAPHED ON 2 FEB 2017, 2 ON 5 FEB 2017, AND A SINGLE MALE & A PAIR IN AMPLEXUS ON 4 MAR 2017. A SMALL NEARBY POOL CONTAINED EGGS, PRESUMABLY SPADEFOOT, BUT UNCONFIRMED.  
1 SUBADULT FOUND DEAD ON ROAD ON 7 OCT 2011; APPARENTLY KILLED BY A MOTOR VEHICLE WHILE CROSSING ROAD. SNAKE WAS ABOUT 14 INCHES LONG AND FRESHLY KILLED.  
SITE BASED ON SEVERAL VAGUE COLLECTIONS FROM 1938. INCLUDES FORMER OCCURRENCES #8 AND #9. NEEDS FIELDWORK.  
ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1938 COLLECTION BY HOOVER.  
NEST MONITORED APR-AUG 2006; FLEDGED 1. NEST WITH 1 YOUNG OBSERVED DURING 2007 SURVEY.  
ACTIVE NEST MONITORED JUN-JUL 2000; NO CHICKS OBSERVED/FLEDGED. ACTIVE NEST OBS IN 2001; SUCCESS UNKNOWN. 2 FLEDGED IN 2002. 2 NEST ATTEMPTS IN 2003, 1ST PREDATED BY CORVIDS; SUCCESS OF 2ND NEST UNKNOWN. NEST FLEDGED 2 IN 2004.  
1 FEMALE CAPTURED ON 15 SEP 2011 USING FLOATING TRAPS; SNAKE WAS WEIGHED (300G), MEASURED (800MM SVL), PIT TAGGED, AND RELEASED.  
1986: ABOUT 106 BURROWS & 59 PAIRS. 1987: INACTIVE. 1988: 210 BURROWS. 1989: 200 BURROWS. 1990: INACTIVE. 1992: 90 BURROWS. 1993: 100 BURROWS. 1996: 120 BURROWS. 2002: 100 BURROWS. 2003: 50 BURROWS. 2007: 10 BURROWS. 2009: 103 BURROWS.  
ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1962 COLLECTION BY SHERFEE. NEEDS FIELDWORK.  
65 ADULTS OBSERVED ON 26 DEC 2000. THIS WAS THE HIGH COUNT FOR THIS LOCATION DURING THE 2000/2001 WINTER.  
ACTIVE NEST OBSERVED 17 MAY 2003, NO YOUNG SEEN.  
ARTIFICIAL POOLS SUPPORT TADPOLES THROUGH MUCH OF THE SUMMER. 100+ TADPOLES OBSERVED DURING SURVEYS CONDUCTED DURING APRIL-JUNE, 1985-90.  
1 ADULTS (~18" IN LENGTH) WAS OBSERVED ON 13 MAY 2003.  
CAS, NO ACCESSION NUMBER GIVEN. COLLECTED 9 MAY 1990.  
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.  
100+ TADPOLES OBSERVED DURING SURVEYS CONDUCTED APRIL-JUNE, 1985-1990.  
2 ADULTS & NEST OBSERVED IN COTTONWOOD SNAG DURING SURVEY ON 10 JUN 2004.  
SEE WWW.DFG.CA.GOV/BIOGEODATA/VEGCAMP/NATURAL\_COMM\_BACKGROUND.ASP TO INTERPRET AND ADDRESS THE PRESENCE OF RARE COMMUNITIES.  
MORE THAN 100 PLANTS ON HIGHWAY ROW UP TO FENCE IN 1986. ~200 PLANTS OBSERVED IN SPRING OF 1988; ALL BUT 30-40 PLANTS REMOVED BY COLLECTORS LATER THAT SPRING. ~125 PLANTS OBSERVED IN 2005, ~400 IN 2020.  
ONE CTS LARVA (~3" IN LENGTH) CAPTURED ON 16 APR 2005; PRESENCE/ABSENCE SURVEY ONLY.  
ONE POSSIBLY NESTING BIRD OBSERVED BY LAYMON IN JULY 1977. 1 PAIR DETECTED IN 1988. AN ADDITIONAL 2 UNMATED BIRDS DETECTED DURING YEARLY SURVEYS 1987-1990. 1 BIRD SEEN AND HEARD (COOING, CONTACT CALLS) ON 24 JUL 2012.  
AN ESTIMATED 800 BIRDS OBSERVED IN 1992; NESTING UNKNOWN. ANECDOTALLY REPORTED AS NESTING IN 1996. AN ESTIMATED 2,000 OBSERVED ON 28 APR 1997; NON-NESTING. 0 BIRDS OBSERVED ON 24 APR 2000; ENTIRE REFUGE SURVEYED.  
POPULATION NUMBERS FOR PORTIONS OF SITE: LARGE POPULATION SEEN IN THIS AREA IN 1977, THOUSANDS OF PLANTS IN 1988, SEEN IN 2000, DOZENS IN 2001, SEEN IN 2002, 2030 PLANTS IN 2005, SEEN IN 2019. INCLUDES FORMER EO#22.  
MORE THAN 5000 PLANTS OBSERVED IN 2007. ~4000 PLANTS OBSERVED IN NORTHERN COLONY AND ~2000 PLANTS OBSERVED IN SOUTHERN COLONY IN 2008. HUNDREDS OF PLANTS OBSERVED IN 2016. 50 PLANTS OBSERVED IN 2019.  
COLONY OF 362 BURROWS AT RIVER MILE 159.3 IN 1986. NESTING COLONY OF 142 BURROWS IN TWO CONCENTRATIONS, AT RM 159.1 & 159.6 IN 1987; LOW OCCUPANCY. INACTIVE 28-31 MAY 1991. 170 BURROWS IN 1993. 20 BURROWS IN 1997. 100 BURROWS IN 2004.  
ONLY SOURCE OF INFORMATION FOR THIS SITE IS AN UNDATED STINCHFIELD COLLECTION. NEEDS FIELDWORK.  
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1917 FERRIS COLLECTION. IN 2002 NO NATURAL HABITAT OBSERVED IN VICINITY. SEMI-NATURAL HABITAT NEARBY, BUT NO PLANTS OBSERVED. PROBABLY EXTIRPATED.  
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1917 FERRIS COLLECTION. NEEDS FIELDWORK. SPECIMEN ANNOTATED TO L. GLABRATA COULTERI BY ORNDUFF IN 1961. RESERVATIONS ABOUT SSP., POSSIBLY A HYBRID.  
THREE NORTHERNMOST POLYGONS HAD 125 PLANTS IN 2005. THE TWO SOUTHERNMOST POLYGONS HAD 204 PLANTS IN 2008.  
1 JUVENILE OBSERVED ON 2 SEP 2008 IN VEGETATION WITHIN A SMALL ROADSIDE DITCH (4' X 10'), SNAKE HAD A LIVE FISH IN ITS MOUTH. 1 JUVENILE OBSERVED ON 2 OCT 2008 IN A NON-VEGETATED POOL (APPROX 3' X 10') IN AN AGRICULTURAL CANAL/DITCH.  
3900+ PLANTS OBSERVED IN 2008. HUNDREDS OF THOUSANDS TO MILLIONS OF PLANTS OBSERVED IN THIS AREA IN 2015. 100+ PLANTS IN A PORTION OF SITE IN 2017. INCLUDES FORMER OCCURRENCES #37, 38 & 41.  
26 PLANTS OBSERVED IN NORTHERN COLONY IN 2005. ~2200 PLANTS OBSERVED IN THE TWO SOUTHERN COLONIES IN 2008. 2007 HARTWELL PHOTOS FROM "OFF SOUTH SIDE OF HIGHWAY NEAR BEAR CREEK" ATTRIBUTED HERE; 100S OF PLANTS OBSERVED.  
<10 PLANTS OBSERVED IN 2008.  
1 ADULT OBSERVED AND PHOTOGRAPHED ON 5 MAY 2001.  
FORAGING SWHA, 1 YOUNG PERCHED NEAR NEST OBSERVED ON 23 JUL 2001. PROPERTY OWNER REPORTED THAT NEST FLEDGED 2 THAT SEASON.  
300 PLANTS OBSERVED IN 1993. RESTRICTIONS ON ACCESS APPEAR TO PROTECT THIS SITE. THIS 160-ACRE PARCEL MAY BE EXCHANGED INTO PRIVATE OWNERSHIP PENDING A REVIEW OF THE RESOURCE VALUES FOUND HERE.  
A COLLECTION WAS MADE ON 15 JUL 1958 AND HOUSED AT CSU, SACRAMENTO. COLLECTED ON 10 JUN 1997 AND 20 MAR 1998.  
THOUSANDS OF PLANTS OBSERVED IN 2007.  
NESTING PAIR, WITH 2 YOUNG CLOSE TO FLEDGING OBSERVED ON 28 JUN 1994.  
"NUMEROUS INDIVIDUALS" PRESENT IN 2007; EXACT COUNT NOT MADE.  
3000 PLANTS OBSERVED IN 2008. SEVERAL THOUSAND PLANTS OBSERVED IN BLOOM IN 2015.  
ONE CTS LARVA (~4.5" IN LENGTH) CAPTURED ON 16 APR 2005; PRESENCE/ABSENCE SURVEY ONLY.  
NEST MONITORED 25 MAR-23 JUL 2001; 1 FLEDGED. NEST MONITORED 11 APR-21 JUL 2002; 1 FLEDGED. NEST SITE MONITORED 15 MAR-17 JUN 2004; POSSIBLE NEST AT 2/3 HEIGHT OF THE NEST TREE, BUT STATUS UNCLEAR IN 2004.  
POPULATION NUMBERS BY POLYGON IN 2008 GOING FROM EAST TO WEST: 1000, 100, AND 100 PLANTS. THERE WERE LIKELY MORE PLANTS IN THIS AREA THAN MAPPED.  
1 ADULT FOUND DEAD ON ROAD ON 25 FEB 2019.  
3 LARVAE OBSERVED ON 5 AUG 2000.  
OCCURRENCE BASED ON AN UNDATED OBSERVATION AND A 2002 CALPHOTOS IMAGE BY T. LOWREY. 1930 CLEMENT COLLECTION AND 1932 STORER COLLECTION FROM CAPAY VALLEY ARE ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.  
POPULATION NUMBERS FOR PORTIONS OF SITE: ~50 PLANTS OBSERVED IN 2007, ~220 PLANTS OBSERVED IN 2008, ~100 PLANTS OBSERVED IN 2009, 5550+ PLANTS OBSERVED IN 2017. INCLUDES FORMER EO #107.  
50 PLANTS SEEN IN 2005. A 1958 CHISAKI & NEWCOMB COLLECTION FROM "ON ROAD TO LODOGA 0.7 MI NW OF JUNCTION WITH HWY 20" IS ALSO ATTRIBUTED TO THIS SITE.  
4 ADULTS AND 5 JUVENILES OBSERVED SHELTERING OR CROSSING ROAD BETWEEN 7 JAN AND 15 NOV 2017.  
1 PLANT OBSERVED IN 2007.  
UCD RECORD FROM 1/23/27 & UCD #3061 FROM 2/23/27. JENNINGS CONSIDERS THIS SITE EXTIRPATED.  
ONE DROPPING OBSERVED AND ONE OWL FLUSHED IN THE BURROW COMPLEX ON 5 MAR 1992. ACTIVE DURING SPRING 2001.  
ACTIVE COLONY WITH 370 BURROWS OBSERVED 17 JUN 1998.  
37 ADULTS AND 2 JUVENILES OBSERVED BASKING ON ROCKS AND LOGS DURING A KAYAK SURVEY ON 8 AUG 2005. 28 ADULTS OBSERVED DURING KAYAK SURVEY IN 2008. 10 ADULTS OBSERVED ON 6 APR 2016.  
1 ADULT CTS AND 25+ LARVAE OBSERVED DURING APRIL/MAY SURVEYS FROM 1985-90.  
1 SPECIMEN DEPOSITED AT UC DAVIS BOHART MUSEUM OF ENTOMOLOGY.  
UNKNOWN NUMBER OF PLANTS OBSERVED IN 2008.  
SEVERAL EXIT HOLES OBSERVED IN ISOLATED CLUMPS OF ELDERBERRY. BOTH LIVE AND DEAD WOOD SAMPLES COLLECTED, CONTAINING VELB GALLERIES.  
2 ADULTS OBSERVED NESTING ON 24 MAY 2001. NESTING MONITORED FROM NEST REFURBISHMENT THROUGH FLEDGING OF YOUNG IN 2003; 3 YOUNG FLEDGED. ADULT & NEST OBSERVED IN COTTONWOOD SNAG ON 10 JUN 2004.  
MORE THAN 500 PLANTS OBSERVED IN 2008. VERY SPARSE AND SPREAD OUT POPULATION, UNLIKE THE ONES CLOSER TO BEAR CREEK. THE RARE ASTRAGALUS RATTANII JEPSONIANUS AND LOMATIUM HOOVERI ALSO OCCUR HERE.  
APPROXIMATELY 60 PLANTS OBSERVED IN 2008 IN NW-MOST POLYGON. UNKNOWN NUMBER OF PLANTS OBSERVED IN 2008 IN SE-MOST POLYGON.  
ACTIVE NEST OBSERVED IN MAY 2001; SUCCESS UNKNOWN. 200 OBSERVATIONS SUGGESTED NORMAL INCUBATION, THEN HATCHING; FOOD DELIVERY TO NEST SUGGESTED THE PRESENCE OF AT LEAST ONE CHICK.  
POPULATION NUMBERS IN 2007: EAST-MOST POLYGON HAD 200 TO 500 PLANTS, THREE NW POLYGONS IN CRAIG CANYON HAD >600 PLANTS, AND THE THREE SW POLYGONS SOUTH OF CRAIG CANYON HAD ~800 PLANTS.  
~50 PLANTS OBSERVED IN 2007.  
2 PLANTS OBSERVED IN 2007. SITE WALKED BY CRAIG THOMSEN AGAIN IN APRIL OF 2008 AND MORE INDIVIDUALS WERE FOUND.  
1 PLANT OBSERVED IN 2007.  
31 MAR 1990: CAS #176491, LARVA. SHAFFER SITE #1 COLLECTIONS FROM 19 FEB & 31 MAR 1990.

8042068.814	10052.96885	20901	209	3912231	Moulton Weir	COL	65
26384.79925	700.9262411	10201	102	3912213	Salt Canyon	COL	910
150095.2082	2127.519666	10301	103	3912213	Salt Canyon	COL	1200
70603.48189	942.2201135	20401	204	3912231	Moulton Weir	COL	55
20023.14235	502.1341256	20101	201	3912232	Maxwell	COL	100
1130970.876	3769.909958	20601	206	3912233	Sites	COL	312
8007154.054	10043.76555	20901	209	3912233	Sites	COL	0
20023.32438	502.1364014	20101	201	3912231	Moulton Weir	COL	65
70602.60048	942.2002635	20401	204	3912232	Maxwell	COL	75
20023.32388	502.1364014	20101	201	3912231	Moulton Weir	COL	60
20023.32412	502.1364014	20101	201	3912231	Moulton Weir	COL	60
161227.892	1606.383189	10301	103	3912233	Sites	COL	162
61821.74858	1023.907599	20201	202	3912232	Maxwell	COL	100
281457.6108	1883.059395	10501	105	3912128	Meridian	SUT	60
233136.4253	2497.127471	20301	203	3912231	Moulton Weir	COL	70
281457.0186	1883.057437	10501	105	3912128	Meridian	SUT	55
72289.23516	1529.792316	30201	302	3912231	Moulton Weir	COL	55
32795.89561	661.541736	20201	202	3812188	Dunnigan	COL	30
281492.7232	1883.177316	10501	105	3812283	Glascok Mtn.	COL	900
8007208.059	10043.79942	20901	209	3912233	Sites	COL	0
20017.63896	502.1851796	20101	201	3912233	Sites	COL	160
37408.39042	719.0212736	20201	202	3812281	Wildwood School	YOL	204
20023.32386	502.1364014	20101	201	3912232	Maxwell	COL	105
604230.3977	7570.275582	10302	803	3812283	Glascok Mtn.	YOL	1200
604230.3977	7570.275582	10302	803	3812283	Glascok Mtn.	YOL	0
20023.32386	502.1364014	20101	201	3812188	Dunnigan	YOL	125
64549.74587	1309.864452	20201	202	3912232	Maxwell	COL	85
8042068.814	10052.96885	20901	209	3812188	Dunnigan	COL	40
439035.4489	3399.293393	20301	203	3912231	Moulton Weir	COL	60
317111.428	4029.393811	10301	103	3812283	Glascok Mtn.	COL	1351
158799.6608	1594.225081	20301	203	3812188	Dunnigan	COL	85
20023.32437	502.1364014	20101	201	3912231	Moulton Weir	COL	70
20105.13332	502.6480451	20101	201	3812281	Wildwood School	YOL	200
20023.32386	502.1364014	20101	201	3912232	Maxwell	COL	92
70602.53151	942.1998043	20401	204	3812281	Wildwood School	YOL	150
249211.6483	2749.322256	30201	302	3912231	Moulton Weir	COL	70
20105.12488	502.6479395	20101	201	3812281	Wildwood School	YOL	200
70605.85952	942.230329	20401	204	3912231	Moulton Weir	COL	70
507225.5773	5245.521512	30201	302	3912231	Moulton Weir	COL	70
3211.454238	201.5488535	10201	102	3912213	Salt Canyon	COL	1080
20023.32648	502.1364343	20101	201	3812281	Wildwood School	YOL	205
141279.4176	1884.652911	20301	203	3912231	Moulton Weir	COL	60
1130970.826	3769.909063	20601	206	3912232	Maxwell	COL	72
109804.7113	2832.29182	10201	102	3912213	Salt Canyon	COL	1100
41701.4517	1106.686087	10201	102	3912213	Salt Canyon	COL	1085
231253.8318	2012.243612	20301	203	3912231	Moulton Weir	COL	60
8006241.725	10043.19738	10903	809	3812188	Dunnigan	YOL	0
8006241.725	10043.19738	10903	809	3812188	Dunnigan	YOL	120
8006241.725	10043.19738	10903	809	3812188	Dunnigan	YOL	0
16773.20936	1033.064499	10201	102	3912213	Salt Canyon	COL	1050
20023.33115	502.1364929	20101	201	3912232	Maxwell	COL	100
51724.27369	2957.127137	10201	102	3812283	Glascok Mtn.	COL	1300
18891.42099	862.37033	10201	102	3912213	Salt Canyon	COL	1085
2825.572799	188.464728	10201	102	3812283	Glascok Mtn.	COL	1024
20022.76736	502.1294235	20101	201	3812188	Dunnigan	COL	24
20023.32386	502.1364014	20101	201	3812188	Dunnigan	COL	45
176736.7995	1681.786768	10301	103	3912213	Salt Canyon	COL	1600
148628.1473	2074.440639	20201	202	3812283	Glascok Mtn.	COL	950
2825.573021	188.4647352	10201	102	3812283	Glascok Mtn.	COL	1025
1130890.888	3769.842466	20601	206	3812188	Dunnigan	COL	30
2825.573526	188.4647511	10201	102	3912213	Salt Canyon	COL	1115
24836.37361	624.8205833	10201	102	3812283	Glascok Mtn.	COL	1055
20023.32683	502.1364386	20101	201	3812281	Wildwood School	YOL	190
20022.98573	502.1321615	20101	201	3812188	Dunnigan	YOL	80
12007.95676	673.5319267	10201	102	3812283	Glascok Mtn.	COL	1200
20105.86009	502.6527539	20101	201	3812281	Wildwood School	YOL	269
20023.32238	502.1363828	20101	201	3812283	Glascok Mtn.	COL	1000
281494.0658	1883.181853	10501	105	3812282	Rumsey	YOL	600
64809.80519	2763.618629	10201	102	3812283	Glascok Mtn.	COL	1300
20023.14837	502.1342328	10101	101	3912213	Salt Canyon	COL	1120
27737.03022	596.0687281	20201	202	3812281	Wildwood School	YOL	263
2825.572468	188.464719	10201	102	3812283	Glascok Mtn.	COL	1000
8006268.689	10043.21437	20901	209	3812188	Dunnigan	YOL	100
20017.62732	502.1850195	20101	201	3912233	Sites	COL	140
282659.3649	1884.815631	20501	205	3912231	Moulton Weir	COL	60
1403220.098	18278.25477	20301	203	3812283	Glascok Mtn.	YOL	541
70682.11393	942.4651149	20401	204	3812281	Wildwood School	YOL	240
1435378.808	16950.72986	20301	203	3812283	Glascok Mtn.	YOL	530
2825.573611	188.4647532	10201	102	3912213	Salt Canyon	COL	1275
20017.32129	502.1813925	20101	201	3812283	Glascok Mtn.	YOL	520
59983.38837	995.0357424	20301	203	3912231	Moulton Weir	COL	75
29446.34818	714.9917284	10201	102	3812283	Glascok Mtn.	COL	1740
5651.114202	376.9285664	10201	102	3812283	Glascok Mtn.	COL	1700
282659.3659	1884.815631	20501	205	3912231	Moulton Weir	COL	65
19779.47771	1319.285962	10201	102	3812283	Glascok Mtn.	COL	1

1 SPECIMEN COLLECTED ON 1 DEC 1946 BY S. BENSON AND M. RAMAGE (MVZ #106196), FOUND CLINGING TO A WALL OF A STONE BATH HOUSE.  
UNKNOWN NUMBER OF PLANTS OBSERVED IN 2007.  
A COLLECTION WAS MADE HERE ON 25 MAR 1955 AND HOUSED AS CSU, SACRAMENTO.  
2 CAPTURED, 1 SIGHTING, 1 MORTALITY DURING 2015 STUDY.  
ACTIVE COLONY WITH 130 BURROWS OBSERVED 17 JUN 1998.  
15 JUVENILES OBSERVED ON 9 APR 2017.  
1 ADULT FOUND DEAD ON ROAD ON 25 FEB 2019.  
TWO LARGE, TREE-LIKE ELDERBERRIES WITH NUMEROUS OLD AND POSSIBLY RECENT EXIT HOLES OBSERVED.  
IN 2007 NE POLYGON HAD 70 PLANTS AND SW POLYGON HAD 10 PLANTS.  
2007: ~30 PLANTS SEEN IN EASTERNMOST POLYGON. 2008: ~40 REPORTED ON SURVEY FORM IN SECOND EASTERNMOST POLYGON, BUT DIGITAL DATA REPORTS 200 SEEN HERE ON SAME DATE. 2009: 1000 IN N POLYGON AND 10,500 IN TWO SW POLYGONS. INCL FORMER EO #107.  
2 ADULTS OBSERVED AT THE BURROW SITE ON 10 MAY 2001.  
UNKNOWN NUMBER OF PLANTS OBSERVED IN 2007.  
MANY METAMORPHOSED JUVENILES OBSERVED ON 22 APR 2013. 3 ADULTS OBSERVED ON 27 NOV 2013.  
A COLLECTION WAS MADE HERE ON 25 MAR 1955 AND HOUSED AS CSU, SACRAMENTO.  
1 ADULT OBSERVED BASKING ON ROCK IN CREEK ON 6 APR 2016.  
ABOUT 300 PLANTS OBSERVED IN 2009.  
ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1958 CRAMPTON COLLECTION. NEEDS FIELDWORK.  
APPROXIMATELY 10 PLANTS OBSERVED IN 2009. COLLECTION LABEL NOTES THAT THIS SPECIMEN WAS "GROWING IN VERY DIFFERENT SOIL THAN VAR. JEPSONIANUS BUT FLOWER MEASUREMENTS ARE TOO SMALL TO BE VAR. RATTANII".  
2 ADULTS AND 1 JUVENILE OBSERVED IN BEAR CREEK ON 10 JUN 1997. 1 JUVENILE FROG COLLECTED FROM THE OXBOW ADJACENT TO CACHE CREEK ON 20 JUN 1997. 2 ADULTS OBSERVED ON 24 JUN AND 8 JUL 1997.  
UNKNOWN NUMBER OBSERVED IN 2009. COROLLA WITH 2 CLEAR RED LINES ON LOWER LIP AND STAMENS INSERTED AT 2 LEVELS.  
ONLY SOURCES OF INFORMATION FOR THIS OCCURRENCE ARE THREE 2003 COLLECTIONS BY CASTRO & HENDRICKSON. FOUR COLONIES OBSERVED IN 2003. TWO OF THESE HAD 3-12 PLANTS EACH. 50-100 AND 200 PLANTS OBSERVED IN EACH OF THE OTHER COLONIES.  
4 ADULTS, 13 SUBADULTS, AND 250 LARVAE FOUND ON 5 AUG 2000. 2 ADULTS OBSERVED ON 27 MAR 2014. 1 SUBADULT FOUND ON 13 JUL 2015.  
DEFENSIVE BEHAVIOR, NEST-BUILDING OBSERVED ON 4 JUN 2001, NEST SUCCESS UNKNOWN.  
1 FEMALE CAPTURED IN A TRAP ON 14 JUL 2004 WAS A RECAPTURE PIT TAGGED 12 SEP 2003 ABOUT 4.5 MILES SE. 2 FEMALES CAPTURED IN A TRAP ON 15 JUL 2004 WERE WEIGHED, MEASURED, PIT TAGGED & RELEASED.  
AN ESTIMATED SEVERAL HUNDRED PLANTS SPREAD OVER A FAIRLY LARGE AREA IN 2015. NEEDS FIELDWORK TO DETERMINE EXTENT OF POPULATION.  
2 FROGS PHOTOGRAPHED AND MORE OBSERVED ON 12 FEB 2016.  
1 SNAKE SIGHTED ON 19 JUL 2004.

1130890.517	3769.843571	20601	206	3812283	Glascokc Mtn.	YOL	610
2825.571859	188.464698	10201	102	3812283	Glascokc Mtn.	COL	1178
282743.9469	1885.007112	20501	205	3812283	Glascokc Mtn.	YOL	533
60218.5251	1446.482023	20201	202	3812188	Dunnigan	COL	22
282657.9851	1884.812003	20501	205	3912231	Moulton Weir	COL	60
20105.83831	502.6524815	20101	201	3812283	Glascokc Mtn.	COL	900
20105.86009	502.6527539	20101	201	3812281	Wildwood School	YOL	298
20017.39996	502.1823842	20101	201	3812282	Rumsey	YOL	440
5651.448738	376.9532605	10201	102	3812283	Glascokc Mtn.	COL	1200
39250.58007	1610.735346	10201	102	3812283	Glascokc Mtn.	COL	1550
20023.23874	502.1353343	20101	201	3912233	Sites	COL	190
2825.74997	188.5221622	10201	102	3812283	Glascokc Mtn.	COL	1250
20105.86032	502.6527567	20101	201	3812283	Glascokc Mtn.	COL	900
282742.3863	1884.966235	20501	205	3812283	Glascokc Mtn.	YOL	600
20105.87688	502.6529638	20101	201	3812283	Glascokc Mtn.	COL	755
2825.573396	188.4647557	10201	102	3812283	Glascokc Mtn.	COL	820
279714.2138	3747.417963	10301	103	3812283	Glascokc Mtn.	COL	600
2825.572128	188.4647154	10201	102	3812283	Glascokc Mtn.	COL	714
232402.0609	3033.427803	20201	202	3812283	Glascokc Mtn.	COL	650
2825.430984	188.4846176	10201	102	3812283	Glascokc Mtn.	COL	1210
8042068.949	10052.96893	10901	109	3912233	Sites	COL	900
90558.0373	1383.371497	20201	202	3812283	Glascokc Mtn.	YOL	636
20023.32386	502.1364014	20101	201	3812188	Dunnigan	YOL	40
59008.50005	989.5592157	20201	202	3812188	Dunnigan	YOL	25
20023.3257	502.1364279	10101	101	3812283	Glascokc Mtn.	YOL	680
20105.88007	502.6530037	20101	201	3812283	Glascokc Mtn.	YOL	977
20023.32514	502.1364174	20101	201	3812188	Dunnigan	YOL	25



Latitude	Longitude	UTM	PLSS	Last Update	UTMZone	UTME	UTMN
39.10826	-122.11537	Zone-10 N4329163 E576484	T15N, R02W, Sec. 32 (M)	20130313	10	576484	4329163
39.11644	-122.12187	Zone-10 N4330065 E575914	T15N, R02W, Sec. 30, SE (M)	20130502	10	575914	4330065
39.12272	-122.12628	Zone-10 N4330759 E575525	T15N, R02W, Sec. 30, SW (M)	20130219	10	575525	4330759
39.14179	-122.13642	Zone-10 N4332866 E574630	T15N, R03W, Sec. 24, NE (M)	20161214	10	574630	4332866
39.14263	-122.13809	Zone-10 N4332958 E574484	T15N, R03W, Sec. 24, NE (M)	20130225	10	574484	4332958
39.09722	-122.1101	Zone-10 N4327942 E576953	T14N, R02W, Sec. 5, NW (M)	20160819	10	576953	4327942
39.17454	-122.16088	Zone-10 N4336481 E572482	T15N, R03W, Sec. 11 (M)	20050107	10	572482	4336481
39.09238	-122.08747	Zone-10 N4327424 E578915	T14N, R02W, Sec. 04 (M)	19910725	10	578915	4327424
39.14064	-122.12631	Zone-10 N4332747 E575504	T15N, R02W, Sec. 19, NW (M)	20130220	10	575504	4332747
39.14589	-122.17049	Zone-10 N4333294 E571680	T15N, R03W, Sec. 15 (M)	20150729	10	571680	4333294
39.16479	-122.15403	Zone-10 N4335405 E573083	T15N, R03W, Sec. 11, S (M)	20130610	10	573083	4335405
39.16099	-122.16109	Zone-10 N4334977 E572477	T15N, R03W, Sec. 11, S (M)	20141120	10	572477	4334977
39.16127	-122.13304	Zone-10 N4335031 E574901	T15N, R03W, Sec. 12, SE (M)	20050627	10	574901	4335031
39.16885	-122.15671	Zone-10 N4335853 E572847	T15N, R03W, Sec. 11, NE (M)	20060511	10	572847	4335853
39.16753	-122.13257	Zone-10 N4335726 E574935	T15N, R02W, Sec. 07 (M)	20150630	10	574935	4335726
39.17269	-122.15506	Zone-10 N4336280 E572986	T15N, R03W, Sec. 11, NE (M)	20130220	10	572986	4336280
39.17716	-122.16183	Zone-10 N4336771 E572398	T15N, R03W, Sec. 02, SW (M)	20060503	10	572398	4336771
39.18339	-122.13249	Zone-10 N4337486 E574925	T15N, R02W, Sec. 06 (M)	20161011	10	574925	4337486
39.10736	-122.15156	Zone-10 N4329033 E573356	T15N, R03W, Sec. 36, SW (M)	20130220	10	573356	4329033
39.17452	-122.10816	Zone-10 N4336523 E577037	T15N, R02W, Sec. 8, N (M)	20161219	10	577037	4336523
39.15467	-122.07384	Zone-10 N4334350 E580023	T15N, R02W, Sec. 15 (M)	20061213	10	580023	4334350
39.18409	-122.08989	Zone-10 N4337600 E578603	T15N, R02W, Sec. 04 (M)	20150629	10	578603	4337600
39.05679	-122.07889	Zone-10 N4323482 E579696	T14N, R02W, Sec. 22 (M)	20140822	10	579696	4323482
39.20296	-122.17653	Zone-10 N4339623 E571101	T16N, R03W, Sec. 34 (M)	20131202	10	571101	4339623
39.17939	-122.09701	Zone-10 N4337072 E577994	T15N, R02W, Sec. 5, SE (M)	20161219	10	577994	4337072
39.12175	-122.04239	Zone-10 N4330724 E582779	T15N, R02W, Sec. 26 (M)	20110602	10	582779	4330724
39.19558	-122.08502	Zone-10 N4338879 E579011	T16N, R02W, Sec. 33 (M)	20110222	10	579011	4338879
39.19558	-122.08502	Zone-10 N4338879 E579011	T16N, R02W, Sec. 33 (M)	20101220	10	579011	4338879
39.1219	-122.05033	Zone-10 N4330734 E582092	T15N, R02W, Sec. 26, S (M)	20140911	10	582092	4330734
39.13138	-122.05809	Zone-10 N4331778 E581411	T15N, R02W, Sec. 23, SW (M)	20180427	10	581411	4331778
39.12655	-122.04711	Zone-10 N4331252 E582365	T15N, R02W, Sec. 26, NE (M)	20161101	10	582365	4331252
39.18695	-122.09679	Zone-10 N4337911 E578005	T15N, R02W, Sec. 5, NE (M)	20161219	10	578005	4337911
39.13717	-122.05492	Zone-10 N4332423 E581678	T15N, R02W, Sec. 23 (M)	20161228	10	581678	4332423
39.1297	-122.04028	Zone-10 N4331608 E582952	T15N, R02W, Sec. 25, NW (M)	20180426	10	582952	4331608
39.12583	-122.04465	Zone-10 N4331175 E582579	T15N, R02W, Sec. 26, NE (M)	20021014	10	582579	4331175
39.12407	-122.04356	Zone-10 N4330981 E582675	T15N, R02W, Sec. 26, NE (M)	20110601	10	582675	4330981
39.12407	-122.04356	Zone-10 N4330981 E582675	T15N, R02W, Sec. 26, NE (M)	20160114	10	582675	4330981
39.15258	-122.21688	Zone-10 N4334001 E567666	T15N, R03W, Sec. 17 (M)	19950726	10	567666	4334001
39.09019	-122.04113	Zone-10 N4327223 E582924	T14N, R02W, Sec. 01, SW (M)	20130312	10	582924	4327223
39.21622	-122.11494	Zone-10 N4341144 E576406	T16N, R02W, Sec. 29, NW (M)	20161228	10	576406	4341144
39.14489	-122.05969	Zone-10 N4333276 E581257	T15N, R02W, Sec. 22, NE (M)	20140911	10	581257	4333276
39.21689	-122.19659	Zone-10 N4341153 E569355	T16N, R03W, Sec. 28 (M)	20160120	10	569355	4341153
39.13278	-122.03834	Zone-10 N4331952 E583116	T15N, R02W, Sec. 24, SW (M)	20110606	10	583116	4331952
39.13278	-122.03834	Zone-10 N4331952 E583116	T15N, R02W, Sec. 24, SW (M)	20050928	10	583116	4331952
39.21059	-122.18114	Zone-10 N4340466 E570695	T16N, R03W, Sec. 27, SW (M)	20130220	10	570695	4340466
39.21215	-122.18307	Zone-10 N4340637 E570527	T16N, R03W, Sec. 27, NW (M)	20060511	10	570527	4340637
39.17457	-122.22631	Zone-10 N4336434 E566830	T15N, R03W, Sec. 05, SW (M)	19950726	10	566830	4336434
39.06273	-122.04164	Zone-10 N4324175 E582913	T14N, R02W, Sec. 14, E (M)	20150612	10	582913	4324175
39.06102	-122.17459	Zone-10 N4323872 E571412	T14N, R03W, Sec. 15, SE (M)	19930922	10	571412	4323872
39.15157	-122.04058	Zone-10 N4334034 E582901	T15N, R02W, Sec. 13, W (M)	20161228	10	582901	4334034
39.22173	-122.10616	Zone-10 N4341763 E577157	T16N, R02W, Sec. 20 (M)	20161206	10	577157	4341763
39.10027	-122.02047	Zone-10 N4328360 E584700	T14N, R01W, Sec. 6 (M)	20160531	10	584700	4328360
39.10043	-122.00125	Zone-10 N4328396 E586362	T14N, R01W, Sec. 5 (M)	20200917	10	586362	4328396
39.1147	-122.01963	Zone-10 N4329963 E584756	T15N, R01W, Sec. 31, NW (M)	20161216	10	584756	4329963
39.2328	-122.1906	Zone-10 N4342924 E569858	T16N, R03W, Sec. 22 (M)	20160122	10	569858	4342924
39.16738	-122.04516	Zone-10 N4335785 E582486	T15N, R02W, Sec. 11, NE (M)	20141205	10	582486	4335785
39.10958	-122.21959	Zone-10 N4329227 E567473	T15N, R03W, Sec. 32, NW (M)	19930719	10	567473	4329227
39.21893	-122.20022	Zone-10 N4341377 E569040	T16N, R03W, Sec. 28, N (M)	20140819	10	569040	4341377
39.18271	-122.05146	Zone-10 N4337481 E581924	T15N, R02W, Sec. 02, NW (M)	20141205	10	581924	4337481
39.16987	-122.04269	Zone-10 N4336064 E582698	T15N, R02W, Sec. 11, E (M)	20180427	10	582698	4336064
39.16404	-122.04174	Zone-10 N4335417 E582785	T15N, R02W, Sec. 11, SE (M)	20141205	10	582785	4335417
39.0513	-122.04011	Zone-10 N4322908 E583058	T14N, R02W, Sec. 24, NW (M)	20130219	10	583058	4322908
39.13945	-122.02326	Zone-10 N4332706 E584413	T15N, R02W, Sec. 24, NE (M)	20170109	10	584413	4332706
39.18198	-122.04526	Zone-10 N4337405 E582460	T15N, R02W, Sec. 02, E (M)	20180426	10	582460	4337405
39.24629	-122.15049	Zone-10 N4344452 E573304	T16N, R03W, Sec. 13 (M)	20150618	10	573304	4344452
39.1885	-122.04817	Zone-10 N4338126 E582201	T15N, R02W, Sec. 02, NE (M)	20141022	10	582201	4338126
39.08104	-122.00937	Zone-10 N4326236 E585683	T14N, R01W, Sec. 07, NE (M)	20130215	10	585683	4326236
39.23992	-122.10941	Zone-10 N4343779 E576856	T16N, R02W, Sec. 17 (M)	20161020	10	576856	4343779
39.06954	-122.01139	Zone-10 N4324958 E585522	T14N, R01W, Sec. 18, NE (M)	19950810	10	585522	4324958
39.22679	-122.09259	Zone-10 N4342336 E578322	T16N, R02W, Sec. 21 (M)	20160122	10	578322	4342336
39.22969	-122.09999	Zone-10 N4342652 E577680	T16N, R02W, Sec. 20, NE (M)	20160809	10	577680	4342652
39.01949	-122.14613	Zone-10 N4319286 E573918	T14N, R03W, Sec. 36, W (M)	20180907	10	573918	4319286
39.12647	-122.00592	Zone-10 N4331281 E585926	T15N, R01W, Sec. 29, NW (M)	20161216	10	585926	4331281
39.15782	-122.02206	Zone-10 N4334746 E584493	T15N, R01W, Sec. 18, NE (M)	20150617	10	584493	4334746
39.02175	-122.14009	Zone-10 N4319542 E574438	T14N, R03W, Sec. 36, NE (M)	19930719	10	574438	4319542
39.06604	-122.00454	Zone-10 N4324577 E586119	T14N, R01W, Sec. 17 (M)	20130312	10	586119	4324577
39.21789	-122.06259	Zone-10 N4341375 E580922	T16N, R02W, Sec. 27, SE (M)	20160120	10	580922	4341375
39.14458	-122.006	Zone-10 N4333291 E585897	T15N, R01W, Sec. 17, SW (M)	20141205	10	585897	4333291
39.01258	-122.0863	Zone-10 N4318569 E579105	T13N, R02W, Sec. 4, NE (M)	20181119	10	579105	4318569
39.24498	-122.18491	Zone-10 N4344279 E570335	T16N, R03W, Sec. 15, NW (M)	20130220	10	570335	4344279
39.03451	-121.99516	Zone-10 N4321087 E586968	T14N, R01W, Sec. 29 (M)	20130312	10	586968	4321087
39.11636	-121.97171	Zone-10 N4330193 E588896	T15N, R01W, Sec. 28 (M)	20141023	10	588896	4330193
39.09766	-121.98477	Zone-10 N4328104 E587790	T14N, R01W, Sec. 04, NW (M)	20130312	10	587790	4328104
39.11044	-121.98191	Zone-10 N4329525 E588021	T15N, R01W, Sec. 33, NW (M)	20130215	10	588021	4329525
39.24773	-122.08764	Zone-10 N4344664 E578727	T16N, R02W, Sec. 09 (M)	20160718	10	578727	4344664
39.10346	-121.97922	Zone-10 N4328754 E588262	T15N, R01W, Sec. 33, SW (M)	20130604	10	588262	4328754
39.25299	-122.22729	Zone-10 N4345136 E566671	T16N, R03W, Sec. 08 (M)	20160125	10	566671	4345136
39.22589	-122.24604	Zone-10 N4342115 E565079	T16N, R04W, Sec. 24, W (M)	20050627	10	565079	4342115

39.21429	-122.00919	Zone-10 N4341025 E585536	T16N, R01W, Sec. 30 (M)	20130814	10 585536	4341025
39.21429	-122.00919	Zone-10 N4341025 E585536	T16N, R01W, Sec. 30 (M)	20150618	10 585536	4341025
38.99805	-122.09816	Zone-10 N4316947 E578094	T13N, R02W, Sec. 08, NE (M)	20130314	10 578094	4316947
39.13684	-121.98107	Zone-10 N4332456 E588061	T15N, R01W, Sec. 21, NW (M)	20161216	10 588061	4332456
39.0255	-122.01588	Zone-10 N4320067 E585186	T14N, R01W, Sec. 31, NW (M)	20130215	10 585186	4320067
38.99534	-122.12884	Zone-10 N4316620 E575441	T13N, R02W, Sec. 07, NW (M)	19930715	10 575441	4316620
39.2173	-122.2583	Zone-10 N4341153 E564028	T16N, R04W, Sec. 25, NW (M)	19930720	10 564028	4341153
39.00632	-122.01053	Zone-10 N4317943 E585673	T13N, R01W, Sec. 06 (M)	20030321	10 585673	4317943
39.00632	-122.01053	Zone-10 N4317943 E585673	T13N, R01W, Sec. 06 (M)	19960208	10 585673	4317943
39.00632	-122.01053	Zone-10 N4317943 E585673	T13N, R01W, Sec. 06 (M)	19971229	10 585673	4317943
39.00632	-122.01053	Zone-10 N4317943 E585673	T13N, R01W, Sec. 06 (M)	20110120	10 585673	4317943
39.24767	-122.22767	Zone-10 N4344546 E566643	T16N, R03W, Sec. 17 (M)	20130220	10 566643	4344546
39.12279	-121.96059	Zone-10 N4330917 E589849	T15N, R01W, Sec. 27, NW (M)	20130215	10 589849	4330917
39.22087	-122.26584	Zone-10 N4341544 E563374	T16N, R04W, Sec. 23, SE (M)	20030519	10 563374	4341544
39.00771	-122.19176	Zone-10 N4317943 E569980	T13N, R03W, Sec. 4, NE (M)	20181119	10 569980	4317943
39.2282	-122.01981	Zone-10 N4342558 E584604	T16N, R01W, Sec. 19 (M)	20190124	10 584604	4342558
39.12766	-121.9458	Zone-10 N4331472 E591121	T15N, R01W, Sec. 26 (M)	19890810	10 591121	4331472
39.14374	-121.96694	Zone-10 N4333236 E589274	T15N, R01W, Sec. 22, NW (M)	20161216	10 589274	4333236
39.02469	-121.97389	Zone-10 N4320017 E588822	T14N, R01W, Sec. 33 (M)	20160125	10 588822	4320017
39.22011	-122.01489	Zone-10 N4341665 E585038	T16N, R01W, Sec. 19, S (M)	20130805	10 585038	4341665
39.22359	-122.006	Zone-10 N4342059 E585801	T16N, R01W, Sec. 19, E (M)	20121217	10 585801	4342059
39.17528	-121.98242	Zone-10 N4336722 E587896	T15N, R01W, Sec. 04 (M)	20150102	10 587896	4336722
39.21632	-122.00778	Zone-10 N4341252 E585656	T16N, R01W, Sec. 30 (M)	20121105	10 585656	4341252
39.14943	-121.96333	Zone-10 N4333871 E589578	T15N, R01W, Sec. 15 (M)	20090508	10 589578	4333871
39.22667	-122.0101	Zone-10 N4342397 E585443	T16N, R01W, Sec. 19 (M)	19980721	10 585443	4342397
39.22362	-122.01148	Zone-10 N4342058 E585328	T16N, R01W, Sec. 19 (M)	19980819	10 585328	4342058
39.22225	-122.00891	Zone-10 N4341908 E585551	T16N, R01W, Sec. 19, SE (M)	20070418	10 585551	4341908
39.22225	-122.00891	Zone-10 N4341908 E585551	T16N, R01W, Sec. 19, SE (M)	20070418	10 585551	4341908
39.22225	-122.00891	Zone-10 N4341908 E585551	T16N, R01W, Sec. 19, SE (M)	20070418	10 585551	4341908
39.22238	-122.27394	Zone-10 N4341706 E562673	T16N, R04W, Sec. 23, S (M)	19930922	10 562673	4341706
39.17539	-121.98509	Zone-10 N4336731 E587665	T15N, R01W, Sec. 04 (M)	20140811	10 587665	4336731
39.27093	-122.19077	Zone-10 N4347155 E569805	T16N, R03W, Sec. 03, NW (M)	20130208	10 569805	4347155
39.1762	-121.98006	Zone-10 N4336826 E588100	T15N, R01W, Sec. 4, SW (M)	20200522	10 588100	4336826
39.22157	-122.00901	Zone-10 N4341832 E585544	T16N, R01W, Sec. 19, SE (M)	20150515	10 585544	4341832
39.27729	-122.11329	Zone-10 N4347923 E576481	T17N, R02W, Sec. 32, SW (M)	20161028	10 576481	4347923
39.08476	-121.95335	Zone-10 N4326704 E590523	T14N, R01W, Sec. 10, NE (M)	20130215	10 590523	4326704
39.27442	-122.19129	Zone-10 N4347541 E569756	T16N, R03W, Sec. 04 (M)	20070815	10 569756	4347541
39.27442	-122.19129	Zone-10 N4347541 E569756	T16N, R03W, Sec. 04 (M)	20070815	10 569756	4347541
39.27829	-122.10109	Zone-10 N4348045 E577532	T17N, R02W, Sec. 32, SE (M)	20161028	10 577532	4348045
39.2145	-122.00035	Zone-10 N4341056 E586299	T16N, R01W, Sec. 29, NW (M)	20070418	10 586299	4341056
39.2145	-122.00035	Zone-10 N4341056 E586299	T16N, R01W, Sec. 29, NW (M)	20070418	10 586299	4341056
39.19631	-121.98722	Zone-10 N4339050 E587455	T16N, R01W, Sec. 32, NE (M)	20130219	10 587455	4339050
39.27899	-122.21389	Zone-10 N4348032 E567802	T17N, R03W, Sec. 32 (M)	20150626	10 567802	4348032
39.19071	-121.98053	Zone-10 N4338435 E588041	T16N, R01W, Sec. 33, SW (M)	19890810	10 588041	4338435
39.23403	-122.27394	Zone-10 N4342999 E562663	T16N, R04W, Sec. 14, S (M)	19981230	10 562663	4342999
39.22543	-122.00431	Zone-10 N4342265 E585945	T16N, R01W, Sec. 19, NE (M)	19980902	10 585945	4342265
39.26771	-122.06994	Zone-10 N4346898 E580231	T16N, R02W, Sec. 03, S (M)	20130220	10 580231	4346898
39.27969	-122.18909	Zone-10 N4348128 E569940	T17N, R03W, Sec. 34, SW (M)	20141113	10 569940	4348128
39.01384	-121.98208	Zone-10 N4318806 E588127	T14N, R01W, Sec. 33, SW (M)	20130215	10 588127	4318806
39.19026	-121.9792	Zone-10 N4338387 E588156	T16N, R01W, Sec. 33, SW (M)	20130220	10 588156	4338387
39.23455	-122.28121	Zone-10 N4343051 E562035	T16N, R04W, Sec. 14, SW (M)	20130628	10 562035	4343051
39.23455	-122.28121	Zone-10 N4343051 E562035	T16N, R04W, Sec. 14, SW (M)	19980715	10 562035	4343051
39.23455	-122.28121	Zone-10 N4343051 E562035	T16N, R04W, Sec. 14, SW (M)	20130607	10 562035	4343051
39.23841	-122.27849	Zone-10 N4343482 E562266	T16N, R04W, Sec. 14, W (M)	20130905	10 562266	4343482
39.21067	-121.98749	Zone-10 N4340644 E587415	T16N, R01W, Sec. 29, NE (M)	20070418	10 587415	4340644
39.21067	-121.98749	Zone-10 N4340644 E587415	T16N, R01W, Sec. 29, NE (M)	20070418	10 587415	4340644
39.1401	-122.31632	Zone-10 N4332546 E559084	T15N, R04W, Sec. 21, W (M)	19980715	10 559084	4332546
39.23949	-122.00449	Zone-10 N4343825 E585912	T16N, R01W, Sec. 18 (M)	20150507	10 585912	4343825
39.28459	-122.19106	Zone-10 N4348670 E569766	T17N, R03W, Sec. 34 (M)	20130208	10 569766	4348670
39.11093	-122.31295	Zone-10 N4329311 E559400	T15N, R04W, Sec. 33, NW (M)	20110908	10 559400	4329311
39.11517	-121.93608	Zone-10 N4330096 E591978	T15N, R01W, Sec. 26, SE (M)	20130611	10 591978	4330096
39.1454	-121.94597	Zone-10 N4333440 E591083	T15N, R01W, Sec. 14, SW (M)	20130220	10 591083	4333440
39.29119	-122.18739	Zone-10 N4349406 E570076	T17N, R03W, Sec. 27 (M)	20160122	10 570076	4349406
39.07015	-121.94222	Zone-10 N4325093 E591504	T14N, R01W, Sec. 14, NW (M)	20130215	10 591504	4325093
39.24061	-122.00606	Zone-10 N4343948 E585775	T16N, R01W, Sec. 18 (M)	19980819	10 585775	4343948
39.24187	-121.99817	Zone-10 N4344096 E586454	T16N, R01W, Sec. 17, W (M)	20121205	10 586454	4344096
39.18652	-121.968	Zone-10 N4337983 E589128	T15N, R01W, Sec. 04, NE (M)	20130219	10 589128	4337983
39.28654	-122.08803	Zone-10 N4348971 E578649	T17N, R02W, Sec. 33, NE (M)	20141021	10 578649	4348971
39.01674	-122.25267	Zone-10 N4318900 E564698	T14N, R04W, Sec. 36, S (M)	20190717	10 564698	4318900
39.19254	-121.95064	Zone-10 N4338668 E590619	T16N, R01W, Sec. 34 (M)	20050504	10 590619	4338668
39.24651	-122.00299	Zone-10 N4344606 E586033	T16N, R01W, Sec. 08 (M)	19980902	10 586033	4344606
39.10662	-122.31138	Zone-10 N4328834 E559540	T15N, R04W, Sec. 33, SW (M)	20160914	10 559540	4328834
39.12043	-121.93486	Zone-10 N4330681 E592076	T15N, R01W, Sec. 26, SE (M)	20141205	10 592076	4330681
39.14649	-121.92339	Zone-10 N4333585 E593033	T15N, R01W, Sec. 13 (M)	20200825	10 593033	4333585
39.14649	-121.92339	Zone-10 N4333585 E593033	T15N, R01W, Sec. 13 (M)	20160201	10 593033	4333585
39.23815	-122.29116	Zone-10 N4343444 E561173	T16N, R04W, Sec. 15, SE (M)	19940114	10 561173	4343444
39.11219	-121.93349	Zone-10 N4329768 E592205	T15N, R01W, Sec. 35, NE (M)	20150205	10 592205	4329768
39.13222	-121.93652	Zone-10 N4331988 E591917	T15N, R01W, Sec. 23, SE (M)	20050524	10 591917	4331988
39.16139	-121.9472	Zone-10 N4335214 E590956	T15N, R01W, Sec. 11, SW (M)	20130220	10 590956	4335214
39.29396	-122.1	Zone-10 N4349785 E577609	T17N, R02W, Sec. 29, SE (M)	20180426	10 577609	4349785
39.12934	-121.93143	Zone-10 N4331674 E592361	T15N, R01W, Sec. 23, SE (M)	20121129	10 592361	4331674
39.29365	-122.19152	Zone-10 N4349676 E569717	T17N, R03W, Sec. 28, SE (M)	20000830	10 569717	4349676
39.12564	-121.92654	Zone-10 N4331268 E592789	T15N, R01W, Sec. 25 (M)	19980902	10 592789	4331268
39.29735	-122.06174	Zone-10 N4350194 E580904	T17N, R02W, Sec. 27 (M)	20141021	10 580904	4350194
38.99225	-122.22821	Zone-10 N4316200 E566838	T13N, R03W, Sec. 7, NE (M)	20180226	10 566838	4316200
39.05678	-121.93319	Zone-10 N4323619 E592304	T14N, R01W, Sec. 14, SE (M)	20011015	10 592304	4323619
39.25896	-122.00978	Zone-10 N4345981 E585432	T16N, R01W, Sec. 07 (M)	19980818	10 585432	4345981
39.25968	-122.00649	Zone-10 N4346064 E585715	T16N, R01W, Sec. 07 (M)	19980721	10 585715	4346064
39.12127	-121.92081	Zone-10 N4330788 E593290	T15N, R01W, Sec. 25, NE (M)	20000131	10 593290	4330788



39.16702	-121.93994	Zone-10 N4335846 E591577	T15N, R01W, Sec. 11, NW (M)	20130219
39.12519	-121.92263	Zone-10 N4331222 E593127	T15N, R01W, Sec. 25, NW (M)	20050524
39.09038	-121.92206	Zone-10 N4327359 E593222	T14N, R01W, Sec. 01, S (M)	20130215
39.28489	-122.24279	Zone-10 N4348666 E565304	T17N, R03W, Sec. 31, NW (M)	20140819
39.12179	-121.91493	Zone-10 N4330852 E593797	T15N, R01W, Sec. 25, E (M)	20121221
39.18082	-121.94458	Zone-10 N4337373 E591158	T15N, R01W, Sec. 02 (M)	20050921
39.29705	-122.08425	Zone-10 N4350141 E578964	T17N, R02W, Sec. 28, SE (M)	20141021
39.14118	-121.92002	Zone-10 N4332998 E593332	T15N, R01W, Sec. 24, NE (M)	19930401
0	0			19960411
39.11774	-121.91179	Zone-10 N4330406 E594074	T15N, R01E, Sec. 30 (M)	19980721
39.11433	-121.91387	Zone-10 N4330025 E593899	T15N, R01W, Sec. 25, SE (M)	20000131
39.10444	-122.32722	Zone-10 N4328582 E558172	T15N, R04W, Sec. 32, S (M)	20180104
39.06207	-121.92262	Zone-10 N4324217 E593211	T14N, R01W, Sec. 13, S (M)	20130312
39.30529	-122.11664	Zone-10 N4351028 E576162	T17N, R02W, Sec. 19 (M)	20141205
39.14131	-122.34291	Zone-10 N4332663 E556785	T15N, R04W, Sec. 19 (M)	20060308
39.30704	-122.18468	Zone-10 N4351167 E570293	T17N, R03W, Sec. 22, SW (M)	20150625
39.30286	-122.0885	Zone-10 N4350782 E578591	T17N, R02W, Sec. 28, N (M)	20141205
39.30542	-122.19453	Zone-10 N4350980 E569445	T17N, R03W, Sec. 28 (M)	20091006
39.27016	-122.00914	Zone-10 N4347225 E585473	T16N, R01W, Sec. 06, NE (M)	20121203
39.19184	-121.93701	Zone-10 N4338604 E591798	T16N, R01W, Sec. 35, S (M)	19980721
39.11362	-121.91021	Zone-10 N4329951 E594216	T15N, R01E, Sec. 31, NW (M)	20121221
39.27439	-122.00939	Zone-10 N4347694 E585446	T16N, R01W, Sec. 06, NE (M)	20150507
39.19365	-121.94109	Zone-10 N4338801 E591443	T16N, R01W, Sec. 35, SW (M)	20150303
39.30584	-122.09628	Zone-10 N4351106 E577916	T17N, R02W, Sec. 21, SW (M)	20141021
39.31524	-122.09602	Zone-10 N4352150 E577928	T17N, R02W, Sec. 21 (M)	20180426
39.27529	-122.2753	Zone-10 N4347577 E562508	T16N, R04W, Sec. 02, NW (M)	20130212
39.10626	-121.90479	Zone-10 N4329139 E594695	T15N, R01E, Sec. 31 (M)	19980902
39.15154	-121.91636	Zone-10 N4334152 E593635	T15N, R01W, Sec. 13, NW (M)	20130220
39.01235	-121.92482	Zone-10 N4318696 E593086	T13N, R01W, Sec. 01 (M)	20200917
38.9453	-122.0484	Zone-10 N4311137 E582465	T13N, R02W, Sec. 26 (M)	20160809
39.11452	-121.90675	Zone-10 N4330054 E594514	T15N, R01E, Sec. 30, SW (M)	19980723
39.32659	-122.13838	Zone-10 N4353374 E574264	T17N, R03W, Sec. 13 (M)	20150625
39.20782	-121.92838	Zone-10 N4340386 E592522	T16N, R01W, Sec. 25 (M)	19890810
39.20782	-121.92838	Zone-10 N4340386 E592522	T16N, R01W, Sec. 25 (M)	20050504
39.1919	-121.9387	Zone-10 N4338609 E591652	T16N, R01W, Sec. 35, S (M)	20070418
39.1919	-121.9387	Zone-10 N4338609 E591652	T16N, R01W, Sec. 35, S (M)	20070418
39.1919	-121.9387	Zone-10 N4338609 E591652	T16N, R01W, Sec. 35, S (M)	20070418
39.2754	-122.00835	Zone-10 N4347807 E585536	T17N, R01W, Sec. 31 (M)	19980721
39.24035	-121.94797	Zone-10 N4343977 E590788	T16N, R01W, Sec. 14 (M)	20130814
39.10263	-121.90499	Zone-10 N4328736 E594682	T15N, R01E, Sec. 31, SW (M)	20130122
39.27927	-122.01899	Zone-10 N4348227 E584612	T17N, R01W, Sec. 31, SW (M)	20070522
39.03854	-121.92269	Zone-10 N4321605 E593236	T14N, R01W, Sec. 25, N (M)	20130215
39.10728	-121.90418	Zone-10 N4329254 E594746	T15N, R01E, Sec. 31, NW (M)	20050927
39.10973	-121.9028	Zone-10 N4329527 E594861	T15N, R01E, Sec. 31, N (M)	20121221
39.09807	-121.89923	Zone-10 N4328236 E595187	T14N, R01E, Sec. 06, NE (M)	19980721
39.19404	-121.93386	Zone-10 N4338851 E592067	T16N, R01W, Sec. 35, SE (M)	19950713
39.05266	-121.91199	Zone-10 N4323184 E594143	T14N, R01E, Sec. 19, NW (M)	20130215
39.31503	-122.18807	Zone-10 N4352051 E569993	T17N, R03W, Sec. 22, NW (M)	20000830
39.28284	-122.01779	Zone-10 N4348624 E584711	T17N, R01W, Sec. 31, NW (M)	20121129
39.18627	-121.90858	Zone-10 N4338015 E594261	T15N, R01E, Sec. 06, NW (M)	19890810
39.31798	-122.10529	Zone-10 N4352446 E577126	T17N, R02W, Sec. 20, NE (M)	20161028
39.28455	-122.01693	Zone-10 N4348814 E584784	T17N, R01W, Sec. 31 (M)	20030909
39.07551	-121.88345	Zone-10 N4325750 E596582	T14N, R01E, Sec. 08 (M)	20050628
39.09417	-122.34117	Zone-10 N4327433 E556974	T14N, R04W, Sec. 6, NE (M)	20190320
39.09208	-121.89458	Zone-10 N4327576 E595597	T14N, R01E, Sec. 06, E (M)	20150303
39.19869	-121.92928	Zone-10 N4339371 E592455	T16N, R01W, Sec. 36, NW (M)	20150203
39.09007	-121.89498	Zone-10 N4327353 E595564	T14N, R01E, Sec. 06, SE (M)	20050926
39.04527	-121.9068	Zone-10 N4322368 E594602	T14N, R01E, Sec. 19, SW (M)	20130215
39.31694	-122.08704	Zone-10 N4352346 E578701	T17N, R02W, Sec. 21, NE (M)	20180426
39.05298	-121.90261	Zone-10 N4323229 E594954	T14N, R01E, Sec. 19, NE (M)	20130312
39.2296	-121.94303	Zone-10 N4342788 E591229	T16N, R01W, Sec. 23 (M)	19890811
39.24432	-121.95442	Zone-10 N4344410 E590227	T16N, R01W, Sec. 15, NE (M)	19890811
39.12811	-122.35964	Zone-10 N4331189 E555349	T15N, R05W, Sec. 24, SE (M)	20041006
39.0822	-121.89272	Zone-10 N4326482 E595770	T14N, R01E, Sec. 08, NW (M)	20160714
39.08195	-121.88772	Zone-10 N4326459 E596204	T14N, R01E, Sec. 08, NW (M)	20131028
38.94745	-122.0149	Zone-10 N4311406 E585364	T13N, R01W, Sec. 30 (M)	20130220
39.32174	-122.09968	Zone-10 N4352868 E577606	T17N, R02W, Sec. 17, SE (M)	20110601
39.3268	-122.19114	Zone-10 N4353355 E569717	T17N, R03W, Sec. 15 (M)	20130208
39.08333	-121.88974	Zone-10 N4326610 E596027	T14N, R01E, Sec. 08, NW (M)	19980902
39.31487	-122.22844	Zone-10 N4352003 E566513	T17N, R03W, Sec. 20 (M)	20091006
39.24081	-121.92826	Zone-10 N4344048 E592489	T16N, R01W, Sec. 13 (M)	20050504
39.29876	-122.02157	Zone-10 N4350387 E584367	T17N, R01W, Sec. 30, NW (M)	20130118
39.3018	-122.02958	Zone-10 N4350717 E583672	T17N, R02W, Sec. 25, NE (M)	20121204
39.32699	-122.11459	Zone-10 N4353438 E576315	T17N, R02W, Sec. 17, NW (M)	20161028
39.08951	-122.34969	Zone-10 N4326911 E556240	T14N, R04W, Sec. 6, SW (M)	20190320
39.03945	-121.90179	Zone-10 N4321728 E595043	T14N, R01E, Sec. 30, NE (M)	20051114
38.92882	-122.10103	Zone-10 N4309262 E577922	T13N, R02W, Sec. 32, SE (M)	20010424
39.21239	-121.90759	Zone-10 N4340915 E594310	T16N, R01E, Sec. 30 (M)	20160203
39.31723	-122.02198	Zone-10 N4352437 E584309	T17N, R01W, Sec. 19, NW (M)	20121204
39.0764	-122.34682	Zone-10 N4325458 E556499	T14N, R04W, Sec. 07, SW (M)	20040830
39.32257	-122.26589	Zone-10 N4352831 E563278	T17N, R04W, Sec. 13 (M)	20101221
39.30693	-122.02354	Zone-10 N4351292 E584187	T17N, R02W, Sec. 24 (M)	19980818
39.31613	-122.02142	Zone-10 N4352315 E584359	T17N, R01W, Sec. 19, W (M)	19980721
39.19253	-121.90921	Zone-10 N4338709 E594197	T16N, R01E, Sec. 31, SW (M)	20050921
39.26187	-122.34136	Zone-10 N4346044 E556821	T16N, R04W, Sec. 06 (M)	20050830
39.3097	-122.02144	Zone-10 N4351602 E584365	T17N, R01W, Sec. 19 (M)	20150507
39.31235	-122.02563	Zone-10 N4351892 E584001	T17N, R02W, Sec. 24 (M)	19980902
39.32701	-122.22291	Zone-10 N4353354 E566978	T17N, R03W, Sec. 17, W (M)	20130208
39.33775	-122.21006	Zone-10 N4354556 E568075	T17N, R03W, Sec. 09 (M)	20130212

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39.08402	-122.36061	Zone-10	N4326294	E555301	T14N, R05W, Sec. 1, SE (M)	20190320
39.04794	-122.34115	Zone-10	N4322303	E557013	T14N, R04W, Sec. 19, E (M)	20190814
39.31029	-122.01793	Zone-10	N4351670	E584666	T17N, R01W, Sec. 19, SW (M)	20140218
39.33719	-122.19174	Zone-10	N4354507	E569655	T17N, R03W, Sec. 09, SW (M)	20130208
39.2933	-122.3148	Zone-10	N4349549	E559087	T17N, R04W, Sec. 28, SW (M)	20160711
39.30932	-122.30915	Zone-10	N4351330	E559560	T17N, R04W, Sec. 21, SE (M)	19890810
39.34151	-122.11142	Zone-10	N4355052	E576572	T17N, R02W, Sec. 08, NW (M)	20141021
39.34422	-122.12691	Zone-10	N4355340	E575234	T17N, R02W, Sec. 07, NW (M)	20060817
39.34069	-122.09699	Zone-10	N4354974	E577817	T17N, R02W, Sec. 09, NW (M)	20150622
39.34105	-122.09847	Zone-10	N4355012	E577689	T17N, R02W, Sec. 08, E (M)	20130307
39.31745	-122.27784	Zone-10	N4352254	E562252	T17N, R04W, Sec. 23, NW (M)	20130604
39.34416	-122.19202	Zone-10	N4355281	E569624	T17N, R03W, Sec. 09, NE (M)	20130502
39.21461	-121.90164	Zone-10	N4341167	E594821	T16N, R01E, Sec. 30, NW (M)	19930120
39.32394	-122.0255	Zone-10	N4353179	E583997	T17N, R02W, Sec. 13, SE (M)	20150507
39.20432	-121.89581	Zone-10	N4340031	E595339	T16N, R01E, Sec. 30, SE (M)	19890811
39.32747	-122.02529	Zone-10	N4353570	E584012	T17N, R02W, Sec. 13 (M)	19980723
39.96841	-121.92559	Zone-10	N4313820	E593077	T13N, R01W, Sec. 24, NW (M)	20130220
38.94135	-122.25938	Zone-10	N4310529	E564185	T13N, R04W, Sec. 25, SW (M)	19960507
39.30932	-122.33693	Zone-10	N4351312	E557165	T17N, R04W, Sec. 20, SW (M)	19890810
39.33677	-122.26199	Zone-10	N4354409	E563601	T17N, R04W, Sec. 12, SW (M)	19930720
38.91091	-122.02465	Zone-10	N4307343	E584564	T12N, R02W, Sec. 12, NE (M)	20200131
39.34889	-122.22928	Zone-10	N4355778	E566408	T17N, R03W, Sec. 07, SE (M)	20140818
38.91954	-122.25927	Zone-10	N4308108	E564214	T12N, R04W, Sec. 01, S (M)	20110307
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38.91965	-121.99337	Zone-10	N4308342	E587264	T12N, R01W, Sec. 05, NE (M)	20130222
39.35705	-122.18952	Zone-10	N4356714	E569827	T17N, R03W, Sec. 03 (M)	20130207
38.93576	-121.92808	Zone-10	N4310194	E592904	T13N, R01W, Sec. 36 (M)	20141027
39.34384	-122.0303	Zone-10	N4355382	E583560	T17N, R02W, Sec. 12 (M)	20121204
38.92684	-122.26052	Zone-10	N4308917	E564099	T13N, R04W, Sec. 36, S (M)	20100302
38.92717	-121.96828	Zone-10	N4309200	E589431	T13N, R01W, Sec. 34, SW (M)	20020816
39.34003	-122.03198	Zone-10	N4354958	E583420	T17N, R02W, Sec. 12, SW (M)	20130212
38.91098	-122.01357	Zone-10	N4307360	E585524	T12N, R01W, Sec. 06, SE (M)	19971009
39.35685	-122.21061	Zone-10	N4356675	E568009	T17N, R03W, Sec. 05 (M)	20030909
38.90999	-122.005	Zone-10	N4307258	E586269	T12N, R01W, Sec. 08, NW (M)	20011116
39.3458	-122.02631	Zone-10	N4355603	E583902	T17N, R02W, Sec. 12 (M)	19980902
38.9041	-122.02449	Zone-10	N4306586	E584585	T12N, R01W, Sec. 07, SW (M)	19971009
39.34503	-122.03024	Zone-10	N4355515	E583564	T17N, R02W, Sec. 12, N (M)	20070514
39.35294	-122.02238	Zone-10	N4356399	E584232	T17N, R01W, Sec. 06 (M)	19980721
39.01517	-122.35726	Zone-10	N4318657	E555644	T14N, R05W, Sec. 36, SE (M)	20200821
38.90142	-122.0217	Zone-10	N4306292	E584830	T12N, R01W, Sec. 07, SW (M)	20060306
39.35123	-122.02642	Zone-10	N4356206	E583885	T17N, R02W, Sec. 01, SE (M)	20150507
39.3747	-122.15	Zone-10	N4358703	E573214	T18N, R03W, Sec. 36, NW (M)	20161028
39.01194	-122.37045	Zone-10	N4318290	E554505	T14N, R05W, Sec. 36, S (M)	20200807
39.00672	-122.35873	Zone-10	N4317718	E555524	T13N, R05W, Sec. 1, NE (M)	20190419
39.34952	-122.01971	Zone-10	N4356023	E584466	T17N, R01W, Sec. 06, SW (M)	20121204
38.89303	-121.98509	Zone-10	N4305395	E588015	T12N, R01W, Sec. 16 (M)	20101222
38.89303	-121.98509	Zone-10	N4305395	E588015	T12N, R01W, Sec. 16 (M)	20110223
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39.01121	-122.36607	Zone-10	N4318211	E554884	T14N, R05W, Sec. 36, SW (M)	20190314
39.36354	-122.22952	Zone-10	N4357404	E566374	T18N, R03W, Sec. 31, SE (M)	20091005
38.99768	-122.3646	Zone-10	N4316711	E555023	T13N, R05W, Sec. 1 (M)	20190313
39.01049	-122.3668	Zone-10	N4318131	E554822	T13N, R05W, Sec. 1, NW (M)	20180515
38.99408	-122.35384	Zone-10	N4316319	E555956	T13N, R05W, Sec. 12, NE (M)	20101229
38.96887	-121.88673	Zone-10	N4313911	E596443	T13N, R01E, Sec. 20 (M)	20010820
38.93188	-121.93277	Zone-10	N4309759	E592502	T13N, R01W, Sec. 36, SW (M)	20130221
39.01907	-122.37444	Zone-10	N4319079	E554153	T14N, R05W, Sec. 35, NE (M)	20100308
38.97277	-122.34126	Zone-10	N4313961	E557063	T13N, R04W, Sec. 18, SE (M)	20180309
38.99496	-122.35527	Zone-10	N4316416	E555832	T13N, R05W, Sec. 12, NE (M)	20110215
38.94188	-121.90814	Zone-10	N4310894	E594624	T13N, R01E, Sec. 30, SW (M)	20130222
39.00124	-122.3601	Zone-10	N4317109	E555409	T13N, R05W, Sec. 01, SE (M)	20110215
38.9966	-122.35842	Zone-10	N4316595	E555558	T13N, R05W, Sec. 1, SE (M)	20180508
38.89596	-122.00948	Zone-10	N4305698	E585896	T12N, R01W, Sec. 18, NE (M)	20060306
38.90978	-121.9708	Zone-10	N4307268	E589234	T12N, R01W, Sec. 09, NE (M)	20130222
38.99778	-122.36208	Zone-10	N4316724	E555240	T13N, R05W, Sec. 01, S (M)	20110103
38.89138	-122.02464	Zone-10	N4305175	E584588	T12N, R01W, Sec. 18, NW (M)	20200131
38.98214	-122.3498	Zone-10	N4314996	E556315	T13N, R04W, Sec. 07, SW (M)	20090421
38.90156	-122.23748	Zone-10	N4306129	E566119	T12N, R03W, Sec. 07, SW (M)	20180507
38.99765	-122.36466	Zone-10	N4316708	E555017	T13N, R05W, Sec. 1 (M)	20171208
39.01351	-122.37328	Zone-10	N4318462	E554257	T14N, R05W, Sec. 35, SE (M)	20050818
38.88851	-122.02469	Zone-10	N4304857	E584587	T12N, R01W, Sec. 18 (M)	20190802
38.98256	-122.35259	Zone-10	N4315041	E556074	T13N, R04W, Sec. 07, SW (M)	20110104
38.88378	-121.98886	Zone-10	N4304365	E587700	T12N, R01W, Sec. 16, SW (M)	20011114
39.36251	-122.26078	Zone-10	N4357266	E563682	T17N, R04W, Sec. 01, NW (M)	20020117
39.35689	-122.01309	Zone-10	N4356847	E585027	T17N, R01W, Sec. 06, N (M)	20121204
38.90894	-122.30166	Zone-10	N4306903	E560548	T12N, R04W, Sec. 4 (M)	20160720
38.88774	-122.01986	Zone-10	N4304775	E585006	T12N, R01W, Sec. 18, SW (M)	19971009
38.91232	-122.29129	Zone-10	N4307285	E561443	T12N, R04W, Sec. 03 (M)	20050318
39.00554	-122.37269	Zone-10	N4317579	E554315	T13N, R05W, Sec. 02, NE (M)	20180103
38.91261	-122.26961	Zone-10	N4307332	E563324	T12N, R04W, Sec. 02, SE (M)	19980811
39.35966	-122.01471	Zone-10	N4357153	E584884	T17N, R01W, Sec. 06, NW (M)	20070522
38.99943	-122.37115	Zone-10	N4316901	E554454	T13N, R05W, Sec. 1, SW (M)	20180522
38.99699	-122.36899	Zone-10	N4316632	E554642	T13N, R05W, Sec. 01, SW (M)	20110125
39.3589	-122.00979	Zone-10	N4357073	E585309	T17N, R01W, Sec. 06, NE (M)	20130506
38.98643	-122.36738	Zone-10	N4315461	E554789	T13N, R05W, Sec. 12, SW (M)	20101229
38.98519	-122.36166	Zone-10	N4315327	E555286	T13N, R05W, Sec. 12, SE (M)	20180522
38.99223	-122.36659	Zone-10	N4316105	E554853	T13N, R05W, Sec. 12, NW (M)	20110103
38.9856	-122.36179	Zone-10	N4315373	E555274	T13N, R05W, Sec. 12, SE (M)	20110104
38.88516	-122.01136	Zone-10	N4304497	E585747	T12N, R01W, Sec. 18, SE (M)	20010910

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38.98674	-122.36602	Zone-10	N4315496	E554907	T13N, R05W, Sec. 12, SW (M)	20101223	10	554907	4315496
38.91048	-122.28006	Zone-10	N4307089	E562419	T12N, R04W, Sec. 2, SW (M)	20180309	10	562419	4307089
38.94912	-121.88544	Zone-10	N4311721	E596582	T13N, R01E, Sec. 29, N (M)	20161219	10	596582	4311721
39.36429	-122.01349	Zone-10	N4357668	E584984	T18N, R01W, Sec. 31, S (M)	20121204	10	584984	4357668
38.95694	-122.3422	Zone-10	N4312203	E556995	T13N, R04W, Sec. 19, SE (M)	20180226	10	556995	4312203
38.87959	-122.0258	Zone-10	N4303866	E584501	T12N, R02W, Sec. 24, NE (M)	20200131	10	584501	4303866
38.89476	-122.2467	Zone-10	N4305368	E565326	T12N, R04W, Sec. 13 (M)	19980811	10	565326	4305368
38.98499	-122.36851	Zone-10	N4315300	E554693	T13N, R05W, Sec. 12, SW (M)	20110103	10	554693	4315300
38.98578	-122.37585	Zone-10	N4315384	E554058	T13N, R05W, Sec. 11, E (M)	20180522	10	554058	4315384
39.37135	-122.27323	Zone-10	N4358239	E562602	T18N, R04W, Sec. 35, NE (M)	20020117	10	562602	4358239
38.98277	-122.37199	Zone-10	N4315053	E554393	T13N, R05W, Sec. 11, SE (M)	20101223	10	554393	4315053
38.94231	-122.33793	Zone-10	N4310583	E557377	T13N, R04W, Sec. 30, SE (M)	20180226	10	557377	4310583
38.91035	-122.3001	Zone-10	N4307061	E560682	T12N, R04W, Sec. 3, SW (M)	20180309	10	560682	4307061
38.94713	-122.34849	Zone-10	N4311111	E556458	T13N, R04W, Sec. 30, NW (M)	20160719	10	556458	4311111
38.9494	-122.35173	Zone-10	N4311361	E556175	T13N, R04W, Sec. 30, NW (M)	20190321	10	556175	4311361
38.9242	-122.32425	Zone-10	N4308582	E558576	T13N, R04W, Sec. 32 (M)	20150529	10	558576	4308582
38.938	-122.34205	Zone-10	N4310103	E557022	T13N, R04W, Sec. 30, SE (M)	20101229	10	557022	4310103
38.9266	-122.33355	Zone-10	N4308842	E557769	T13N, R04W, Sec. 32, SW (M)	20180309	10	557769	4308842
38.9516	-122.35792	Zone-10	N4311602	E555637	T13N, R05W, Sec. 25, NE (M)	20190320	10	555637	4311602
39.34777	-122.37331	Zone-10	N4355558	E553999	T17N, R05W, Sec. 12 (M)	20050830	10	553999	4355558
38.90364	-122.31019	Zone-10	N4306309	E559813	T12N, R04W, Sec. 9, NW (M)	20180309	10	559813	4306309
38.88538	-121.94554	Zone-10	N4304585	E591455	T12N, R01W, Sec. 14, SW (M)	20130222	10	591455	4304585
38.89656	-121.91996	Zone-10	N4305853	E593659	T12N, R01W, Sec. 12, SE (M)	20141205	10	593659	4305853
38.90091	-122.3105	Zone-10	N4306006	E559788	T12N, R04W, Sec. 09, W (M)	20150529	10	559788	4306006
38.89819	-122.31805	Zone-10	N4305700	E559136	T12N, R04W, Sec. 8, SE (M)	20180309	10	559136	4305700
38.88174	-121.91969	Zone-10	N4304208	E593702	T12N, R01W, Sec. 13, SE (M)	20141205	10	593702	4304208



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

May 20, 2021

Consultation Code: 08ESMF00-2021-SLI-1870

Event Code: 08ESMF00-2021-E-05421

Project Name: National Carbon Technologies

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

#### To Whom It May Concern:

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

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

[http://www.nwr.noaa.gov/protected\\_species/species\\_list/species\\_lists.html](http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html)

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to



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

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html).

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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

Attachment(s):

- Official Species List
-

## Official Species List

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

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

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## Project Summary

Consultation Code: 08ESMF00-2021-SLI-1870

Event Code: 08ESMF00-2021-E-05421

Project Name: National Carbon Technologies

Project Type: POWER GENERATION

Project Description: Energy generation and transmission line upgrade

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.12619395,-122.12803125585961,14z>



Counties: Colusa County, California

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## Endangered Species Act Species

There is a total of 10 threatened, endangered, or candidate species on this species list.

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

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

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

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

## Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a>	Threatened

## Reptiles

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

## Amphibians

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

## Fishes

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

## Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
Palmate-bracted Bird's Beak <i>Cordylanthus palmatus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1616">https://ecos.fws.gov/ecp/species/1616</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Scientific Name	Common Name	Family	Lifeform	CRPR	GRank	SRank	CESA	FESA	Blooming F	Habitat	Micro Habitat	Elevation L	Elevation L	Elevation F	Elevation F
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	1B.2	G3	S3	None	None	Mar-Jun	Coastal bluff scrub, Cismontane woodland, Valley and foothill grassland		3	5	500	1640
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	1B.1	G2T1	S1	None	None	Apr-May	Meadows and seeps (vernally mesic), Valley and foothill grassland (subalkaline flats)		2	5	75	245
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	1B.2	G3T2	S2	None	None	Apr-Oct	Chenopod scrub, Meadows and seeps, Valley and foothill grassland (sandy)	saline or alkaline	0	0	560	1835
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	1B.2	G2	S2	None	None	Apr-Oct	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland, Vernal pools	alkaline, clay	1	0	320	1050
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	1B.2	G2	S2	None	None	Jun, Aug, Se	Vernal pools (alkaline)		10	30	115	375
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb		4.2 G3T3	S3	None	None	May-Oct	Valley and foothill grassland, Vernal pools	alkaline, vernally mesic, seeps, sometimes roadsides	0	0	100	330
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	1B.1	G1	S1	CE	FE	May-Oct	Chenopod scrub, Valley and foothill grassland	alkaline	5	15	155	510
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	1B.2	G2	S2	None	None	Apr-Oct	Chenopod scrub, Meadows and seeps, Playas, Valley and foothill grassland	alkaline	1	0	835	2740
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	1B.2	G2G3	S2S3	None	None	Feb-Apr	Chaparral, Cismontane woodland, Valley and foothill grassland	often adobe	60	195	705	2315
Grimmia torenii	Toren's grimmia	Grimmiaceae	moss	1B.3	G2	S2	None	None		Chaparral, Cismontane woodland, Lower montane coniferous forest	Openings, rocky, boulder and rock walls, carbonate, volcanic	325	1065	1160	3805
Heteranthera dubia	water star-grass	Pontederiaceae	perennial herb (aquatic)	2B.2	G5	S2	None	None	Jul-Oct	Marshes and swamps (alkaline, still or slow-moving water)	Requires a pH of 7 or higher, usually in slightly eutrophic waters	30	95	1495	4905
Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	1B.2	G5T3	S3	None	None	Jun-Sep	Marshes and swamps (freshwater)	Often in riprap on sides of levees.	0	0	120	395
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	annual herb	1B.1	G4T2	S2	None	None	Feb-Jun	Marshes and swamps (coastal salt), Playas, Vernal pools		1	0	1220	4005
Layia septentrionalis	Colusa layia	Asteraceae	annual herb	1B.2	G2	S2	None	None	Apr-May	Chaparral, Cismontane woodland, Valley and foothill grassland	sandy, serpentinite	100	325	1095	3595
Malacothamnus helleri	Heller's bush-mallow	Malvaceae	perennial deciduous shrub		3.3 G3Q	S3	None	None	May-Jul	Chaparral (sandstone), Riparian woodland (gravel)		305	1000	635	2085
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	1B.1	G4T2	S2	None	None	Apr-Jul	Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools	Mesic	5	15	1740	5710
Puccinellia simplex	California alkali grass	Poaceae	annual herb	1B.2	G3	S2	None	None	Mar-May	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools	Alkaline, vernally mesic; sinks, flats, and lake margins	2	5	930	3050
Trichocoronis wrightii var. wrightii	Wright's trichocoronis	Asteraceae	annual herb	2B.1	G4T3	S1	None	None	May-Sep	Meadows and seeps, Marshes and swamps, Riparian forest, Vernal pools	alkaline	5	15	435	1425





EO Possibl	EO Extirpat	Notes	Full Scientific Name	Synonyms	Element Code	USDA PLANTS Symbol	Flora Status	CBR Reason	Date Added	Date Chan	Last Update
	0		0 Many colle Amsinckia lunaris Macbr.		PDBOR01070	AMLU			1/1/1974		5/15/2018
	5		0 Rediscover Astragalus tener Gray var. ferrisiae Liston		PDFAB0F8R3	ASTEF			1/1/1994		4/17/2019
	2		10 Threatener Atriplex cordulata Jeps. var. cordulata	Atriplex cordulata	PDCHQ040B0				1/1/1988		4/26/2012
	0		1 Threatener Atriplex depressa Jeps.		PDCHQ042L0	ATDE3			1/1/1994		3/15/2010
	2		0 Possibly th Atriplex persists Stutz & Chu		PDCHQ042P0	ATPE3			1/1/2001		2/22/2011
Vest (3812155), Davis (			Threatener Centromadia parryi (Greene) Greene ssp. rudis (Greene) B.G. Baldwin		PDAST4R0P3	CEPAR4			5/30/2007		1/6/2015
	5		3 Plants in G Chloropyron palmatum (Ferris) Tank & J.M Egger	Cordylanthus palmatus	PDSCR0J0J0				1/1/1974		3/3/2011
	4		9 Many occu Extriplex joaquinana (A. Nelson) E.H. Zacharias	Atriplex joaquiniana, Atriplex patula ssp. spicata	PDCHQ041F3				1/1/1988		5/29/2015
	0		0 Threatener Fritillaria pluriflora Benth.		PMLILOV0F0	FRPL			1/1/1974		3/15/2010
	0		0 Similar to C Grimmia torenii Hastings		NBMUS32330				5/14/2014		12/17/2014
	0		0 Many occu Heteranthera dubia (Jacq.) MacMill.		PMPON03010	HEDU2			10/10/2013		8/6/2014
	0		1 Most occur Hibiscus lasiocarpus Cav. var. occidentalis (Torr.) A. Gray	Hibiscus californicus, Hibiscus lasiocarpus, Hibiscus lasiocarpus	PDMAL0H0R3				1/1/1974		8/28/2013
14			1 Known to f Lasthenia glabrata Lindl. ssp. coulteri (Gray) Ornduff		PDAST5LOA1	LAGLC			1/1/1994		7/7/2014
	1		0 Historical c Layia septentrionalis Keck		PDAST5N0F0	LASE2			1/1/1994		3/15/2010
			Previously Malacothamnus helleri (Eastw.) Kearns.		PDMAL0QQG0	MAFR2			1/1/1974		12/15/2014
	6		4 May be mc Navarretia leucocephala Benth. ssp. bakeri (Mason) A.G. Day		PDPLM0C0E1	NALEB			1/1/1994		6/15/2012
10			5 Threatener Puccinellia simplex Scribn.		PMPQA53110				10/15/2015		10/16/2015
	1		0 Nearly exti Trichocoronis wrightii (T. & G.) Gray var. wrightii		PDAST9F031	TRWR2			1/1/1988		6/12/2013

**ATTACHMENT B**

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Representative Site Photographs





**Photo 1. Agricultural ditch east of Olam Tomato Plant, looking North. May 13, 2021**



**Photo 2. Agricultural ditch south of Olam Tomato Plant, looking West. May 13, 2021**



**Photo 3. Industrial equipment within the Olam Tomato Plant. May 13, 2013.**



**Photo 4. Dry, artificial detention basin within the Olam Tomato Plant. May 13, 2013.**







**Photo 1. Open ruderal space within the northern section of Olam Tomato Plant. May 13, 2013.**



**Photo 2. Pellets and whitewash from great horned owl within one large warehouse building at Olam Tomato Plant. May 13, 2021.**



**Photo 3. Looking north along Old Highway 99 showing elderberry shrubs and transmission line alignment. May 13, 2021.**



**Photo 4. Looking West along Husted Lateral showing ditch and transmission line alignment. May 13, 2021**

