Biological Resources Assessment

Bruce Road and Highway 32 Project

Butte County, California

Prepared for:

Bruce and 32, LLC

May 26, 2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

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LIST OF ACRONYMS AND ABBREVIATIONS

BCC	Bird of conservation concern
BRA	Biological resources assessment
BUOW	Burrowing Owl
CBOC	California Burrowing Owl Consortium
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
ECOS	Environmental Conservation Online System
ESA	Endangered Species Act
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
MSL	Mean sea level
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
OHWM	Ordinary high water mark
Project	Bruce Road and Highway 32 Project
Recovery Plan	Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of special concern
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
VELB	Valley elderberry longhorn beetle

1.0 INTRODUCTION

ECORP Consulting, Inc. was retained to conduct a Biological Resource Assessment (BRA) for the proposed Bruce Road and Highway 32 Project (Project) in Butte County, California. The proposed Project is a multi-story residential development in the City of Chico.

1.1 Location and Setting

The Project is located in northwestern Butte County within the City of Chico. The ±17.24-acre Project site corresponds to Section 19, Township 22 North, Range 2 East (Mount Diablo Base and Meridian) of the "Chico, California" U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (USGS 1948; photo-revised 1978) (Figure 1. *Project Location and Vicinity*). The approximate center of the Project is located at 39.742506˚ North and -121.795066˚ West within the Butte Creek watershed (USGS Hydrological Unit Code #18020158) (Natural Resources Conservation Service [NRCS] et al. 2016).

1.2 Project Description and Purpose

The purpose of the proposed Project is to enhance the diversity of housing in the City of Chico by constructing a multi-family apartment complex. The Project includes ±11.34 acres of development to construct 244 one-, two- and three-bedroom apartment units within a complex of two-story buildings. A total of 436 uncovered parking stalls will be constructed within the interstitial spaces between apartment buildings; a communal clubroom and pool area will also be constructed for residents to use. Additionally, 0.43 acre of access road will be constructed from Bruce Road, which includes a bridge crossing over Dead Horse Slough. The Project also includes 4.65 acres of preserved open space along the riparian corridor of Dead Horse Slough.

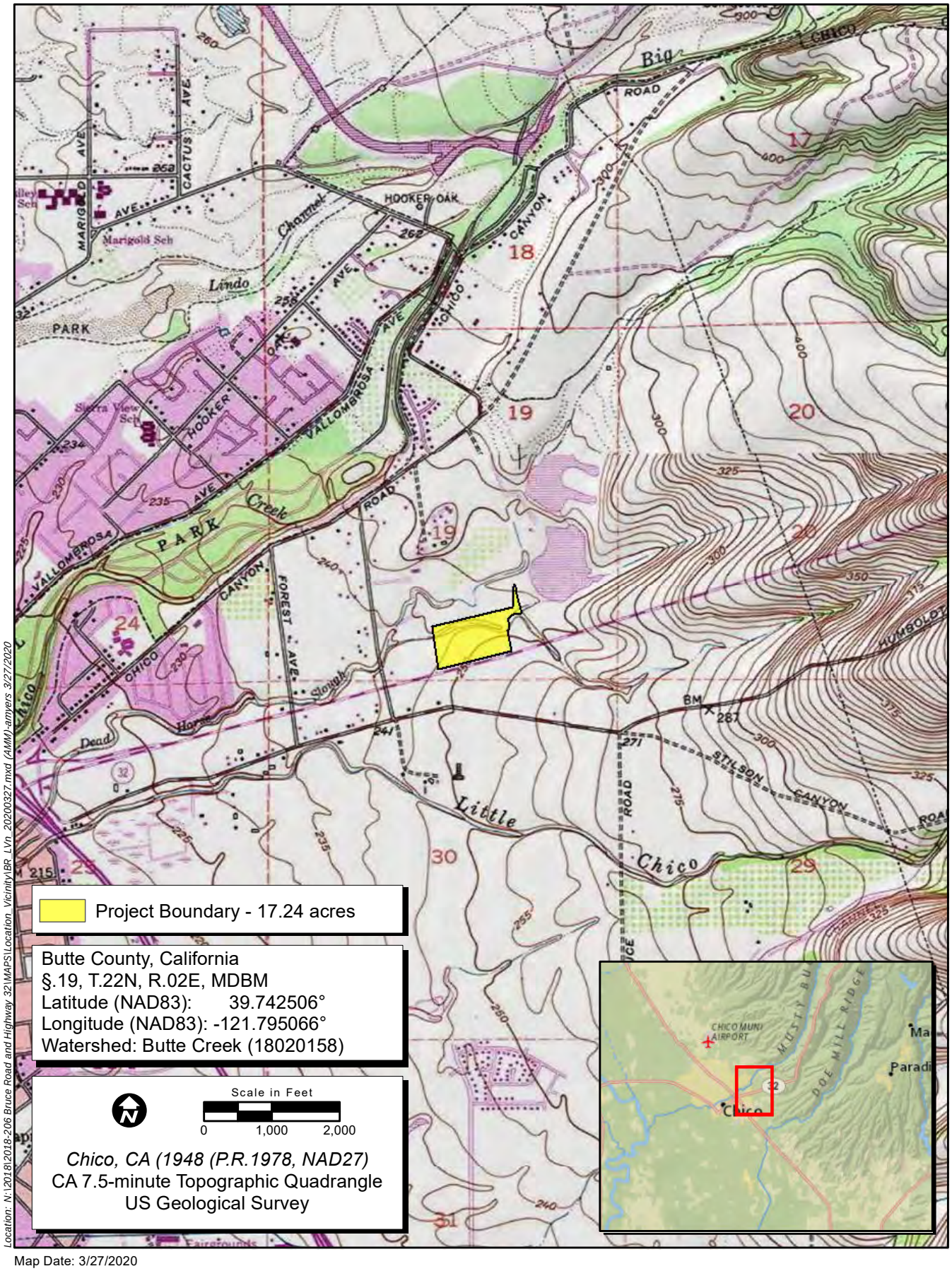
2.0 REGULATORY SETTING

This BRA was developed to identify potential issues and ensure compliance with relevant state, local, and federal regulations regarding listed, protected, and sensitive species and resources. The regulations are detailed below.

2.1 Federal Regulations

2.1.1 The Federal Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of the ESA prohibits the taking of endangered wildlife, where taking 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).



Location: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Location_Vicinity\BR_LVn_20200327.mxd (AMM)-amyers 3/27/2020

Map Date: 3/27/2020

Figure 1. Project Location and Vicinity

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2018-206.01 Bruce Road

For plants, this statute governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law (16 U.S. Code 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. Through consultation and the issuance of a biological opinion, the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan is developed.

2.1.1.1 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 birds of conservation concern (BCC, USFWS 2008) for the United States. 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 the California Environmental Quality Act (CEQA).

2.1.2 Migratory Bird Treaty Act

The federal 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.

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). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support,

a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3 7b). The U.S. Environmental Protection Agency (USEPA) acts as a cooperating agency to set policy, guidance and criteria for use in evaluation permit applications and also reviews USACE permit applications.

The USACE regulates "fill" or dredging of fill material within its jurisdictional features. "Fill material" means any material used for the primary purpose of replacing an aquatic area with dry land or changing the bottom elevation of a water body. Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the State Water Resources Control Board, administered by each of nine California Regional Water Quality Control Boards (RWQCBs).

The new definition of Waters of the U.S. pursuant to the Navigable Waters Protection Rule is expected to become effective on June 22, 2020 which may alter how certain waters are defined and regulated. Some of the seasonal features onsite may no longer be categorized as Waters of the U.S.. Fill to any jurisdictional Waters of the U.S. features still requires a Section 404 permit.

2.2 State and Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA generally parallels the main provisions of the ESA but, unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called "candidates" by the State). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. 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 development projects. State lead agencies are required to consult with California Department of Fish and Wildlife (CDFW) to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of essential habitat.

2.2.1.2 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. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700) provide that fully protected species may not be taken or

possessed at any time. Furthermore, CDFW prohibits any State agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 California Fish and Game Code Special Protections for Birds

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds. Section 3800 states that it is unlawful to take non-game 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 commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting native birds.

2.2.1.5 California Streambed Alteration Notification/Agreement

The CDFW enforces the protection of nongame native birds in §§ 3503, 3503.5, and 3800 of the California Fish and Game Code. Section 3513 of the California Fish and Game Code prohibits the possession or take of birds listed under the federal MBTA. These sections mandate the protection of California nongame native birds' nests and also make it unlawful to take these birds. All raptor species are protected from "take" pursuant to California Fish and Game Code § 3503.5 and are also protected at the federal level by the MBTA of 1918 (USFWS 1918).

2.2.2 Species of Special Concern

Species of Special Concern (SSC) are defined by the CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the ESA, California ESA or the 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 (noncyclical) 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. Project-related impacts to SSC, state-threatened or endangered species are considered "significant" under CEQA.

2.2.3 California Plant Ranks

The California Native Plant Society (CNPS) maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2020a), 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 California Rare Plant Ranks (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 (CNDDB). 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, the 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 one through three, with one being the most threatened and three being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)

- Threat Rank 0.3 – Not very threatened in California (<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 2020b). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines Section 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4 Porter-Cologne Water Quality Act

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

2.2.5 California Environmental Quality Act

Per the CEQA Guidelines' Section 15380 a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the ESA, California ESA and Sections 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW.

2.2.5.1 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant, and are particularly relevant to SSCs. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an Environmental Impact Report to thoroughly analyze and evaluate the impacts. Assessment of "impact significance" to populations of non-listed species (i.e., SSCs) 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, Section 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. Appendix G of the CEQA Guidelines provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

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

An evaluation of whether or not 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 according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish, or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.6 City of Chico General Plan 2030

Adopted in 2011, the City of Chico 2030 General Plan "reflects the community's commitment to meeting the challenge of creating and maintaining a sustainable community. To establish a sustainable development trend for the community, the General Plan identifies and promotes certain development patterns, including compact urban development, infill development and redevelopment, mixed-use development, complete neighborhoods, and a variety of housing types". The elements of the 2030 General Plan include sustainability, land use, housing, economic development, circulation, conservation

and open space, health and safety, public facilities and services area and neighborhood plans. Goals, policies and actions provide guidance to the City on how to direct changes and manage its resources over the next 10 years.

The Biological Resources section of the Open Space and Environment Element contains numerous goals and resultant policies aimed to protect natural and biological resources. Goal OS-1 aims to protect native species and habitats, in part by directing development into locations consistent with areas designated for development by the Plan. Goal OS-2 aims to protect special-status species and their habitats by ensuring the all necessary local, state and federal permits are obtained for projects. Policy OS-2.2 aims to seek easements along the City's creeks to expand the greenway system, and Policy OS-2.5 includes preserving and enhancing creeks and riparian corridors for their aesthetic, drainage, habitat, flood control and water quality values.

3.0 METHODS

3.1 Literature Review/Database Queries

ECORP biologists queried state and federal databases to determine the special-status plant and wildlife species that have been documented in the vicinity of the Project site. The following database searches were conducted on March 19, 2020:

- The CDFW CNDDB (CDFW 2020) within the "Chico, California" USGS 7.5-minute topographic quadrangle and the eight surrounding quadrangles: "Nord-", "Richardson Springs-", "Paradise West-", "Ord Ferry-", "Hamlin Canyon-", "Llano Seco-", "Nelson-", and "Shippee-California".
- The CNPS Rare Plant Electronic Inventory (CNPS 2020a) within the "Chico, California" USGS 7.5-minute topographic quadrangle and the eight surrounding quadrangles (see above).
- USFWS Environmental Conservation Online System (ECOS; USFWS 2020) Information for Planning and Consultation for the Project site.

The CNDDB and CNPS databases contain records of reported occurrences of federal- or state-listed endangered, threatened, proposed endangered or threatened species, California SSC, and/or other special-status species or habitat that may occur within or near the Project site. The USFWS official species list provides a list of potentially occurring federal endangered, threatened, proposed endangered or threatened species, as well as USFWS BCC. Additional information was gathered and includes, but is not limited to the following:

- NRCS *Web Soil Survey* (NRCS 2020)
- Manual of California Vegetation (CNPS 2020b)
- Aquatic Resources Delineation Report (Gallaway Enterprises 2014)
- Approved Jurisdictional Determination (USACE 2018)

- *Jepson eFlora* (Jepson Flora Project 2020)
- eBird (eBird 2020)

3.1.1 Biological Reconnaissance Survey

Project elements were evaluated in the field on March 27, 2020 by ECORP biologists Theresa Johnson and Keith Kwan. The biologists walked the Project site to determine the vegetation communities, wildlife habitats, and potential for special-status species to occur within the Project. Photographs were taken during the survey to provide visual representation of the various vegetation communities within the Project site. The Project was also examined to assess its potential to facilitate wildlife movement or function as a movement corridor for wildlife moving throughout the region.

3.1.2 Special-Status Species Determinations

Using the information generated by the literature review, database searches and observations in the field, a list of special-status plant and animal species that may have potential to occur within the Project site was generated. For the purposes of this assessment, special-status species are defined as plants or animals that:

- have been designated as either rare, threatened, or endangered by CDFW, CNPS, or the USFWS, and/or are protected under either the federal or California ESAs;
- are candidate species being considered or proposed for listing under these same acts;
- are fully protected by the California Fish and Game Code, §§ 3511, 4700, 5050, or 5515; and/or
- are of expressed concern to resource and regulatory agencies or local jurisdictions.

Special-status species were assessed for their potential to occur within the Project site based on the following guidelines:

- **Present:** The species was observed during a site visit or focused survey or is known to occur within the project boundary based on documented occurrences within the CNDDB or other literature.
- **Potential:** Habitat (including soils and elevation factors) for the species occurs onsite and/or a known occurrence has been recorded within five miles of a project site.
- **Low Potential:** Marginal or limited amounts of habitat occurs and/or the species is not known to occur in the vicinity based on CNDDB records and other available documentation.
- **Absent:** No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur in the vicinity based on CNDDB records and other documentation.

Note that location information on some special-status species may be of questionable accuracy or unavailable. Therefore, for survey purposes, the environmental factors associated with a species'

occurrence requirements may be considered sufficient reason to give a species a positive potential for occurrence. In addition, just because a record of a species does not exist in the databases does not mean it does not occur. In many cases, records may not be present in the databases because an area has not been surveyed for that particular species.

4.0 RESULTS

The literature review and site reconnaissance survey were utilized to describe the site's biological conditions and evaluate its potential to support special-status species. During the survey the air temperature was 50-55° Fahrenheit and the sky was clear with unlimited visibility. The ground was relatively dry and only a few scattered depressional features had damp pool bottoms. Winds were moderate at five to 10 miles per hour.

4.1 Site Characteristics and Land Use

The Project site is located north of Highway 32 and west of Bruce Road in the City of Chico. The site is currently undeveloped; however, a drainage ditch has been established that runs north to south along the western boundary of the Project. The Project site is dominated by a matrix of upland vernal pool grassland and seasonal wetlands, and is composed of gently rolling terrain that slopes slightly toward Dead Horse Slough to the north. Dead Horse Slough and associated vegetation and tree cover make up the northernmost portion of the site.

Representative photographs of the Project site can be found in Attachment B.

4.2 Vegetation Communities

Vegetation communities onsite include California Annual Grassland, Needle Grass Grassland, Red Willow Thicket and a landscaped corridor (Figure 2. *Vegetation Communities and Land Cover*). A list of plant species observed during the survey is included in Attachment C.

4.2.1 California Annual Grassland

The upland habitat onsite consists of a matrix of nonnative annual grassland species with scattered vernal pools throughout. The California Annual Grassland vegetation group onsite is comprised of annual brome grasslands (*Bromus* semi-natural herbaceous stand) and Fremont's goldfields – Downingia vernal pools. The brome grasslands are dominated by medusahead grass (*Elymus caput-medusae*) and soft brome (*Bromus hordeaceus*). As this stand is dominated by invasive species, it does not have a state or global ranking. The Fremont's goldfields – Downingia vernal pools onsite are characterized by Fremont's goldfields (*Lasthenia fremontii*) and Great Valley popcorn flower (*Plagiobothrys stipitatus*). This natural herbaceous alliance has a State Rarity ranking of S3 and Global Rarity ranking of G3, which indicates a rare natural community according to *A Manual of California Vegetation* (MCV; Sawyer et al 2009).

Map Features

Project Boundary - 17.24 acres

Vegetation Communities

California Annual Grassland - 12.16 ac.

Landscaped Corridor - 0.07 ac.

Needle Grass Grassland - 0.58 ac.

Red Willow Thicket - 4.43 ac.

Sources: NAIP 2018

Other Related Info if Needed

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Map Date: 4/15/2020

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Scale in Feet
0 150

Figure 2. Vegetation Communities and Land Cover

2018-206 Brude Road

4.2.2 Needle Grass Grassland

In two locations where Dead Horse Slough meets the upland grassland habitat, an area of needle grass grassland provisional herbaceous alliance occurs (Figure 2). The needle grass grassland onsite is characterized by the presence of needle grass (likely *Stipa cernua*) which is commonly used for restoration and erosion control projects. This vegetation alliance has a State Rarity rank of S4 and a Global Rarity Rank of G4. This means that the alliance is not demonstrably secure and is somewhat threatened globally. This community is not considered a California rare community by the MCV but is included on the list of sensitive natural communities established by CDFW.

4.2.3 Black Willow Thicket

The riparian corridor onsite, consisting of Dead Horse Slough, is a black willow thicket/stand (*Salix gooddingii* woodland alliance) characterized by the presence of Goodding's black willow (*Salix gooddingii*) and Fremont's cottonwood (*Populus fremontii*) in the overstory with a periphery of valley oak (*Quercus lobata*). This woodland alliance has a State Rarity rank of S3 and a Global Rarity Rank of G4. This alliance is somewhat threatened globally and is considered a California rare community by the MCV.

4.2.4 Landscaped Corridor

In the very northeastern corner of the Project, a small landscaped corridor of ornamental trees, grass lawn, and sidewalk occurs between the adjacent residential development and Bruce Road. The area is a land cover type and not characterized by any natural or semi-natural vegetation.

4.3 Wildlife

Wildlife observed during the survey include Nuttall's woodpecker (*Dryobates nuttallii*), oak titmouse (*Baeolophus inornatus*), red-shouldered hawk (*Buteo lineatus*), and Lincoln's sparrow (*Melospiza lincolnii*). A full list of wildlife species observed is provided in Attachment D. Potential nesting habitat for birds protected by the federal MBTA and California Fish and Game Code is present within the grassland communities and riparian vegetation and trees within Dead Horse Slough. The nesting season can be broad due to various environmental conditions, but in general, most birds typically breed between February and September..

Habitats found in association with Dead Horse Slough have the potential to support special-status species, including northwestern pond turtle (*Actinemys marmorata*). The trees and vegetation within the slough provide potential habitat for roosting bats. No elderberry shrubs (*Sambucus* spp.), the sole host plant for valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) were located during the reconnaissance survey. The upland habitat of vernal pool and seasonal wetlands within annual grassland provide potential habitat for large branchiopods and western spadefoot (*Spea hammondii)*.

4.3.1 Designated Critical Habitat

The Project site is not located within NMFS- or USFWS-designated critical habitat.

4.3.2 Wildlife Movement Corridors, Linkages, and Significant Ecological Areas

The Project site was assessed for its ability to function as a wildlife corridor. The concept of habitat corridors addresses the linkage between large blocks of habitat that allow safe movement for mammals and other wildlife species from one habitat area to another. The definition of a corridor is varied, but corridors may include areas such as greenbelts, refuges, underpasses, riparian areas, creeks, and biogeographic land bridges. In general, a corridor can be described as a linear habitat, embedded within a dissimilar matrix, which connects two or more larger blocks of habitat.

The habitat within Dead Horse Slough provides marginal habitat as a wildlife corridor. The Project is bordered by Highway 32 along the southern boundary and Bruce Road, a moderately trafficked roadway, to the east. Dead Horse Slough is channelized under Bruce Road by an existing culvert, and the riparian vegetation has been fragmented at this location. An existing apartment complex lies just north of Dead Horse slough. Therefore, while smaller and/or aquatic animals may use the slough as a movement corridor, the Project site is largely disconnected from adjacent habitat by development and does not provide a quality movement corridor for wildlife.

4.4 Soils and Topography

The Project is located within flat to gently rolling terrain situated at an elevation range of approximately 230 to 280 feet above mean sea level (MSL) (Google Earth Pro 2019). According to the NRCS' soil survey, three soil unit types occur within the Project site (NRCS 2020; Figure 3. *Natural Resources Conservation Service Soil Types*). These are: Busacca clay loam, 0 to 1 percent slopes; Redsluff gravelly loam, 0 to 2 percent slopes; and Redtough-Redswale, 0 to 2 percent slopes (Figure 3). The Busacca series consists of very deep, moderately well-drained soils that formed in alluvium from mixed rocks (NRCS 2020). The Redsluff series consists of very deep, moderately well-drained soils that formed in overbank alluvium over channel alluvium from predominantly volcanic rocks (NRCS 2020). The Redswale and Redtough series consists of shallow to very shallow, somewhat poorly to poorly drained soils that formed in alluvium from predominantly volcanic rocks (NRCS 2020).

4.5 Waters of the U.S

An aquatic resource delineation was submitted by Gallaway Enterprises for the 20.5-acre parcel known as Assessor's Parcel Number 002-160-076 and was issued an approved jurisdictional delineation by the USACE on March 22, 2018 (SPK-2005-00063). A total of ±3.6 acres of aquatic resources were mapped and verified (Figure 4. *Aquatic Resources Delineation*). These consist of 1.6 acres of ephemeral and perennial stream, 1.0 acre of riparian wetland, 0.80 acre of vernal pool, and 0.20 acre of seasonal wetland (Figure 4).

The current Project's 17.24-acre footprint is located within this original delineation and contains 3.037 acres of Waters of the U.S., including 0.933-acre riparian wetland, 0.030 acre seasonal swale, 0.006 acre seasonal wetland, 0.794 acre vernal pool, 0.382 acre other waters (intermittent) and 0.870 acre other waters (perennial) (Figure 5. *ECORP Adjusted Delineation*).

Map Features

Project Boundary - 17.24 acres

NRCS gSSURGO Soils

Series Name - Series Number

- 105 - Busacca clay loam, 0 to 1 percent slopes
- 300 - Redsluff gravelly loam, 0 to 2 percent slopes
- 302 - Redtough-Redswale , 0 to 2 percent slopes

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

Sources: ESRI, NRCS, Galloway, RAR, NAIP (2018)

ECORP: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Soils_and_Geology\BR_gSSURGO_Soils_20200327.mxd (AMM/JDS) amyers 3/27/2020

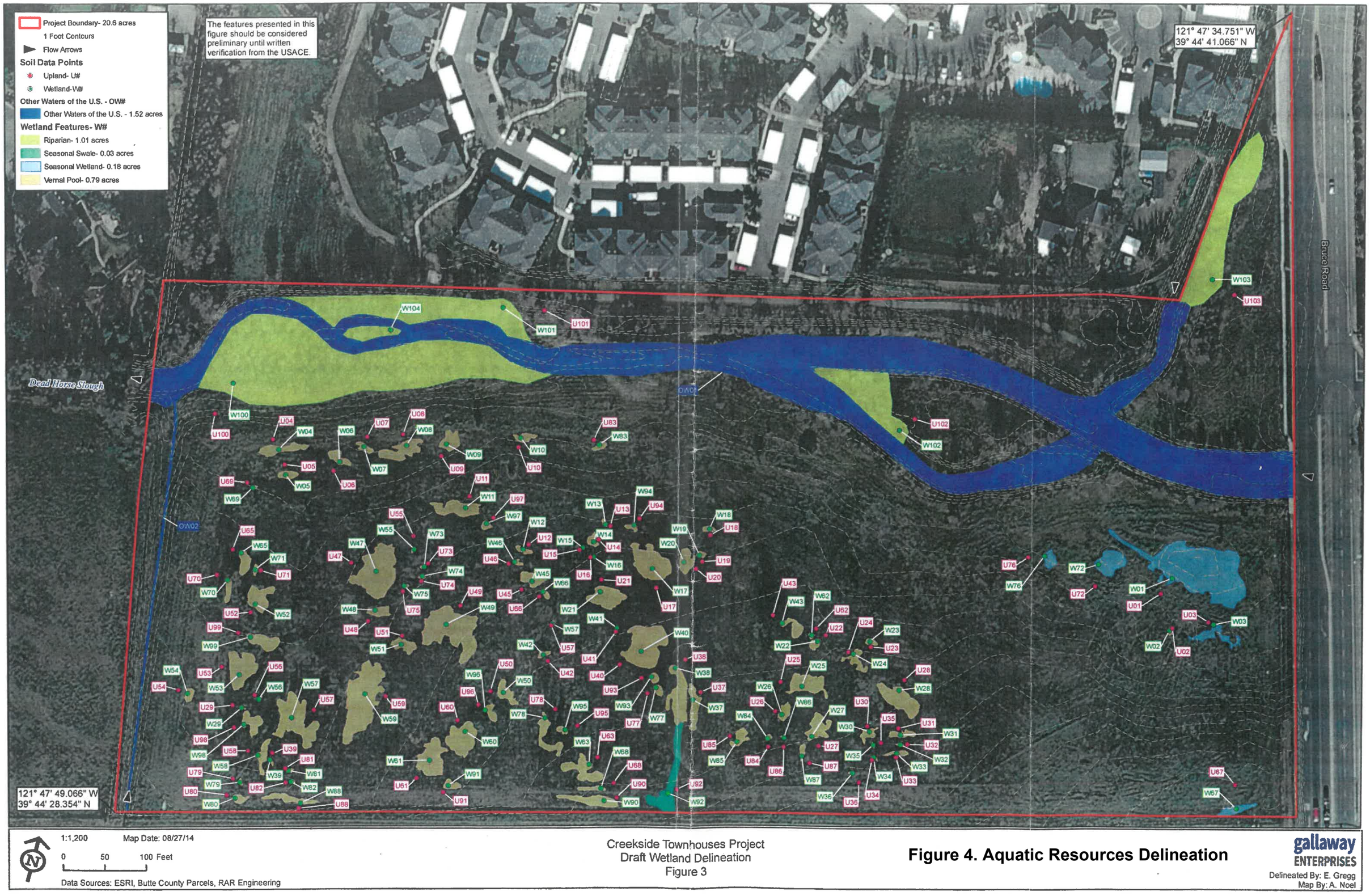
Map Date: 3/27/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 200

Figure 5. Natural Resources Conservation Service Soil Types

2018-206.01 Bruce Road



Creekside Townhouses Project
Draft Wetland Delineation
Figure 3

Figure 4. Aquatic Resources Delineation

gallaway ENTERPRISES
Delineated By: E. Gregg
Map By: A. Noel

Map Features

- Project Boundary - 17.24 acres

Aquatic Features (Gallaway)

- Riparian
- Seasonal Swale
- Seasonal Wetland
- Vernal Pool

Other Waters

- Intermittent
- Perennial
- Drainage Ditch

Feature Type	Offsite	Onsite	Total
Drainage Ditch	0.000	0.023	0.023
Other Waters - Intermittent	0.006	0.382	0.388
Other Waters - Perennial	0.272	0.870	1.142
Riparian	0.065	0.933	0.998
Seasonal Swale	0.000	0.030	0.030
Seasonal Wetland	0.176	0.006	0.182
Vernal Pool	0.001	0.794	0.794
Total	0.519	3.037	3.557

A subset of the 'Other Waters' depicted in the Gallaway (08/27/14) delineation were further distinguished into drainage types by ECORP during a site visit on March 28, 2020. These distinctions have not been verified by the USACE

Photo Source: NAIP 2018
Boundary Source: Rolls Anderson and Rolls
Delineator(s): E Gregg (Gallaway Enterprises) and Keith Kwan (ECORP)
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

ECORP: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Jurisdictional_Delineation\USACE_Delineation\v1\BR_ECORP_Delineation_20200403.mxd (AMM) amyers 4/10/2020

Map Date: 4/10/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 150 300

Figure 5. ECORP Adjusted Delineation

2018-206.01 Bruce Road

4.5.1 Wetlands

4.5.1.1 Vernal Pool

In general, vernal pools are topographic basins underlain with an impermeable or semi-permeable hardpan or duripan layer. Direct rainfall and surface runoff inundate the pools during the wet season. The pools remain inundated and/or the soil maintains saturation through spring and are dry by late spring until the following wet season. Vernal pools occur throughout the Project and are dominated by Mediterranean barley (*Hordeum marinum*), annual hairgrass (*Deschampsia danthoinoides*), white headed navarretia (*Navarretia leucocephala* ssp. *leucocephala*), Fremont's goldfields, Great Valley popcorn flower, and coyote thistle (*Eryngium castrense*).

4.5.1.2 Seasonal Wetland

Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short and they are commonly dominated by nonnative annual and sometimes perennial hydrophytic species. One seasonal wetland is located in the eastern portion of the Project site. Dominant species include Italian ryegrass (*Festuca perennis*), cocklebur (*Xanthium strumarium*), curly dock (*Rumex crispus*), and coyote thistle.

4.5.1.3 Seasonal Swale

Seasonal swales are generally linear wetland features that convey precipitation runoff and support a predominance of hydrophytic vegetation, but do not exhibit an ordinary high water mark (OHWM). These are typically inundated for short periods during and immediately after rain events, but usually maintain soil saturation for longer periods during the wet season. One seasonal wetland swale is located in the southern portion of the Project site. The swale transports runoff from Highway 32 into the Project site.

4.5.1.4 Riparian Wetlands

Riparian wetlands typically have hydrology directly associated with an adjacent linear waterway, as well as a significant vegetation component (i.e., tree or shrub) and year-round soil saturation. Riparian wetlands are located along the banks of Dead Horse Slough and are influenced by a high water table and flooding events associated with Dead Horse Slough. The riparian wetlands are dominated by shrub and tree canopy composed of arroyo willow *(Salix lasiolepis*), sandbar willow (*Salix exigua*), Goodding's willow, Fremont's cottonwood, and valley oak.

4.5.2 Other Waters

4.5.2.1 Perennial Slough

Perennial sloughs are linear features that exhibit a bed and bank, OHWM, and flow continuously throughout the year. A perennial slough, Dead Horse Slough, runs east-west in the northern portion of the Project and is dominated by Goodding's black willow and Fremont's cottonwood.

4.5.2.2 Intermittent Drainage

Intermittent drainages are linear features that exhibit a bed and bank, OHWM, and flow intermittently throughout the year. An intermittent drainage crosses Dead Horse Slough in the northern portion of the Project.

4.5.2.3 Drainage Ditch

Ditches are linear features constructed to convey stormwater and/or irrigation water. A ditch runs north-south along the western border of the Project. The ditch transports runoff from the land south of Highway 32 via a culvert for Highway 32 and into Dead Horse Slough within the Project site.

4.6 Evaluation of Potentially Occurring Special-Status Species

The CNDDB, CNPS and USFWS database searches were conducted on March 19 and April 2, 2020. These queries reported a total of 86 special-status species historically and/or potentially occurring within the vicinity of the Project. These included 43 plants, four invertebrates, three fish, three amphibians, three reptiles, 26 birds and four mammals (Attachment A).

Based on the assessment of special-status species and current site conditions and habitat characteristics, 27 species were found to have some potential to occur within the Project. These special-status species include 17 plants, three invertebrates, one amphibian, one reptile, 11 birds and two mammals. These species are described in more detail below. No special-status fish species are expected to occur based on a lack of habitat or range for the species.

4.6.1 Plants

4.6.1.1 Depauperate Milk-vetch

Depauperate milk-vetch (*Astragalus pauperculus*) is not listed as pursuant to either the federal or California ESAs, but is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs within vernally mesic and volcanic soils in chaparral, cismontane woodland, and valley and foothill grasslands (CNPS 2020). The blooming period for this species is between March and June at elevations 197 to 3,986 feet above MSL (CNPS 2020). Depauperate milk-vetch is endemic to California; its current range includes Butte, Placer, Shasta, Tehama, and Yuba counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the grasslands onsite provide marginal potential habitat for this species. Depauperate milk-vetch has low potential to occur onsite.

4.6.1.2 Big-scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and occasionally on serpentinite soils

(CNPS 2020). Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 148 to 5,102 feet above MSL (CNPS 2020). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the grasslands onsite provide marginal potential habitat for this species. Big-scale balsamroot has low potential to occur onsite.

4.6.1.3 Valley Brodiaea

Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is a bulbiferous perennial herb that occurs in old alluvial terraces and silty, sandy, or gravelly soils in vernal pools within valley and foothill grassland (CNPS 2020). Valley brodiaea blooms from April through May (sometimes June) and is known to occur at elevations ranging from 33 feet to 1,100 feet above MSL (CNPS 2020). Valley brodiaea is endemic to California; the current range of this species includes Butte, Calaveras, Nevada, Placer, Sacramento, San Joaquin, Sutter, and Yuba counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools and grasslands onsite provide marginal potential habitat for this species. Valley brodiaea has low potential to occur onsite.

4.6.1.4 Butte County Calycadenia

Butte County calycadenia (*Calycadenia oppositifolia*) 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 within openings in volcanic, granitic, or serpentinite areas of chaparral, cismontane woodland, lower montane coniferous forest, meadows, seeps, and valley and foothill grassland (CNPS 2020). Butte County calycadenia blooms from April to July and is known to occur at elevations ranging from 295 to 3,100 feet above MSL (CNPS 2020). This species is endemic to California; the current range only includes Butte county (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the grasslands onsite provide marginal potential habitat for this species. Butte County calycadenia has low potential to occur onsite.

4.6.1.5 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 vernally mesic soils, seeps, and sometimes roadsides (CNPS 2020). Parry's rough tarplant blooms from May to October and is known to occur at elevations ranging from sea level to 328 feet above MSL (CNPS 2020). 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 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools and grasslands onsite provide potential habitat for this species. Parry's rough tarplant has potential to occur onsite.

4.6.1.6 Silky Cryptantha

Silky cryptantha (*Cryptantha crinita*) is not listed as pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species (CNPS 2020). This species is an annual herb that occurs in gravelly streambeds within cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, and valley and foothill grasslands (2020). Silky cryptantha blooms between April and May and is known to occur at elevations ranging from 200 to 3,986 feet above MSL (CNPS 2020). The current range of this species includes Glenn, Shasta, and Tehama counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the drainage onsite provide marginal potential habitat for this species. Silky cryptantha has low potential to occur onsite.

4.6.1.7 Red-stemmed Cryptantha

Red-stemmed cryptantha (*Cryptantha rostellata*) is not listed as 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 on gravelly, volcanic openings as well as roadsides in cismontane woodland and valley and foothill grassland (CNPS 2020). Red-stemmed cryptantha blooms between April and June and is known to occur at elevations ranging from 131 to 2,625 feet above MSL (CNPS 2020). The current range of this species includes Butte, Colusa, Glenn, Mariposa, Napa, Shasta, Siskiyou, Sutter, Tehama, and Trinity counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the grasslands onsite provide potential habitat for this species. Red-stemmed cryptantha has potential to occur onsite.

4.6.1.8 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 2020). Recurved larkspur blooms from March through June and is known to occur at elevations ranging from 10 to 2,592 feet above MSL (CNPS 2020). 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 and is likely extirpated from Butte and Colusa counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the grasslands onsite provide marginal potential habitat for this species. Recurved larkspur has low potential to occur onsite.

4.6.1.9 Hogwallow Starfish

Hogwallow starfish (*Hesperevax caulescens*) 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 mesic, clay areas within valley and foothill grassland, and shallow vernal pools, sometimes in alkaline areas (CNPS 2020). Hogwallow starfish blooms from March through June and is known to occur from sea level to 1,657 feet above MSL (CNPS 2020). Hogwallow starfish is endemic to California; the current range of this species includes Alameda, Amador, Butte, Contra Costa, Colusa, Fresno, Glenn, Kern, Merced, Monterey, Napa, Sacramento, San Diego, San Joaquin, San Luis Obispo, Solano, Stanislaus, Sutter, Tehama, and Yolo counties, and is considered to be extirpated in Napa and San Diego counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools onsite provide marginal potential habitat for this species. Hogwallow starfish has low potential to occur onsite.

4.6.1.10 California Satintail

California satintail (*Imperata brevifolia*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 species. This species is a rhizomatous herbaceous perennial that occurs in mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and riparian scrub (CNPS 2020). California satintail blooms from September through May and is known to occur at elevations ranging from sea level to 3,986 feet above MSL (CNPS 2020). The current range of this species includes Butte, Fresno, Imperial, Inyo, Kern, Lake, Los Angeles, Orange, Riverside, San Bernardino, Tehama, Tulare, and Ventura counties. However, it is noted that records from Butte, Tehama, and Lake counties may represent ornamental planting that have escaped. It is also presumed that the species has been extirpated from Lake County (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the riparian scrub onsite provides marginal potential habitat for this species. California satintail has low potential to occur onsite.

4.6.1.11 Red Bluff Dwarf Rush

Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*) 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 vernally mesic areas in chaparral, cismontane woodland, meadows, seeps, valley and foothill grasslands, and vernal pools (CNPS 2020). Red Bluff dwarf rush blooms from March through June and is known to occur at elevations ranging from 115 to 4,101 feet above MSL (CNPS 2020). Red Bluff dwarf rush is endemic to California; the current range of this species includes Butte, Placer, Shasta, and Tehama counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools onsite provide marginal potential habitat for this species. Red Bluff dwarf rush has low potential to occur onsite.

4.6.1.12 Butte County Meadowfoam

Butte County meadowfoam (*Limnanthes floccosa ssp. californica*) is listed as endangered pursuant to both the federal and California ESAs, and is designated as a CRPR 1B.1 species. Butte County meadowfoam is an annual herb that occurs in vernal pools and valley and foothill grasslands (CNPS 2020). Butte County meadowfoam blooms from March to May and is known to occur at elevations between 151 to 3,5051 feet above MSL (CNPS 2020). The current known range for this species is Butte county (CNPS 2020).

The original botanical surveys conducted in 1999 and 2002 did not locate Butte County meadowfoam. A subsequent survey in March 2018 by Gallaway Enterprises documented 0.55 acre of Butte County meadowfoam. Butte County meadowfoam was also observed onsite during the March 2020 site reconnaissance survey. This species is present onsite.

4.6.1.13 Wooly Meadowfoam

Wooly meadowfoam (*Limnanthes floccosa* ssp. *floccosa*) 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 vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools (CNPS 2020). Wooly meadowfoam blooms between March and May and is known to occur at elevations ranging from 197 to 4,380 feet above MSL (CNPS 2020). The current known range for this species includes Butte, Lake, Lassen, Napa, Shasta, Siskiyou, Tehama, and Trinity counties. (CNPS 2020).

There is one documented CNDDB occurrence of this species within five miles of the Project (CDFW 2020). The vernal pools onsite provide potential habitat for this species. Wooly meadowfoam has potential to occur onsite.

4.6.1.14 Tehama Navarretia

Tehama navarretia (*Navarretia heterandra*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grassland and vernal pools (CNPS 2020). Tehama navarretia blooms between April and June and is known to occur at elevations ranging from 98 to 3,314 feet above MSL (CNPS 2020). The current range for Tehama navarretia includes Butte, Colusa, Lake, Napa, Shasta, Tehama, Trinity, and Yuba counties (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools onsite provide potential habitat for this species. Tehama navarretia has potential to occur onsite.

4.6.1.15 Ahart's Paronychia

Ahart's Paronychia (*Paronychia ahartii*) is not listed as pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. Ahart's Paronychia is an annual herb that occurs in cismontane woodland, valley foothill and grassland and vernal pools (CNPS 2020). Ahart's Paronychia blooms at elevations ranging from 98 to 1,673 feet above MSL (CNPS 2020). The current range for Ahart's paronychia is Butte, Shasta and Tehama counties (CNPS 2020).

There are two documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). The vernal pools onsite provide potential habitat for this species. Ahart's Paronychia has potential to occur onsite.

4.6.1.16 Bidwell's Knotweed

Bidwell's knotweed (*Polygonum bidwelliae*) is listed pursuant to the California ESAs, and is designated as a CRPR 4.3 species. This species is an herbaceous annual that occurs in volcanic soil in areas of chaparral, cismontane woodland, and valley and foothills grassland. (CNPS 2020). Bidwell's knotweed blooms from April to July and is known to occur at elevations ranging from 197 to 3937 feet above MSL (CNPS 2020). This species is endemic to California; its current range includes Butte, Shasta, and Tehama counties (CNPS 2020).

Bidwell's knotweed was observed onsite during the March 2018 survey (Gallaway 2018). This species is present onsite.

4.6.1.17 Butte County Golden Clover

Butte County golden clover (*Trifolium jokerstii*) is not listed pursuant to the federal and California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic sites in valley and foothill grassland and vernal pools (CNPS 2020). Butte County golden clover blooms between March and May and is known to occur at elevations ranging from 164 to 1,575 feet above MSL (CNPS 2020). Butte County golden clover is endemic to California; its current range includes Butte county (CNPS 2020).

There are no documented CNDDB occurrences of this species within five miles of the Project (CDFW 2020). However, the vernal pools onsite provide potential habitat for this species. Butte County golden clover has potential to occur onsite.

4.6.2 Invertebrates

4.6.2.1 Vernal Pool Fairy Shrimp

The vernal pool fairy shrimp (*Branchinecta lynchi*) is listed as threatened pursuant to the federal ESA. Historically, the range of vernal pool fairy shrimp extended throughout the Central Valley of California. Vernal pool fairy shrimp populations have been found in several locations throughout California, with habitat extending from Stillwater Plain in Shasta County through the Central Valley to Pixley in Tulare

County, and along the Central Coast range from northern Solano County to Pinnacles National Monument in San Benito County (Eng et al. 1990, Fugate 1992, Sugnet and Associates 1993). Additional populations occur in San Luis Obispo, Santa Barbara, and Riverside counties. The historic and current ranges of vernal pool fairy shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times (USFWS 2005a). Threats to vernal pool fairy shrimp include agricultural conversion and development that result in habitat loss. Habitat loss also occurs through changes in natural hydrology, incompatible livestock grazing, pollution by storm water, and disturbance from recreational activities (USFWS 2005a).

The life cycle of vernal pool fairy shrimp is adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Fairy shrimp embryos survive the dry season in cyst form. Cysts "hatch" soon after pools become inundated during the wet season. Fairy shrimp complete their life cycle quickly and feed on small particles of detritus, algae, and bacteria (Eriksen and Belk 1999).

Critical Habitat for vernal pool species was designated in August 2003 by USFWS (2003) and revised in 2005 (USFWS 2005b) and 2006 (USFWS 2006). The site does not occur within Critical Habitat for vernal pool fairy shrimp. The *Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon (Recovery Plan)* includes vernal pool fairy shrimp conservation strategies (USFWS 2005a).

The vernal pools and seasonal wetlands onsite provide potential habitat for this species; therefore, vernal pool fairy shrimp have potential to occur onsite.

4.6.2.2 Vernal Pool Tadpole Shrimp

Vernal pool tadpole shrimp (*Lepidurus packardi)* is listed as endangered pursuant to the federal ESA. The historic range of the vernal pool tadpole shrimp likely extended throughout the Central Valley of California, and has been documented from east of Redding in Shasta County south to Fresno County, and from the San Francisco Bay Wildlife Refuge in Alameda County. The historic and current ranges of vernal pool tadpole shrimp are very similar in extent; however, the remaining populations are more fragmented and isolated than during historical times (USFWS 2005a). The largest threats to vernal pool tadpole shrimp are loss of habitat through urbanization. Other threats include encroachment of nonnative annual grasses, agricultural conversion, and parasitism by flukes (Trematoda) of an undetermined species (Ahl 1991). Some populations are also threatened by pesticide drift from adjacent farmlands (USFWS 2005a).

This species is associated with low-alkalinity seasonal pools in grasslands throughout the northern and eastern portions of the Central Valley. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone. Vernal pool tadpole shrimp are adapted to seasonally inundated features such as vernal pools, seasonal wetlands, and seasonal wetland swales. Tadpole shrimp embryos survive the dry season in cyst form. Cysts "hatch" soon after pools become inundated during the wet season. Sexually mature adults may persist three to four weeks after habitat inundation (Sugnet and Associates 1993).

Critical Habitat for vernal pool species was designated in August 2003 by USFWS (2003) and revised in 2005 (USFWS 2005b) and 2006 (USFWS 2006). The site does not occur within Critical Habitat for vernal

pool tadpole shrimp. The *Recovery Plan* includes vernal pool tadpole shrimp conservation strategies (USFWS 2005a).

The vernal pools and seasonal wetlands onsite provide potential habitat for this species; therefore, vernal pool tadpole shrimp have potential to occur onsite.

4.6.2.3 Valley Elderberry Longhorn Beetle

The Valley elderberry longhorn beetle (VELB) was listed as a threatened species pursuant to ESA on August 8, 1980 (USFWS 1980). In 2006, the USFWS released a status review in which it was determined this species is no longer in danger of extinction and recommended that the beetle be delisted (USFWS 2006). However, the USFWS is required to undertake a separate rule-making process in order to implement formal changes in the status of a listed species; thus, to date, the beetle remains protected under the ESA.

The VELB is completely dependent on its host plant, the elderberry shrub, which typically occurs in riparian and other woodland communities in California's Central Valley and associated foothills (USFWS 1999). Elderberry plants with one or more stems measuring one inch or greater in diameter at ground level, and that are located within the range of VELB, are considered habitat for the species (USFWS 1999). The adult VELB flight season extends from late March through June. During that time, adults feed on foliage and flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). After hatching, VELB larvae bore into live elderberry stems, where they develop for one to two years while feeding on the pith. The final larval stage creates an emergence hole in the stem and then plugs the hole, remaining within the stem through pupation. Following pupation, the adult beetle emerges from the previously-created emergence hole and completes its life cycle.

While no elderberry shrubs were observed onsite during the reconnaissance survey, a protocol-level survey for VELB has not been conducted. Therefore, there is potential that VELB occurs onsite.

4.6.3 Amphibians

4.6.3.1 Western Spadefoot

The western spadefoot is not listed pursuant to either the California or federal ESAs; however, it is designated as an SSC by CDFW. 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). Spadefoots spend most of their adult life within underground burrows or other suitable refugia, such as rodent burrows.

Patterns of historical and current distribution are generally the same, with the species occurring in the Central Valley and the Coast Range and Sierra/Cascade foothills (Morey 2005) south into Baja California. However, abundance has been reduced in many areas and habitat conversion to agriculture and urban infrastructure and housing has caused extirpations throughout its range in California. The western

spadefoot has been extirpated throughout most of southern California (Stebbins 1985) and from many historical locations within the Central Valley (Jennings and Hayes 1994, Fisher and Shaffer 1996). This species generally occurs below 900 meters (3,000 feet) elevation (Stebbins 1985), but has been found up to 1,363 meters (4,500 feet) (Morey 1988). The current distribution of populations is thought to be at higher average elevation than occurred historically (USFWS 2005a) owing to the development of the Central Valley and changes to low elevation waters.

The vernal pools and seasonal wetlands onsite provide marginal habitat for this species. Western spadefoot has low potential to occur onsite.

4.6.4 Reptiles

4.6.4.1 Northwestern Pond Turtle

The northwestern pond turtle is not listed pursuant to either the California or federal ESAs; however, it is designated as an SSC by CDFW. The range of the northwestern pond turtle in California extends from the Oregon border southward to the Stockton area in the Central Valley, and the western slope of the Sierra-Cascade (Bury et al. 2012a). The elevational range extends from sea level to 2,000 meters, but it becomes rare at the higher elevations (Stebbins 2003).

Northwestern pond turtles can occur in a variety of waters including ponds, lakes, streams, reservoirs, rivers, settling ponds of wastewater treatment plants, and other permanent and ephemeral wetlands (Bury et al. 2012b). However, in streams and other lotic features they generally require slack- or slow-water aquatic microhabitats (Jennings and Hayes 1994). Western pond turtles also require basking areas such as logs, rocks, banks, and brush piles for thermoregulation (Bury et al. 2012b).

Northwestern pond turtles are typically active between March or April through October or November, the timing of which depends on variables such as latitude, elevation, and local climate (Bury et al. 2012b). Courtship and mating typically occur during late April and early May, but could occur throughout summer and into fall (Bury et al. 2012b). Suitable nest sites are usually 5-500 meters upland from water in areas with short grasses and forbs (Bury 2012b). Additionally, nesting sites are typically south- or west-facing in direct sunlight with soils that have a high silt or clay component (Rathbun et al. 1992, 2002). Hatchling northwestern pond turtles usually overwinter in nests (Reese and Welsh 1997) while adults overwinter on land or in the water depending on specific location and habitat (Bury et al. 2012b).

Dead Horse Slough and the upland grassland habitat adjacent to the slough provide potential habitat for northwestern pond turtle. Northwestern pond turtle has potential to occur onsite.

4.6.5 Birds

4.6.5.1 Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the federal or California ESAs. However, it is a CDFW "watch list" species and is currently tracked in the CNDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water.

Cooper's hawk nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2020). Breeding occurs during March through July, with a peak from May through July.

The trees onsite provide potential nesting and grassland provides potential foraging habitat. Cooper's hawk has potential to occur onsite.

4.6.5.2 Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*), is listed as threatened under the California ESA. Additionally, it is considered a BCC by USFWS and an SSC by CDFW. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese et al. 2014). Tricolored blackbird nests 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, 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 (Meese 2014). 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 (Meese 2014). The nesting season is generally from March through August.

The grassland onsite provides marginal foraging habitat for the species. Tricolored blackbird has potential to occur.

4.6.5.3 Burrowing Owl

The burrowing owl (BUOW, *Athene cunicularia*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a BCC by USFWS and an SSC by CDFW. This species generally occupies dry open rolling hills, grasslands, deserts, sagebrush scrub, agricultural areas, earthen levees and berms, coastal uplands, and urban vacant lots, as well as the margins of airports, golf courses, and roads (Klute et al. 2003, CDFG 2012). The species' breeding range extends across the western United States from the Pacific coast to western Nebraska, north into parts of Canada and south to Baja California and into mainland Mexico (Klute et al. 2003). Urbanization and other human-induced landscape changes are the drivers of BUOW population declines (Boal and Dykstra 2018).

BUOW have three basic habitat requirements: open, well-drained terrain; short, sparse vegetation; and underground burrows or burrow facsimiles (Klute et al. 2003, CDFG 2012) in which to take refuge and to breed. BUOW typically use burrows created by fossorial mammals, particularly the California ground squirrel (*Otospermophilus beecheyi*). In areas developed by humans, they may also use burrow surrogates, such as cement culverts or pipes; concrete, asphalt, or wood debris piles; or openings beneath concrete or asphalt pavement (California Department of Fish and Game [CDFG] 1995, 2012). The breeding season for BUOW typically occurs between February 1 and August 31 (California Burrowing Owl Consortium [CBOC] 1993, CDFG 1995, 2012). During the breeding season, foraging occurs throughout the day, at dawn, dusk and during daylight hours (Poulin and Todd 2006).

The grassland onsite provides potential foraging habitat. Burrowing owl has potential to occur onsite.

4.6.5.4 Oat Titmouse

Oak titmouse is not listed and protected under either federal or California ESAs, but is considered a BCC by USFWS. 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. 2017). They are found in dry oak or oak-pine woodlands, but may also use scrub oaks or other brush near woodlands (Cicero et al. 2017). Nesting occurs during March through July.

Oak trees onsite provide potential nesting habitat for the species, and oak titmouse was observed onsite during the field reconnaissance survey. Oak titmouse occurs onsite.

4.6.5.5 Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species and is protected pursuant to the California ESA. This species nests in North America (Canada, western United States, 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 (*Melanopulus* sp.). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, discing, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

Trees onsite along Dead Horse Slough provide potential nesting habitat and the grasslands onsite provide potential foraging habitat for this species. Swainson's hawk has potential to occur onsite.

4.6.5.6 Nuttall's Woodpecker

The Nuttall's woodpecker is not listed and protected under either state or federal ESAs, but is considered a BCC by USFWS. The species is resident from Siskiyou County south to Baja California. Nuttall's woodpecker nests in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther 2000). Breeding occurs during April through July.

Trees onsite provide potential nesting and foraging habitat and Nuttall's woodpecker was observed onsite during the field reconnaissance survey. Nuttall's woodpecker occurs onsite.

4.6.5.7 White-tailed Kite

White-tailed kite (*Elanus leucurus*) 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 1995). 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 1995).

The trees onsite provide potential nesting and grassland provides potential foraging habitat. White-tailed kite has potential to occur onsite.

4.6.5.8 Loggerhead Shrike

The loggerhead shrike (*Lanius ludovicianus*) is not listed pursuant to either the California or federal ESAs; but is considered a BCC by the USFWS and an SSC by the CDFW. This species nests throughout California except the northwestern corner, montane forests, and high deserts (Small 1994). Loggerhead shrike nests in small trees and shrubs in open country with short vegetation such as pastures, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands (Yosef 1996). The nesting season extends from March through July.

Open areas onsite provide potential nesting and foraging habitat. Loggerhead shrike has potential to occur onsite.

4.6.5.9 Song Sparrow "Modesto" Population

The song sparrow (*Melospiza melodia*) 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 Endangered Species Acts but is considered an SSC by CDFW. 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.

The vegetation of Dead Horse Slough provides marginal nesting habitat for this species. Song sparrow "Modesto" has low potential to occur onsite.

4.6.5.10 Yellow-billed Magpie

The yellow-billed magpie (*Pica nuttalli*) 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 six to eight weeks to complete, with eggs laid during April-May, and fledging during May-June (Koenig and Reynolds 2009). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2009). 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 2009).

The trees onsite provide potential nesting habitat. Yellow-billed magpie has potential to occur onsite.

4.6.5.11 Lawrence's Goldfinch

The Lawrence's goldfinch (*Spinus lawrencei*) is not listed pursuant to either the California or federal ESAs but is currently a BCC according to the USFWS. Lawrence's goldfinch breed west of the Sierra Nevada-Cascade axis from Tehama, Shasta, and Trinity counties south into the foothills surrounding the Central Valley to Kern County; and on the Coast Range from Contra Costa County to Santa Barbara County (Watt et al. 2020). Lawrence's goldfinch nest in arid woodlands usually with brushy areas, tall annual weeds and a local water source (Watt et al. 2020). Nesting occurs during March through September.

The vegetation within Dead Horse Slough provides marginal potential nesting habitat for this species. Lawrence's goldfinch has low potential to occur onsite.

4.6.6 Mammals

4.6.6.1 Pallid Bat

The Pallid bat (*Antrozous pallidus*) is not listed pursuant to either the California or federal ESAs; however, it is designated as an SSC by the CDFW and a U.S. Forest Service (USFS) sensitive species. The species' range extends from British Columbia to central Mexico (Harvey et al. 2011). The Pallid bat has a strong association with arid regions with rocky outcrops near water (Harvey et al. 2011). Roosting usually occurs in rock crevices and buildings, but is also found in tree cavities, caves, mines, and piles of rocks (Harvey et al. 2011). Pallid bat roosts in small colonies of 20 or more individuals, and females give birth to one to two offspring in May or June (Harvey et al. 2011).

Trees onsite provide marginal roosting habitat for this species. Pallid bat has low potential to occur onsite.

4.6.6.2 Western Red Bat

Western red bats (*Lasiurus blossevillii*) are not listed pursuant to either the California or federal ESAs; however, it is designated as an SSC by the CDFW and a USFS sensitive species. The historical range for this species includes Canada, western United States, western Mexico and Central America (Harvey et al. 2011).

However, new DNA evidence suggests the single account of western red bat in British Columbia, Canada is in fact an eastern red bat, reducing its northern range to northern California (Nagorsen and Patterson 2012). This species roosts within the foliage of large shrubs and trees in the edge line of forests, rivers, cultivated fields, and urban areas (Harvey et al. 2011). Western red bat occurs in riparian habitat dominated by cottonwoods, oaks, sycamore and walnuts; and rarely, desert habitats (Harvey et al. 2011). This species is believed to be migratory in the southwest, where it is only found to occur in the summer months, and in the San Francisco Bay Area during the winter months (Harvey et al. 2011). Little is known about the reproductive biology of this species, though up to three offspring are born in mid-May to late June (Harvey et al. 2011).

Trees onsite provide marginal roosting habitat for this species. Western red bat has low potential to occur onsite.

5.0 RECOMMENDED AVOIDANCE AND MINIMIZATION MEASURES

The Project provides potential habitat for special-status plant and wildlife species. Movement opportunities for wildlife are restricted due to the presence of heavily trafficked roadways to the east and south, as well as existing development to the north and west. Due to these existing restrictions, the Project will not permanently impact wildlife movement opportunities. However, the Project may support several special-status plant species, invertebrates, an amphibian, a reptile, nesting birds and bats. Additionally, aquatic resources are present throughout the site.

With implementation of the following recommendations, impacts to onsite natural resources should be minimized or avoided.

5.1 Special-Status Species

5.1.1 Plants

The following measures are recommended to minimize potential impacts to special-status plants:

5.1.1.1 Butte County Meadowfoam

- Avoid wetland features that contain the species to the extent practicable.
- If avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures, such as offsite preservation, may be developed in consultation with appropriate resource agencies to reduce impacts to the population.

5.1.1.2 Other Target Plant Species

- Perform focused plant surveys according to USFWS, CDFW, and CNPS protocols. Surveys should be timed according to the blooming period for target species and known reference populations, if available, and/or local herbaria should be visited prior to surveys to confirm the appropriate phenological state of the target species.

- If special-status plant species are found during surveys within the Project and avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures may be developed in consultation with appropriate resource agencies to reduce impacts to special-status plant populations.
- If no other special-status plants are found within the Project site , no further measures pertaining to special-status plants are necessary.

5.1.2 Invertebrates

Potential habitat for federally listed large branchiopods (i.e., vernal pool fairy and tadpole shrimp) occurs onsite. Potential habitat for VELB may occur onsite. The following measures are recommended to minimize potential impacts to special-status invertebrates.

5.1.2.1 Federally Listed Large Branchiopods

In order to minimize impacts to federally listed large branchiopods (i.e., vernal pool and tadpole fairy shrimp):

- Presence of federally listed large branchiopods has been assumed within onsite wetland features. A Biological Assessment is currently being prepared for submittal to USFWS and appropriate mitigation will be determined through the Section 7 process.

5.1.2.2 Valley Elderberry Longhorn Beetle

In order to minimize impacts to federally listed VELB, the following measures may be included as determined through the Section 7 process:

- Conduct an elderberry survey for the Project site and all accessible areas within 165 feet of the Project site following the protocol described in the *Conservation Guidelines for the Valley Elderberry Longhorn Beetle* (USFWS 1999). If no elderberries are found, no additional measures are necessary.
- If an elderberry shrub(s) is found in or within 165 feet of the Project, adverse effects would be avoided through implementation of the following measures:
    - *Avoidance area*. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving) may need an avoidance area of at least six meters (20 feet) from the drip line, depending on the type of activity. The area to be avoided shall be fenced and/or flagged as close to construction limits as possible.
    - *Worker education*. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for non-compliance.

- *Construction monitoring*. A qualified biologist will monitor the work area at Project-appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the Project specifics and shall be discussed with the USFWS biologist.
- *Timing*. As much as feasible, all activities that could occur within 50 meters (165 feet) of an elderberry shrub, will be conducted outside of the flight season of VELB (March - July).
- *Trimming*. Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, the following shall take place:
  - Trimming will occur between November and February
  - Trimming will avoid the removal of any branches or stems that are equal to or greater than one inch in diameter.
  - Measures to address regular and/or large-scale maintenance (trimming) shall be established in consultation with the USFWS.
  - *Chemical Usage*. Herbicides will not be used within the drip line of the shrub. Insecticides will not be used within 30 meters (98 feet) of an elderberry shrub. All chemicals will be applied using a backpack sprayer or similar direct application method if necessary.
  - *Mowing*. Mechanical weed removal within the drip line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry.
  - *Dust Control*. The potential effects of dust on VELB will be minimized by applying water during construction activities or by presoaking work areas that will occur within 100 feet of any potential elderberry shrub habitat.

- If elderberry shrubs are found onsite and the avoidance measures above cannot be fully implemented, the Applicant will provide compensatory mitigation for permanent loss of VELB habitat as determined by consultation with the USFWS.

5.1.3 Amphibians

5.1.3.1 Western Spadefoot

Suitable habitat for western spadefoot occurs onsite. To ensure that there are no impacts to western spadefoot the following avoidance and minimization measures are recommended:

- Preconstruction surveys for western spadefoot will be conducted within the limits of construction to detect adults, larvae, and/or egg masses, within 14 days prior to the start of construction.
- If no western spadefoots are found, no further measures pertaining to this species are necessary.
- If adults, larvae, or egg masses are found, they will be relocated to suitable habitat within an on- or offsite preserve(s), in consultation with CDFW.

5.1.4 Reptiles

5.1.4.1 Northwestern Pond Turtle

Suitable habitat for northwestern pond turtle occurs onsite. To ensure that there are no impacts to northwestern pond turtle the following avoidance and minimization measures are recommended:

- Pre-construction surveys for northwestern pond turtle will be conducted within 48 hours prior to the start of construction.
- If no northwestern pond turtles are found, no further measures pertaining to this species are necessary.
- If northwestern pond turtles are found within an area proposed for impact, a qualified biologist shall relocate the northwestern pond turtle to a suitable location away from the proposed construction, in consultation with CDFW.

5.1.5 Fish

The Project site does not provide suitable habitat for any special-status fish species. No measures are recommended for special-status fish species.

5.1.6 Birds

Suitable nesting habitat for several special-status birds is present within the Project site. In addition to the special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the MBTA. If present, the Project could result in harassment to or take of nesting individuals. As such, to ensure that there are no impacts to protected birds and/or active nests, the following avoidance and minimization measures are recommended:

5.1.6.1 Nesting Birds

- A preconstruction survey for nesting birds will be conducted by a qualified wildlife biologist within the Project site and a 100-foot buffer. If an active nest is located, a no-disturbance buffer will be established as determined by the biologist in consultation with CFDW and maintained until the nest is confirmed by the biologist that nestlings have fledged, or is otherwise no longer active.

5.1.6.2 Raptors

- A preconstruction survey for nesting raptors will be conducted by a qualified wildlife biologist within the Project site and a 500-foot buffer. If an active nest is located, a no-disturbance buffer will be established as determined by the biologist in consultation with CFDW and maintained until a qualified biologist determines that nestlings have fledged, or the nest is otherwise no longer active.

5.1.6.3 Swainson's Hawk

- A preconstruction survey for nesting raptors will be conducted by a qualified wildlife biologist within the Project site and a 0.25-mile buffer. As described above, if Swainson's hawks are found to be nesting in the vicinity, the nest will be monitored by a qualified biologist to check for disturbed behavior. If the raptors are expressing disturbed behavior or the nest is within 500 feet of active construction, a no-disturbance buffer will be established in consultation with CDFW and maintained until a qualified biologist determines that nestlings have fledged, or the nest is otherwise no longer active.

5.1.6.4 Burrowing Owl

- A habitat assessment and preconstruction survey for burrowing owl habitat will be conducted within the Project site and a 500-foot buffer in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012).
- If suitable burrows and burrowing owls are found onsite during the habitat assessment, a Burrowing Owl Exclusion and Monitoring Plan shall be submitted to CDFW for approval and implementation during the non-breeding season.
- If active burrows are found during the preconstruction survey, a 500' no-disturbance buffer will be applied and the burrow will be monitored. CDFW will be notified and consulted for guidance on any proposed buffer reductions.

5.1.7 Mammals

5.1.7.1 Pallid and Western Red Bat

The Project site contains potential roosting habitat for pallid bat and western red bat. To ensure that there are no significant impacts to special-status bats, the following mitigation measures are recommended:

- A preconstruction habitat survey will be conducted to identify features that provide suitable bat roosting habitat (e.g., trees with cavities or exfoliating bark, rock outcrops). Suitable habitat features will be surveyed for evidence of roosting bats (e.g., guano and urine staining), and if necessary, evening emergence surveys and/or acoustic monitoring will be conducted to determine the extent of use by bats.
- If any special-status bats are found, CDFW will be consulted with on the appropriate course of action.
- If no bats are found, no further measures pertaining to the species are necessary.

5.2 Aquatic Resources

Approximately 3.037 acres of Waters of the U.S./State are located within the Project site (Figures 4 and 5). The following mitigation measures are recommended to minimize potential impacts to Waters of the U.S./State:

- Authorization to fill wetlands and other Waters of the U.S. under the Section 404 of the federal CWA (Section 404 Permit) must be obtained from USACE prior to discharging any dredged or fill materials into any Waters of the U.S. Mitigation measures will be developed as part of the Section 404 Permit to ensure no net loss of wetland function and values. To facilitate such authorization, an application for a Section 404 Permit for the Project will be prepared and submitted to USACE and will include direct, avoided, and preserved acreages to Waters of the U.S. 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.
- 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.

Features that may be subject to CDFW Section 1602 jurisdiction occur onsite (e.g., perennial slough, intermittent drainage, riparian) (Figure 5). The following measure is recommended to minimize potential impacts to the bed, bank, or channel of rivers, streams, or lakes within the Project site if the Project proposes to place fill in these features:

- A Streambed Alteration Agreement (SAA) pursuant to Section 1602 of the California Fish and Game Code must be obtained for any activity that will impact the bed, bank, or channel of any river, stream, or lake. Mitigation measures will be developed during consultation with CDFW as part of the SAA permit process to ensure protections for affected fish and wildlife resources.

5.3 Workers Environmental Awareness Training

Prior to start of construction activities, a qualified biologist shall conduct an education program for all persons involved with the proposed Project. The program shall consist of a presentation from the Biologist that includes a discussion of the biology and general behavior of the species discussed above, information about the distribution and habitat needs of these animals, sensitivity of these animals to human activities, and their status of legal protection.

6.0 REFERENCES

Ahl, J. S. B. 1991. Factors affecting contributions of the tadpole shrimp, *Lepidurus packardi*, to its oversummering egg reserves. *Hydrobiologia* 212:137-143.

Arcese, P., M. K. Sogge, A. B. Marr, and M. A. Patten. 2020. Song Sparrow (*Melospiza melodia*), version 1.0. In *Birds of the World* (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA.

Barr, C. B. 1991. The distribution, habitat and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus* (Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service, Sacramento, California.

Bechard, M. J., C. S. Houston, J. H. Saransola, and A. S. England. 2020. Swainson's Hawk (Buteo swainsoni), version 1.0. In *Birds of the World* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.swahaw.01.

Boal, C. W. and C.R. Dykstra (editors). 2018. Urban *Raptors: Ecology and Conservation of Birds of Prey in Cities*. Island Press, Washington, District of Columbia.

Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton. 2012a. Objectives, nomenclature and taxonomy, description, status, and needs for sampling. Pages 1 – 7 in Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton, editors. Western Pond Turtle: Biology, Sampling Techniques, Inventory and Monitoring, Conservation, and Management. Northwest Fauna No. 7.

Bury, R. B., D. T. Ashton, H. H. Welsh Jr., D. A. Reese, and D. J. Germano. 2012b. Synopsis of Biology. Pages 9 – 19 in Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton, editors. Western Pond Turtle: Biology, Sampling Techniques, Inventory and Monitoring, Conservation, and Management. Northwest Fauna No. 7.

CBOC. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. Dated April 1993.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. March 7.

_____. 1995. Staff Report on Burrowing Owl Mitigation. October 17.

_____. 1984. California Endangered Species Act. California Fish and Game Code §§ 2050-2085.

CDFW. 2020. RareFind California Department of Fish and Game Natural Diversity Database (CNDDB). California. Sacramento, CA, California Department of Fish and Wildlife, Biogeographic Data Branch.

Cicero, C., P. Pyle, and M. A. Patten. 2017. Oak Titmouse (*Baeolophus inornatus*), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.oaktit.01.

City of Chico. 2009. City of Chico 2030 General Plan. Available at: http://www.chico.ca.us/document_library/general_plan/GeneralPlan.asp.

CNPS. 2020a. *Inventory of Rare and Endangered Plants* (online edition, v8-02). California Native Plant Society, Rare Plant Program. Sacramento, CA. Website http://www.rareplants.cnps.org. Accessed 02 April 2020.

_____. 2020b. *Manual of California Vegetation* (online edition, v8-02). California Native Plant Society. Sacramento, CA. Website http://vegetation.cnps.org/. Accessed 17 April 2020.

Dunk, J. R. 1995. White-tailed Kite*: Elanus Leucurus*. American Ornithologists' Union.

eBird. 2020. eBird: An online database of bird distribution and abundance [web application]. eBird, Cornell Lab of Ornithology, Ithaca, New York. Available: http://www.ebird.org. (Accessed April 2020).

Eng, L.L., Belk D., and C.H. Eriksen. 1990. California anostraca: distribution, habitat, and status. J. Crus. Biol. 10:247-277.

Eriksen, C. H. and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press, Inc. Eureka, California.

Estep, J. A. 1989. Biology, movements, and habitat relationships of the Swainson's Hawk in the Central Valley of California, 1986-87. Report to the State of California Department of Fish and Game, Wildlife Management Division, Nongame Bird and Mammal Section. Sacramento, California.

Fisher, R. N. and H.B. Shaffer. 1996. The decline of amphibians in California's Great Central Valley. *Conservation Biology*. 10(5), 1387-1397.

Fugate, M.L. 1992. Speciation in the fairy shrimp genus *Branchinecta* (*Crustacea: Anostraca*) from North America. Ph.D. dissertation. Department of Biology, University of California, Riverside, California.

Gallaway Enterprises. 2018. *Creekside Townhouses Project 2018 Butte County Meadowfoam Survey*. March 9.

Google Earth Pro. 2019. Version 7.3.2.5776. "Highway 32 and Bruce Road, Chico, California". 39°44'31.18"N, 121°47'30.34"W. Accessed April 7, 2020.

Grinnell, J., and A.H. Miller. 1944. *The Distribution of the Birds of California*. Cooper Ornithological Club, Berkeley (reprinted 1986 by Artemisia Press, Lee Vining, California).

Harvey, M.J., J. Scott Altenbach, and Troy Best. 2011. *Bats of the United States and Canada*. The Johns Hopkins University Press, Baltimore, Maryland.

Jennings, M.R. and M.P. Hayes. 1994. Amphibians and reptile species of special concern in California. Contract 38023, report to the California Department of Fish and Game, Inland Fisheries Division. Sacramento, CA. 255 pp.

Jepson Flora Project (eds.) 2020. Jepson eFlora. Retrieved from The Jepson Herbarium online: https://ucjeps.berkeley.edu/eflora/. Accessed April 2020.

Klute, D. S., L. W. Ayers, M. T. Green, W. H. Howe, S. L. Jones, J. A. Shaffer, S. R. Sheffield, and T. Zimmerman. 2003. *Status assessment and conservation plan for the western burrowing owl in the*

United States. U.S. Department of Interior, Fish and Wildlife Service, Biological Technical Publication FWS/BTP-R6001-2003, Washington, District of Columbia.

Koenig, W. D. and M. D. Reynolds. 2009. Yellow-billed Magpie (*Pica nuttalli*). The Birds of North America Online (A. Poole, Ed.). Ithaca, New York: Cornell Lab of Ornithology, 180.

Lowther, P. E. 2000. Nuttall's Woodpecker (*Picoides nuttallii*). The birds of North America Online (A. Poole, Ed.). Ithaca, New York: Cornell Lab of Ornithology, 555: 12.

Meese, R. J. 2014. Results of the 2014 tricolored blackbird statewide survey. In *Tricolored Blackbird Portal* (Vol. 2014). Information Center for the Environment, UC Davis.

Morey, S. A. 2005. *Spea hammondii* Western Spadefoot. Pages 514-517 in M. Lannoo, ed., *Amphibian Declines: the Conservation Status of United States Species*. U. C. Press, Berkeley.

Morey, S.R. 1988. Western spadefoot *Scaphiopus hammondii*. Pages 56-57 in *California's Wildlife. Volume 1. Amphibians and reptiles*. D.C. Zeiner, W.F. Laudenslayer, Jr., and K.E. Mayer, eds. Wildlife habitat relationships system, California Department of Fish and Game, Sacramento, CA.

Nagorsen, D.W. and B. Patterson. 2012. An Update on the Status of Red Bats, *Lasiurus Blossevillii* and *Lasiurus Borealis*, in British Columbia. Society for Northwestern Vertebrate Biology, Corvallis, Oregon.

NRCS. 2020. *Web Soil Survey* from http://websoilsurvey.nrcs.usda.gov. Accessed: March 2020.

NRCS, USGS, USEPA. 2016. Watershed Boundary Dataset for California. http://datageteway.nrcs.usda.gov.

Poulin, R., Todd, L. D. 2006. Sex and nest stage differences in the circadian foraging behaviors of nesting burrowing owls. *The Condor* 108: 856-864.

Rathbun, G. B., N. J. Scott Jr., and T. G. Murphey. 2002. Terrestrial habitat use by pacific pond turtles in a Mediterranean climate. *Southwestern Naturalist* 47: 225 – 235.

Rathbun, G. B., N. Siepel, and D. Holland. 1992. Nesting behavior and movements of western pond turtles, *Clemmys marmorata*. *Southwestern Naturalist* 37: 319-324.

Reese, D. A., and H. H. Welsh Jr. 1997. Use of terrestrial habitat by western pond turtles, *Clemmys marmorata*: implications for management. In J. van Abbema, editor. Proceedings: conservation, restoration, and management of tortoises and turtles-an international conference. Wildlife Conservation Society Turtle Recovery Program, and the New York Turtle and Tortoise Society. New York, New York.

Rosenfield, R. N., K. K. Madden, J. Bielefeldt, and O. E. Curtis. 2020. Cooper's Hawk (*Accipiter cooperii*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, New York, USA.

Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. *A Manual of California Vegetation, Second Edition*. California Native Plant Society, Sacramento, California

Small, A. 1994. *California Birds: Their Status and Distribution*. Ibis Publishing Company. Vista, California. 342 pp.

Stebbins, R.C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Houghton Mifflin Company, Boston, Massachusetts.

Stebbins, R. C. 2003. *Western Reptiles and Amphibians*. Houghton-Mifflin Co., Boston, New York. 533 pp.

Sugnet and Associates. 1993. *Preliminary compilation of documented distribution, fairy shrimp and tadpole shrimp proposed for listing*. Sugnet and Associates Environmental Consultants, Roseville, California. 22 pp. + 3 maps.

USACE. 2018. Approved Jurisdictional Delineation for the Creekside Development (SPK-2005-00063). Letter dated March 22, 2018.

USFWS. 2020. Environmental Conservation Online System (ECOS). USFWS Information for Planning and Consultation. Website https://ecos.fws.gov/ipac/

_____. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp.

_____. 2006. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. Federal Register. February 10, 2006 (Volume 71, Number 28).

_____. 2005a. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland, Oregon. xxvi+ 606 pages.

_____. 2005b. Endangered and Threatened Wildlife and Plants; Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Evaluation of Economic Exclusions from August 2003 Final Designation; Final Rule. Federal Register: Volume 70, Number 154 (August 11, 2005).

_____. 2003. Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. Federal Register 68(151):46684-46867.

_____. 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Sacramento Fish and Wildlife Office. Dated July 9.

_____. 1980. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat; Final Rule. Federal Register Volume 45, Number 155 (August 8, 1980).

_____. 1918. Migratory Bird Treaty Act. Section 16 of the U.S. Code (703-712), as amended 1989.

USGS. 1948. "Chico, California" 7.5-minute Quadrangle (Photo revised 1978). Geological Survey. Denver, Colorado.

Watt, D. J., P. Pyle, M. A. Patten, and J. N. Davis. 2020. Lawrence's Goldfinch (*Spinus lawrencei*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, New York, USA.

Yosef, R. 1996. Loggerhead shrike (*Lanius ludovicianus*). The Birds of North America Online (A. Poole, Ed.). Ithaca, New York: Cornell Lab of Ornithology, 231.

LIST OF ATTACHMENTS

ATTACHMENT A

Special-Status Species Query Results

Attachment A. Special-Status Species Evaluated for the Project

- **Present** - Species is known to occur within the Project based on observations during previous surveys, or documented occurrences within the California Natural Diversity Database (CNDDB) or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Project.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Project based on CNDDB 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 Project based on CNDDB records and other documentation. Or not found during protocol-level surveys.

Special-Status Species Evaluated for the Project

Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Plants						
Depauperate milk-vetch (*Astragalus pauperculus*)	–	–	4.3	Occurs within vernally mesic and volcanic soils in chaparral, cismontane woodland, and valley and foothill grasslands (197'-3,986').	March-June	Potential to Occur.
Ferris' milk-vetch *(Astragalus tener* var. *ferrisiae)*	–	–	1B.1	Found in vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (7'–246').	April–May	Absent. No suitable habitat present onsite.
Mexica mosquito fern (*Azolla microphylla*)	–	–	4.2	Occurs in marshes and swamps (e.g., ponds and slow-moving water) (98'-328')	August	Absent. No suitable habitat present onsite.
Big-scale balsamroot *(Balsamorhiza macrolepis)*	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentinite soils (148'–5,102').	March–June	Low Potential to Occur. Marginally suitable habitat present onsite.
Watershield (*Brasenia schreberi*)	–	–	2B.3	Freshwater marshes and swamps (98'–7,218').	June–September	Absent. No suitable habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Valley brodiaea (*Brodiaea rosea spp. vallicola*)	–	–	4.2	Occurs in old alluvial terraces and silty, sandy, or gravelly soils in vernal pools within valley and foothill grassland (33'-1,100').	April-May(June)	Low Potential to Occur. Marginally suitable habitat present onsite.
Brassy bryum (Bryum chryseum)	–	–	4.3	Openings in chaparral, cismontane woodland, and valley and foothill grassland (164'-1,967').	N/A	Absent. Outside of the acknowledged range of this species.
Butte County calycadenia (Calycadenia oppositifolia)	–	–	4.2	Openings and volcanic, granitic or serpentinite areas within chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps and valley and foothill grassland (295'-3,100').	April-June	Low Potential to Occur. Marginally suitable habitat present onsite.
Butte County morning-glory (Calystegia atriplicifolia)	–	–	4.2	Rocky areas and roadsides within chaparral, lower montane coniferous forest and valley and foothill grassland (1,853-5,000').	May-July	Absent. Outside of the elevational range for this species.
Flagella-like atractylocarpus (Campylopodiella stenocarpa)	–	–	2B.2	Cismontane woodland (328'-1,641').	N/A	Absent. No suitable habitat present onsite.
Dissected-leaved toothwort *(Cardamine pachystigma* var. *dissectifolia)*	–	–	1B.2	Serpentinite soils in chaparral and lower montane coniferous forest (835' – 6,900').	February - May	Absent. No suitable habitat present onsite.
Pink creamsacs *(Castilleja rubicundula* var. *rubicundula)*	–	–	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 present onsite.
Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*)	–	–	4.2	Occurs in vernal pools and valley and foothill grassland with alkaline and vernally mesic soils, seeps, and sometimes roadsides (0'-328').	May-October	Potential to Occur.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
White-stemmed clarkia *(Clarkia gracilis* ssp. *albicaulis)*	–	–	1B.2	Sometime on serpentine soils in chaparral and cismontane woodland (800' – 3'560').	May - July	Absent. No suitable habitat present onsite.
Marsh claytonia (Claytonia palustris)	–	–	4.3	Mesic meadows and seeps, marshes and swamps, and upper montane coniferous forest (3,280'-8,202').	May-October	Absent. Outside of the elevational range for this species.
Silky cryptantha *(Cryptantha crinita)*	–	–	1B.2	Found in gravelly streambeds in cismontane woodland, lower montane coniferous forest, riparian forest, riparian woodland, and valley and foothill grassland (200' – 4,000').	April - May	Low Potential to Occur. Marginally suitable habitat present onsite.
Red-stemmed cryptantha (*Cryptantha rostellata*)	–	–	4.2	Occurs on gravelly, volcanic openings as well as roadsides in cismontane woodland and valley and foothill grassland (131'-2,625').	April-June	Potential to Occur onsite.
Recurved larkspur *(Delphinium recurvatum)*	–	–	1B.2	Chenopod scrub, cismontane woodland, and valley and foothill grasslands (10'–2,592').	March–June	Low Potential to Occur onsite. Marginally suitable habitat present onsite.
Ahart's buckwheat (Eriogonum umbellatum var. ahartii)	–	–	1B.2	Serpentinite, slopes and openings within chaparral and cismontane woodland (1312'-6,562').	June - September	Absent. Outside of the elevational range for this species.
Shield-bracted monkeyflower (Erythranthe glaucescens)	–	–	4.3	Serpentine seeps and sometimes streambanks within chaparral, cismontane woodland, lower montane coniferous forest and valley and foothill grassland (196'-4,067').	February-August	Absent. No suitable habitat present onsite.
Hoover's spurge (*Euphorbia hooveri*)	FT	–	1B.2	Vernal pools (82' – 820')	June - September	Absent. No suitable habitat present onsite.
Butte County fritillary *(Fritillaria eastwoodiae)*	–	–	3.2	Chaparral, cismontane woodland, and openings in lower montane coniferous forest and occasionally is found on serpentinite soils (164'–4,921').	March–June	Absent. No suitable habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Adobe lily *(Fritillaria pluriflora)*	–	–	1B.2	Adobe soils in chaparral, cismontane woodland, and valley and foothill grassland (197'–2,313').	February–April	Absent. No suitable habitat present onsite.
Hogwallow starfish (*Hesperevax caulescens*)	–	–	4.2	Mesic, clay areas within valley and foothill grassland, and shallow vernal pools, sometimes in alkaline areas (0'-1,657').	March-June	Low Potential to Occur. Marginally suitable habitat present onsite.
Woolly rose-mallow *(Hibiscus lasiocarpos* var. *occidentalis)*	–	–	1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees (0'–394').	June–September	Absent. No suitable habitat present onsite.
California satintail *(Imperata brevifolia)*	–	–	2B.1	Mesic areas in chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali) and riparian scrub (0'–3,986').	September - May	Low Potential to Occur. Marginally suitable habitat present onsite.
Red Bluff dwarf rush *(Juncus leiospermus* var. *leiospermus)*	–	–	1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools (115'–4,101').	March–June	Low Potential to Occur. Marginally suitable habitat present onsite.
Humboldt lily (*Lilium humboldtii ssp. Humboldtii*)	–	–	4.2	Openings within chaparral, cismontane woodland, and lower montane coniferous forest (295'-4,199').	May-July(August)	Absent. No suitable habitat present onsite.
Butte County meadowfoam *(Limnanthes floccosa* ssp. *californica)*	FE	CE	1B.1	Mesic valley and foothill grassland and vernal pools (151'-3052').	March-May	Present. Found during March 2020 field visit.
Wooly meadowfoam *(Limnanthes floccosa* ssp. *floccosa)*	–	–	4.2	Vernally mesic chaparral, cismontane woodland, valley and foothill grassland, and vernal pools (197'–4,380').	March–May	Potential to Occur.
Veiny monardella *(Monardella venosa)*	–	–	1B.1	Heavy clay soils in cismontane woodland and valley and foothill grasslands (197'–1,345').	May–July	Absent. No suitable habitat present onsite.
Tehama navarretia (*Navarretia heterandra*)	–	–	4.3	Mesic areas in valley and foothill grassland and vernal pools (98'-3,314').	April-June	Potential to Occur.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Adobe navarretia (*Navarretia nigelliformis ssp. nigelliformis*)	–	–	4.2	Clay and sometimes serpentinite substrates in mesic areas in valley and foothill grassland and sometimes in vernal pools. (328' – 3,281')	April-June	Absent. No suitable habitat present onsite.
Hairy Orcutt grass *(Orcuttia pilosa)*	FE	CE	1B.1	Vernal pools (150' – 656').	May - Sept	Absent. No suitable habitat present onsite.
Ahart's paronychia *(Paronychia ahartii)*	–	–	1B.1	Vernal pools within cismontane woodland, and valley/foothill grassland (98' – 1,640').	March - June	Potential to Occur onsite.
Bidwell's knotweed (Polygonum bidwelliae)	–	–	4.3	Volcanic areas in chaparral, cismontane woodland, and valley and foothill grassland (196'-3,938').	April-July	Present. Found during March 2018 survey.
California beaked-rush (*Rhynchospora californica*)	–	–	1B.1	Bogs, fens, lower montane coniferous forest, meadows, seeps, marshes and swamps (145' – 3,315').	May - July	Absent. No suitable habitat present onsite.
Brownish beaked-rush (*Rhynchospora capitellata*)	–	–	2B.2	Mesic areas in lower montane coniferous forest, upper montane coniferous forests, meadows, seeps, marshes, and swamps (148'–6,562').	July–August	Absent. No suitable habitat present onsite.
Butte County checkerbloom (*Sidalcea robusta*)	–	–	1B.2	Found in chaparral and cismontane woodland (300'- 5,250').	April and June	Absent. Outside of the elevational range for this species.
Slender-leaved pondweed (*Stuckenia filiformis* ssp. *alpina*)	–	–	2B.2	Assorted shallow freshwater marshes and swamps (984'–7,054').	May–July	Absent. No suitable habitat present onsite.
Butte County golden clover *(Trifolium jokerstii)*	–	–	1B.2	Vernal pools in valley and mesic foothill grassland (164' – 1,575')	March - May	Potential to Occur onsite.
Greene's tuctoria *(Tuctoria greenei)*	FE	CR	1B.1	Vernal pools (98'–3,510').	May–July	Absent. No suitable habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Brazilian watermeal *(Wolffia brasiliensis)*	–	–	2B.3	Assorted shallow freshwater marshes and swamps (66'–328').	April–December	Absent. No suitable habitat present onsite.
Invertebrates						
Conservancy fairy shrimp (*Branchinecta conservatio)*	FE	–	–	Vernal pools/wetlands.	November-April	Absent. No suitable habitat present onsite.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	–	–	Vernal pools/wetlands.	November-April	Potential to occur onsite.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	–	–	Elderberry shrubs.	Any season	Potential to occur onsite.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	–	–	Vernal pools/wetlands.	November-April	Potential to occur onsite.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	–	Water bodies connected to the Sacramento-San Joaquin delta.	N/A	Absent. Outside on the acknowledged range for this species.
Chinook salmon (Central Valley spring-run ESU) (*Oncorhynchus tshawytscha*)	FT	CT	–	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat present onsite.
Steelhead (CA Central Valley DPS) (*Oncorhynchus mykiss*)	FT	–	–	Undammed rivers, streams, creeks.	N/A	Absent. No suitable habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Amphibians						
Foothill yellow-legged frog (*Rana boylii*)	-	CT	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.	May-October	Absent. No suitable habitat present onsite.
California red-legged frog (*Rana draytonii*)	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. Outside of acknowledged range for this species.
Western spadefoot (*Spea hammondii*)	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Low Potential. Marginal habitat present onsite.
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)	-	-	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	Potential to occur onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Blainville's ("Coast") horned lizard (*Phrynosoma blainvillii*)	-	-	SSC	Formerly a wide-spread horned lizard found in a wide variety of habitats, often in lower elevation areas with sandy washes and scattered low bushes. Also occurs in Sierra Nevada foothills. Requires open areas for basking, but with bushes or grass clumps for cover, patches of loamy soil or sand for burrowing and an abundance of ants (Stebbins and McGinnis 2012). In the northern Sacramento area, this species appears restricted to the foothills between 1000 to 3000 feet from Cameron Park (El Dorado County) north and west to Grass Valley and Nevada City.	April-October	Absent. No suitable habitat present onsite.
Giant garter snake (*Thamnophis gigas*)	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent. No suitable habitat present onsite.
Birds						
Cooper's hawk *(Accipiter cooperii)*	-	-	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes	March-July	Potential to occur onsite.
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos 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. Potential foraging habitat present, but suitable nesting habitat is absent.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Golden eagle (*Aquila chrysaetos*)	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	Nest (February-August); winter CV (October-February)	Absent. No suitable habitat present onsite.
Burrowing owl *(Athene cunicularia)*	-	-	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	Potential to occur onsite.
Oak titmouse (*Baeolophus inornatus*)			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 onsite.
Swainson's hawk (*Buteo swainsoni*)	-	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 onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Wrentit (*Chamaea fasciata*)	-	-	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 habitat present onsite.
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	BCC	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15-August 15	Absent. No suitable habitat present onsite.
Nuttall's woodpecker *(Dryobates nuttallii)*	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Potential to occur onsite.
White-tailed kite (*Elanus leucurus*)	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential to occur onsite.
American peregrine falcon *(Falco peregrinus anatum)*	De-listed	De-listed	BCC, CFP	In California, breeds in coastal region, northern California, and Sierra Nevada. Nesting habitat includes cliff ledges and human-made ledges on towers and buildings. Wintering habitat includes areas where there are large concentrations of shorebirds, waterfowl, pigeons or doves.	CA Residents nest in February-June	Absent. No suitable habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	-	-	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County	March-July	Absent. Outside of the range for this species.
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	BCC, CFP	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 present onsite.
Loggerhead shrike (*Lanius ludovicianus*)	-	-	BCC, SSC	Found throughout California in open country with short vegetation, pastures, old orchards, grasslands, agricultural areas, open woodlands. Not found in heavily forested habitats.	March-July	Potential to occur onsite.
California black rail (*Laterallus jamaicensis coturniculus*)	-	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 present onsite.
Lewis' woodpecker (*Melanerpes lewis*)	-	-	BCC	In California, breeds in Siskiyou and Modoc Counties, Warmer Mountains, inner coast ranges from Tehama to San Luis Obispo Counties, San Bernardino Mountains, and Big Pine Mountain (Inyo County); nesting habitat includes open ponderosa pine forest, open riparian woodland, logged/burned forest, and oak woodlands. Does not breed on the west side of Sierran crest (Beedy and Pandalfino 2013).	April-September (breeding); September-March (winter in Central Valley).	Absent. Does not nest in the region.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Song sparrow "Modesto" (Melospiza melodia heermanni)	-	-	BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Low Potential. Marginal nesting habitat present onsite.
Osprey *(Pandion haliaetus)*	-	-	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 present onsite.
Yellow-billed magpie (*Pica nuttallii*)	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Potential to occur onsite.
San Clemente spotted towhee (*Pipilo maculatus clementae*)	-	-	BCC, SSC	Resident on Santa Catalina and Santa Rosa Islands; extirpated on San Clemente Island, California. Breeds in dense, broadleaf shrubby brush, thickets, and tangles in chaparral, oak woodland, island woodland, and Bishop pine forest.	Year-round resident; breeding season is April-July	Absent. Outside of the acknowledged range for this species.
Bank swallow (*Riparia riparia*)	-	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 habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Rufous hummingbird *(Selasphorus rufus)*	-	-	BCC	Breeds in British Columbia and Alaska (does not breed in California). Winters in coastal Southern California south into Mexico. Common migrant during March-April in Sierra Nevada foothills and June-August in Lower Conifer to Alpine zone of Sierra Nevada. Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential area.	April-July	Absent. Does not nest in the region.
Yellow warbler (*Setophaga petechia*)	-	-	SSC, BCC	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte Counties), Sierra Nevada range above tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America.	May-August	Absent. Does not nest in the region.
Lawrence's goldfinch (*Spinus lawrencei*)	-	-	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g., small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.	March-September	Low Potential. Marginal nesting habitat present onsite.

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
California thrasher (*Toxostoma redivivum*)	-	-	SSC	Resident and endemic to coastal and Sierra Nevada-Cascade foothill areas of California. Nests are usually well hidden in dense shrubs, including scrub oak, California lilac, and chamise.	February-July	Absent. No suitable habitat present onsite.
Willet (*Tringa semipalmata*)	-	-	BCC	Breeds locally in interior of western North America. In California, breeding range includes the Klamath Basin and Modoc Plateau and portions of Mono and possibly Inyo counties. Breeding habitat includes prairies, Breeds in wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali wetlands over semipermanent and permanent wetlands.	April-August	Absent. No suitable habitat present onsite.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	BCC	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur.	April 1-July 31	Absent. Outside of the acknowledged range for this species.
Mammals						

Special-Status Species Evaluated for the Project						
Common Name (Scientific Name)	Status[1]			Habitat Description	Survey Period	Potential to Occur Onsite
	FESA	CESA/ NPPA	Other			
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings.	April-September	Low Potential. Marginal habitat present onsite.
Western mastiff bat *(Eumops perotis californicus)*	-	-	SCC	Primarily a cliff-dwelling species, found in similar crevices in large boulders and buildings	April-September	Absent. No suitable habitat present onsite.
Western red bat (*Lasiurus blossevillii*)	-	-	SSC	Riparian habitat dominated by cottonwoods, oaks, sycamore and walnuts, and rarely, desert habitats. Roosts within the foliage of large shrubs and trees in the edge line of forests, rivers, cultivated fields, and urban areas.	April-September	Low Potential. Marginal habitat present onsite.
American badger *(Taxidea taxus)*	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent. No suitable habitat present onsite.

Status Codes[1]:

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

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Nord (3912178) OR Richardson Springs (3912177) OR Paradise West (3912176) OR Ord Ferry (3912168) OR Chico (3912167) OR Hamlin Canyon (3912166) OR Llano Seco (3912158) OR Nelson (3912157) OR Shippee (3912156))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAABF02020	***Spea hammondii*** western spadefoot	None	None	G3	S3	SSC
AAABH01050	***Rana boylii*** foothill yellow-legged frog	None	Candidate Threatened	G3	S3	SSC
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNKD06071	***Falco peregrinus anatum*** American peregrine falcon	Delisted	Delisted	G4T4	S3S4	FP
ABNME03041	***Laterallus jamaicensis coturniculus*** California black rail	None	Threatened	G3G4T1	S1	FP
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBR01030	***Lanius ludovicianus*** loggerhead shrike	None	None	G4	S4	SSC
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S2	
ABPBX03010	***Setophaga petechia*** yellow warbler	None	None	G5	S3S4	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G2G3	S1S2	SSC
AFCHA0205A	***Oncorhynchus tshawytscha pop. 6*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S1	
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AMACC01020	***Myotis yumanensis*** Yuma myotis	None	None	G5	S4	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G5	S3S4	
AMACC05030	***Lasiurus cinereus*** hoary bat	None	None	G5	S4	
AMACC05060	***Lasiurus blossevillii*** western red bat	None	None	G5	S3	SSC
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G5	S3	SSC
AMACD02011	***Eumops perotis californicus*** western mastiff bat	None	None	G5T4	S3S4	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARACF12100	***Phrynosoma blainvillii*** coast horned lizard	None	None	G3G4	S3S4	SSC
ARADB36150	***Thamnophis gigas*** giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44131CA	***Northern Basalt Flow Vernal Pool*** Northern Basalt Flow Vernal Pool	None	None	G3	S2.2	
CTT44132CA	***Northern Volcanic Mud Flow Vernal Pool*** Northern Volcanic Mud Flow Vernal Pool	None	None	G1	S1.1	
CTT52410CA	***Coastal and Valley Freshwater Marsh*** Coastal and Valley Freshwater Marsh	None	None	G3	S2.1	
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT61420CA	***Great Valley Mixed Riparian Forest*** Great Valley Mixed Riparian Forest	None	None	G2	S2.2	
CTT61430CA	***Great Valley Valley Oak Riparian Forest*** Great Valley Valley Oak Riparian Forest	None	None	G1	S1.1	
CTT63410CA	***Great Valley Willow Scrub*** Great Valley Willow Scrub	None	None	G3	S3.2	
ICBRA03010	***Branchinecta conservatio*** Conservancy fairy shrimp	Endangered	None	G2	S2	
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	***Branchinecta mesovallensis*** midvalley fairy shrimp	None	None	G2	S2S3	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2	S2	
IICOL49010	***Anthicus sacramento*** Sacramento anthicid beetle	None	None	G1	S1	
IICOL49020	***Anthicus antiochensis*** Antioch Dunes anthicid beetle	None	None	G1	S1	
NBMUS84010	***Campylopodiella stenocarpa*** flagella-like atractylocarpus	None	None	G5	S1?	2B.2
PDAST11061	***Balsamorhiza macrolepis*** big-scale balsamroot	None	None	G2	S2	1B.2
PDBOR0A0Q0	***Cryptantha crinita*** silky cryptantha	None	None	G2	S2	1B.2
PDBRA0K1B1	***Cardamine pachystigma var. dissectifolia*** dissected-leaved toothwort	None	None	G3G5T2Q	S2	1B.2
PDCAB01010	***Brasenia schreberi*** watershield	None	None	G5	S3	2B.3
PDCAR0L0V0	***Paronychia ahartii*** Ahart's paronychia	None	None	G3	S3	1B.1
PDCON04012	***Calystegia atriplicifolia ssp. buttensis*** Butte County morning-glory	None	None	G5T3	S3	4.2
PDEUP0D150	***Euphorbia hooveri*** Hoover's spurge	Threatened	None	G1	S1	1B.2
PDFAB0F8R3	***Astragalus tener var. ferrisiae*** Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDFAB40310	***Trifolium jokerstii*** Butte County golden clover	None	None	G2	S2	1B.2
PDLAM18082	***Monardella venosa*** veiny monardella	None	None	G1	S1	1B.1
PDLIM02042	***Limnanthes floccosa ssp. californica*** Butte County meadowfoam	Endangered	Endangered	G4T1	S1	1B.1
PDLIM02043	***Limnanthes floccosa ssp. floccosa*** woolly meadowfoam	None	None	G4T4	S3	4.2
PDMAL0H0R3	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	None	None	G5T3	S3	1B.2
PDMAL110P0	***Sidalcea robusta*** Butte County checkerbloom	None	None	G2	S2	1B.2
PDONA050J1	***Clarkia gracilis ssp. albicaulis*** white-stemmed clarkia	None	None	G5T3	S3	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDPGN086UY	***Eriogonum umbellatum var. ahartii*** Ahart's buckwheat	None	None	G5T3	S3	1B.2
PDRAN0B1J0	***Delphinium recurvatum*** recurved larkspur	None	None	G2?	S2?	1B.2
PDSCR0D482	***Castilleja rubicundula var. rubicundula*** pink creamsacs	None	None	G5T2	S2	1B.2
PMCYP0N060	***Rhynchospora californica*** California beaked-rush	None	None	G1	S1	1B.1
PMCYP0N080	***Rhynchospora capitellata*** brownish beaked-rush	None	None	G5	S1	2B.2
PMJUN011L2	***Juncus leiospermus var. leiospermus*** Red Bluff dwarf rush	None	None	G2T2	S2	1B.1
PMLEM03020	***Wolffia brasiliensis*** Brazilian watermeal	None	None	G5	S2	2B.3
PMLIL0V060	***Fritillaria eastwoodiae*** Butte County fritillary	None	None	G3Q	S3	3.2
PMLIL0V0F0	***Fritillaria pluriflora*** adobe-lily	None	None	G2G3	S2S3	1B.2
PMPOA3D020	***Imperata brevifolia*** California satintail	None	None	G4	S3	2B.1
PMPOA6N010	***Tuctoria greenei*** Greene's tuctoria	Endangered	Rare	G1	S1	1B.1
PMPOT03091	***Stuckenia filiformis ssp. alpina*** slender-leaved pondweed	None	None	G5T5	S2S3	2B.2

Record Count: 73

CNPS California Native Plant Society

*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

42 matches found. *Click on scientific name for details*

Search Criteria

Found in Quads 3912178, 3912177, 3912176, 3912168, 3912167, 3912166, 3912158 3912157 and 3912156;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual / perennial herb	Aug	4.2	S4	G5
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
Bryum chryseum	brassy bryum	Bryaceae	moss		4.3	S3	G5
Calycadenia oppositifolia	Butte County calycadenia	Asteraceae	annual herb	Apr-Jul	4.2	S3	G3
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	Convolvulaceae	perennial rhizomatous herb	May-Jul	4.2	S3	G5T3
Campylopodiella stenocarpa	flagella-like atractylocarpus	Dicranaceae	moss		2B.2	S1?	G5
Cardamine pachystigma var. dissectifolia	dissected-leaved toothwort	Brassicaceae	perennial rhizomatous herb	Feb-May	1B.2	S2	G3G5T2Q
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	May-Jul	1B.2	S3	G5T3
Claytonia palustris	marsh claytonia	Montiaceae	perennial herb	May-Oct	4.3	S4	G4
Cryptantha crinita	silky cryptantha	Boraginaceae	annual herb	Apr-May	1B.2	S2	G2

Cryptantha rostellata	red-stemmed cryptantha	Boraginaceae	annual herb	Apr-Jun	4.2	S3	G4
Delphinium recurvatum	recurved larkspur	Ranunculaceae	perennial herb	Mar-Jun	1B.2	S2?	G2?
Erythranthe glaucescens	shield-bracted monkeyflower	Phrymaceae	annual herb	Feb-Aug(Sep)	4.3	S3S4	G3G4
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	Jul-Sep(Oct)	1B.2	S1	G1
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	3.2	S3	G3Q
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
Lilium humboldtii ssp. humboldtii	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	4.2	S3	G4T3
Limnanthes floccosa ssp. californica	Butte County meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.1	S1	G4T1
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	4.2	S3	G4T4
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May,Jul	1B.1	S1	G1
Navarretia heterandra	Tehama navarretia	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4
Navarretia nigelliformis ssp. nigelliformis	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	1B.1	S1	G1
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	1B.1	S3	G3
Polygonum bidwelliae	Bidwell's knotweed	Polygonaceae	annual herb	Apr-Jul	4.3	S4	G4
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
Rhynchospora capitellata	brownish beaked-rush	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5
Sidalcea robusta	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	Apr,Jun	1B.2	S2	G2
Stuckenia filiformis ssp. alpina	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
Trifolium jokerstii	Butte County golden clover	Fabaceae	annual herb	Mar-May	1B.2	S2	G2
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	1B.1	S1	G1
Wolffia brasiliensis	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr,Dec	2B.3	S2	G5

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 02 April 2020].

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Questions and Comments
rareplants@cnps.org

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

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

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

Location

Butte County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

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

Endangered species

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

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

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

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

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

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Reptiles

NAME	STATUS

Giant Garter Snake Thamnophis gigas — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/7850

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp Branchinecta conservatio	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/8246

Vernal Pool Fairy Shrimp Branchinecta lynchi	Threatened

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/498

Vernal Pool Tadpole Shrimp Lepidurus packardi	Endangered

There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/2246

Flowering Plants

NAME	STATUS
Butte County Meadowfoam Limnanthes floccosa ssp. californica There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/4223	Endangered

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird

species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black Rail Laterallus jamaicensis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7717	Breeds Mar 1 to Sep 15
Burrowing Owl Athene cunicularia This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31
California Thrasher Toxostoma redivivum This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

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

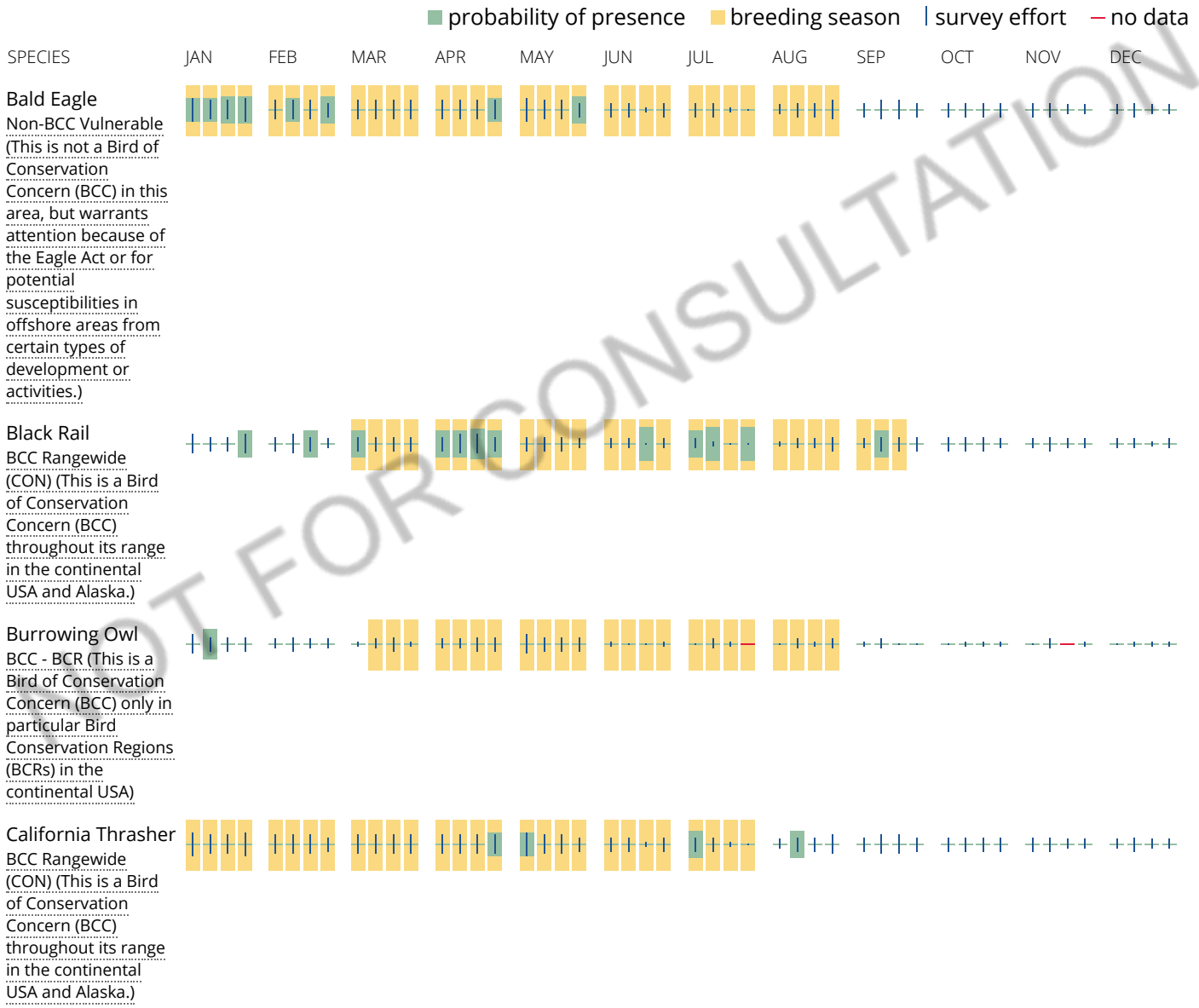
Survey Effort (|)

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

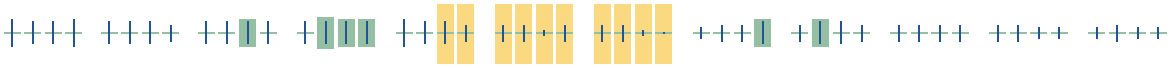
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

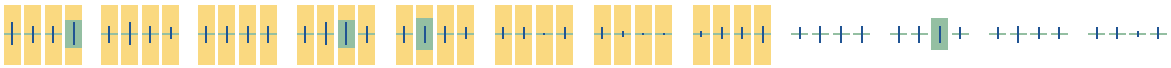
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



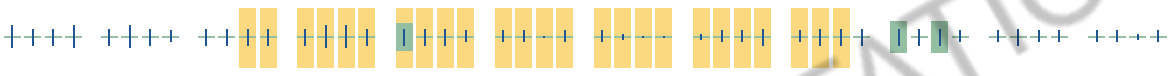
Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



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

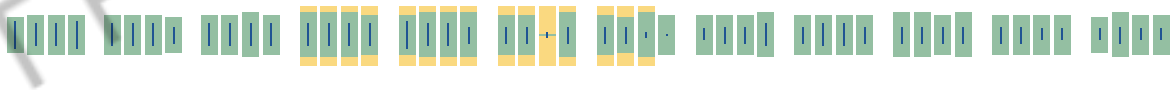


Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

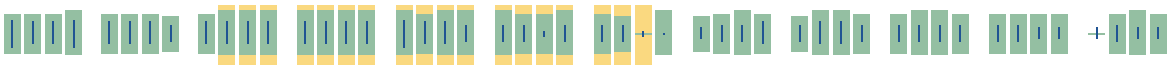


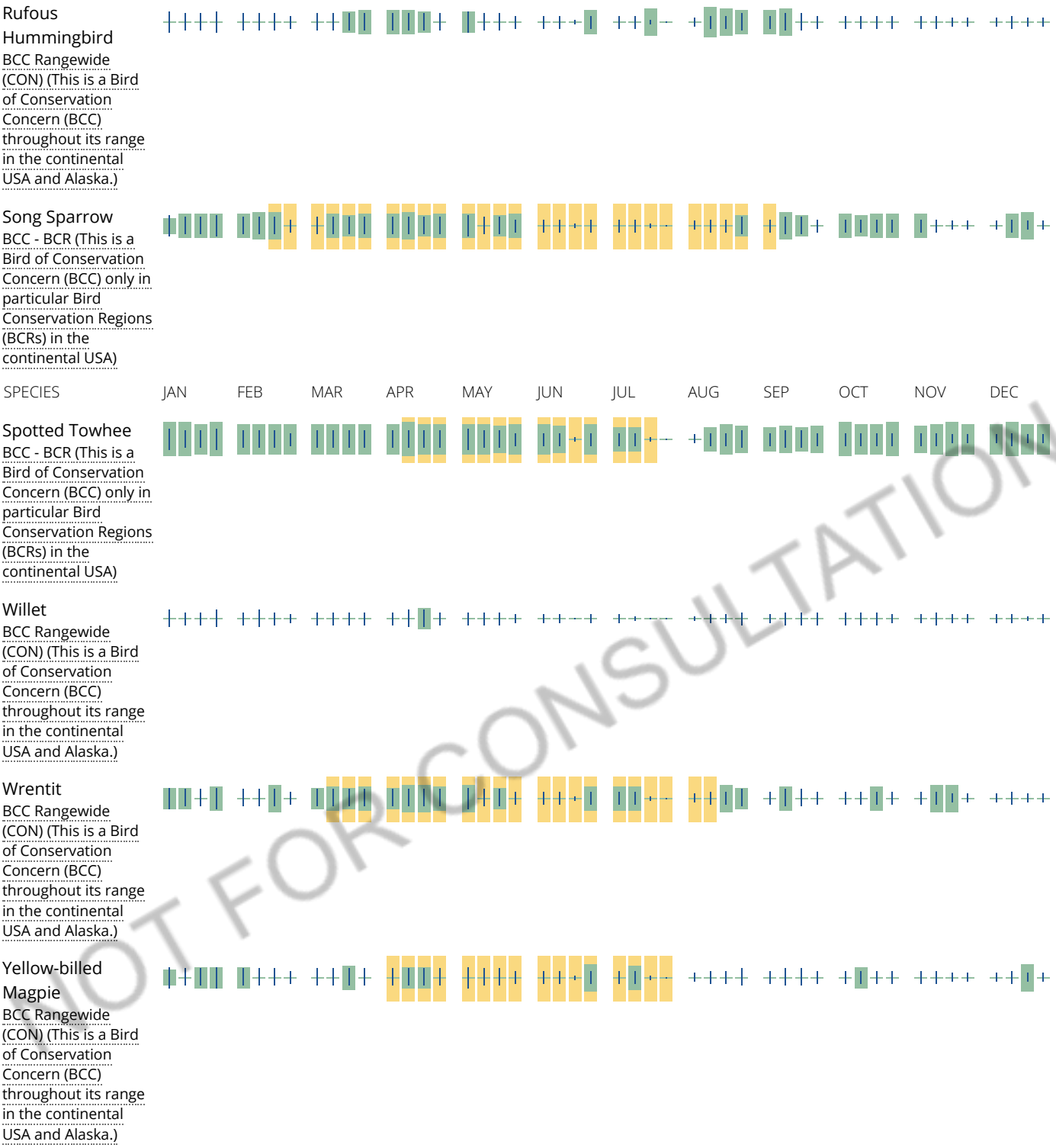
Lewis's Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Nuttall's Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



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





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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review.

Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

Palustrine

RIVERINE

Riverine

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

ATTACHMENT B

Representative Site Photographs

Representative site photograph looking across the site toward Dead Horse Slough, 266°W. Photo taken February 26, 2020.

Representative site photograph, looking east/northeast Photo taken March 27, 2020.

Representative photo of Dead Horse Slough vegetation, looking north/northwest. Photo taken March 27, 2020.

Representative photo of a dry wetland feature onsite, 256°W. Photo taken February 26, 2020.

ATTACHMENT C

Plant Species Observed

Bruce Road and Hwy 32 Project
Plant Species Observed (March 27, 2020)

SCIENTIFIC NAME	COMMON NAME
ANACARDIACEAE	**SUMAC FAMILY**
Toxicodendron diversilobum	Poison oak
APIACEAE	**CARROT FAMILY**
Eryngium castrense	Great Valley button-celery
ASTERACEAE	**SUNFLOWER FAMILY**
Blennosperma nanum	Yellow carpet
*Centaurea solstitialis**	Yellow star-thistle
Centromadia fitchii	Fitch's spikeweed
*Cichorium intybus**	Chicory
*Grindelia sp.**	Gumweed
Holocarpha virgata	Narrow tarplant
Layia fremontii	Fremont's tidy-tips
BORAGINACEAE	**BORAGE FAMILY**
Plagiobothrys greenei	Greene's popcorn-flower
Plagiobothrys nothofulvus	Rusty popcorn-flower
Plagiobothrys stipitatus var. micranthus	Slender popcorn-flower
FABACEAE	**LEGUME FAMILY**
Lupinus bicolor	Bicolored lupine
Trifolium variegatum	White-tip clover
*Vicia sp.**	Vetch
FAGACEAE	**OAK FAMILY**
Quercus lobata	Valley oak
*Quercus suber**	Cork oak
Quercus wislizeni	Interior live oak
GERANIACEAE	**GERANIUM FAMILY**
*Erodium botrys**	Broadleaf filaree
LAMIACEAE	**MINT FAMILY**
Pogogyne zizyphoroides	Sacramento mesamint
Trichostema lanceolatum	Vinegar weed
LIMNANTHACEAE	**MEADOWFOAM FAMILY**
Limnanthes floccosa ssp. californica	Butte County meadowfoam

Bruce Road and Hwy 32 Project
Plant Species Observed (March 27, 2020)

SCIENTIFIC NAME	COMMON NAME
LYTHRACEAE	**LOOSESTRIFE FAMILY**
*Lythrum hyssopifolia**	Hyssop loosestrife
MALVACEAE	**MALLOW FAMILY**
Sidalcea calycosa	Annual checker-mallow
PLANTAGINACEAE	**PLANTAIN FAMILY**
*Plantago lanceolata**	English plantain
POACEAE	**GRASS FAMILY**
*Bromus hordeaceus**	Soft brome
*Elymus caput-medusae**	Medusahead grass
*Festuca perennis**	Italian ryegrass
*Hordeum marinum ssp. gussoneanum**	Mediterranean barley
*Hordeum murinum ssp. glaucum**	Foxtail barley
Stipa pulchra	Purple needle grass
POLEMONIACEAE	**PHLOX FAMILY**
Navarretia intertexta ssp. intertexta	Needle-leaf navarretia
Navarretia leucocephala	White-head navarretia
POLYGONACEAE	**BUCKWHEAT FAMILY**
*Rumex crispus**	Curly dock
RANUNCULACEAE	**BUTTERCUP FAMILY**
*Ranunculus arvensis**	Corn buttercup
RHAMNACEAE	**BUCKTHORN FAMILY**
Frangula californica	California coffeeberry
ROSACEAE	**ROSE FAMILY**
*Rubus armeniacus**	Himalayan blackberry
SALICACEAE	**WILLOW FAMILY**
Populus fremontii	Fremont's cottonwood
Salix exigua	Sandbar willow
Salix gooddingii	Goodding's black willow
Salix lasiolepis	Arroyo willow
THEMIDACEAE	**BRODIAEA FAMILY**
Dichelostemma capitatum	Blue dicks

ATTACHMENT D

Wildlife Species Observed

Attachment D

Wildlife Species Observed March 27, 2020

Species Name	**Scientific Name**
Birds	
Acorn woodpecker	*Melanerpes formicivorus*
American crow	*Corvus brachyrhynchos*
American goldfinch	*Spinus tristis*
Anna's hummingbird	*Calypte anna*
Black phoebe	*Sayornis nigricans*
Bushtit	*Psaltriparus minimus*
California scrub-jay	*Aphelocoma californica*
California towhee	*Melozone crissalis*
Canada goose	*Branta canadensis*
Cliff swallow	*Petrochelidon pyrrhonota*
Lincoln's sparrow	*Melospiza lincolnii*
Northern flicker	*Colaptes auratus*
Nuttall's woodpecker	*Dryobates nuttallii*
Oak titmouse	*Baeolophus inornatus*
Oregon junco	*Junco hyemalis*
Red-shouldered hawk	*Buteo lineatus*
Red-tailed hawk	*Buteo*
Ruby-crowned kinglet	*Regulus calendula*
Turkey vulture	*Cathartes aura*
Western meadowlark	*Sturnella neglecta*

Salmonid Assessment

Bruce Road/Highway 32 Project

City of Chico, California

Prepared For:

George Eshoo
32 and Bruce, LLC

Prepared By:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS
2525 Warren Drive
Rocklin, California 95677

December 6, 2021

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LIST OF ACRONYMS AND ABBREVIATIONS

Term	Description
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
City	City of Chico
CNDDB	California Natural Diversity Database
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
MSL	Mean sea level
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
OHWM	Ordinary high-water mark
PCEs	Primary Constituent Elements
Project Area	Bruce Road/Highway 32 Project
SWMP	Storm Water Management Program
USGS	U.S. Geological Survey

1.0 INTRODUCTION

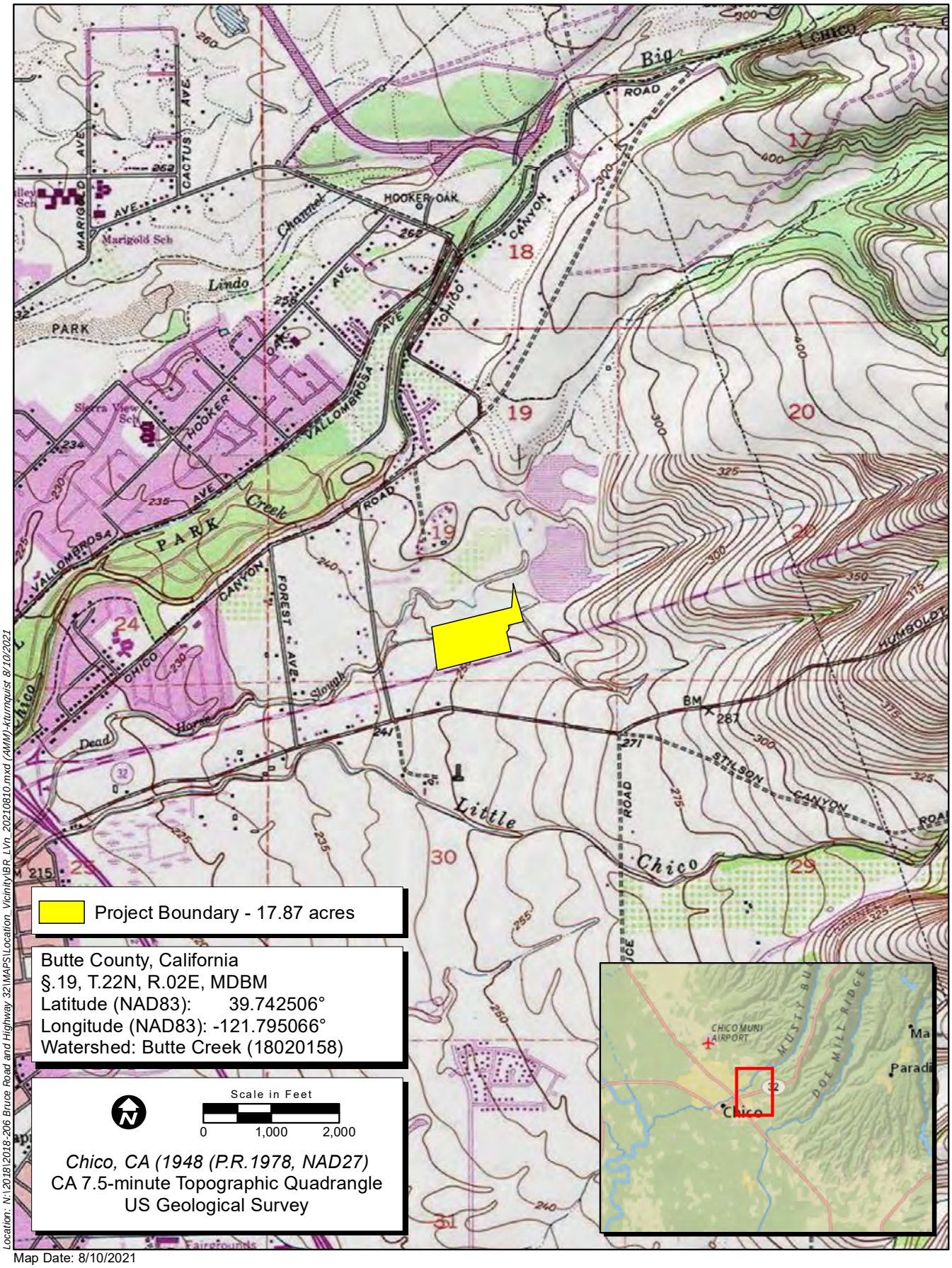
ECORP Consulting, Inc. conducted a habitat assessment for Central Valley spring-run Evolutionarily Significant Unit (ESU) Chinook salmon (*Oncorhynchus tshawytscha*) and California Central Valley Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*), both listed as threatened species under the federal Endangered Species Act (ESA), at the Bruce Road/Highway 32 Project (Project Area) located in the city of Chico, Butte County, California. The purpose of this assessment was to determine the potential for Chinook spring-run salmon and Central Valley steelhead to occur in Dead Horse Slough, a low-gradient and ephemeral tributary to Little Chico Creek within the Project Area. The approximately 17.87-acre property is located at the intersection of Bruce Road and Highway 32 east of the city of Chico at an elevation of approximately 240 to 260 feet above mean sea level (MSL). The Project site corresponds to Section 19, Township 22 North, Range 2 East (Mount Diablo Base and Meridian) of the "Chico, California" U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (USGS 1948; photorevised 1978; Figure 1). The approximate center of the Project is located at 39.742506˚ North and -121.795066˚ West within the Butte Creek watershed (USGS Hydrological Unit Code #18020158; Natural Resources Conservation Service et al. 2020).

2.0 PROJECT DESCRIPTION

The Proposed Project is the Bruce Road and Highway 32 Development Project located at the northwest corner of Bruce Road and Highway 32 in the city of Chico, California. The Project would contribute to the diversity of housing in the city of Chico by constructing a high-density multifamily residential development. The Project preliminary site plan includes a total of 244 residential units with associated parking, clubhouse, and amenities, as well as a road and bridge crossing Dead Horse Slough to gain access to the complex from Bruce Road. A small neighborhood commercial center would be constructed in the northeast corner of the site to support the residential development. A conceptual land use plan is provided on Figure 2.

The Project proposes to preserve Dead Horse Slough and preserve or avoid most riparian habitat adjacent to Dead Horse Slough. Project features within Dead Horse Slough would be limited to three stormwater outfalls, with a total permanent impact area of 0.015 acre. A span-bridge would be constructed over Dead Horse Slough, but the footings for the bridge would be located outside of the ordinary high-water mark (OHWM) of the slough. Temporary effects would include limited vegetation removal as needed to install the bridge and outfalls.

The Project will incorporate appropriate design features to control stormwater runoff and protect downstream water quality. These measures require the preparation of a Drainage Master Plan to ensure that peak flows from developed areas do not exceed predevelopment conditions. The Project's drainage and stormwater control system will comply with the City of Chico (City) Storm Water Master Plan. As required by the Clean Water Act, the City has an established Storm Water Management Program (SWMP)



Location: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Location_Vicinity\BR_LVn_20210810.mxd (AMM)-kturnquist 8/10/2021

Map Date: 8/10/2021
Sources: Esri, USGS

Figure 1. Property Location and Vicinity

2018-206.01 Bruce Road

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Map Features

- Project Boundary - 17.87 acres

Conceptual Land Use Plan

- Avoided - 0.91 acres
- Bridge - 0.09 ac.
- Medium-High to High Density Residential (R3 and R4) - 11.33 ac.
- Neighborhood Commercial - 0.49 ac.
- Open Space (Preserved) - 4.65 acres
- Roadway - 0.37 acres

Base Source: NAIP 2018

ECORP: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Landuse\r1\BR_ConceptLandUse_20211130.mxd (AMM)-kturnquist 11/30/2021

Map Date: 11/30/2021

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Scale in Feet
0 150

Figure 2. Conceptual Land Use Plan

2018-206 Bruce Road

in compliance with its National Pollution Discharge Elimination System (NPDES) permit. The City's NPDES permit controls water pollution by regulating point sources that discharge pollutants into local waters. The SWMP addresses storm water quality issues in the areas of construction and postconstruction Best Management Practices (BMPs).

Construction-related impacts will be minimized by implementing BMPs to reduce sediment and pollutants in stormwater runoff at their origin prior to the runoff discharging into drainage systems. The BMPs will be implemented to ensure that stormwater management improvements provide treatment to runoff before it enters drainage collection systems. The BMPs will include the following:

- Work within the limits of Dead Horse Slough and the adjacent intermittent drainage would be conducted during the dry season when there is no water present.
- Appropriate erosion control measures (e.g., fiber rolls, filter fences, vegetation buffer strips) will be used during vegetation removal and site grading and construction to prevent sediment from discharging to the onsite drainages or downstream areas. Erosion controls will be properly maintained until construction is completed and the soils have been stabilized.
- Fiber rolls used for erosion control will be certified by the California Department of Food and Agriculture as weed free.
- Seed mixtures applied for erosion control will not contain California Invasive Plant Council designated invasive species (http://cal-ipc.org/) and will be composed of native species appropriate for the site.
- Trash generated onsite will be promptly and properly removed from the site.
- No equipment will be refueled within the avoidance or open space area. Any onsite fueling will utilize appropriate secondary containment techniques to prevent spills.
- Used cleaning materials (e.g., liquids) shall be disposed of safely and, if necessary, taken offsite for proper disposal. Used disposable gloves shall be retained for safe disposal in sealed bags.
- Clothing, vehicles, and equipment, including shoes and the undercarriage and tires/tracks, will be cleaned prior to entering the Project site to avoid the introduction and spread of invasive plant species.

The Project will also comply with the City's Post-Construction Standards Plan, which sets forth Site Design Measures and Source Control Measures designed to ensure new developments meet the State Water Resources Control Board's requirements for mitigating the negative impact of stormwater runoff. The Plan requires the use of Low Impact Development standards, including design techniques that infiltrate, filter, store, evaporate, and detain runoff to protect water quality and beneficial uses of surface waters, as well as hydromodification techniques that ensure postconstruction runoff rates do not exceed those of preconstruction conditions. The Project proponent or subsequent property owner is required to maintain these stormwater control measures in an effective condition for perpetuity.

3.0 SPECIES BACKGROUND

Spring-run Chinook and Central Valley steelhead are anadromous fish that migrate from the ocean upstream to their natal freshwater streams to reproduce. Spring-run Chinook have unique habitat requirements for their different life stages. Suitable spawning habitat in mainstem rivers and tributaries requires cold water and cool resting pools in which to hold over the warm summer months, clean spawning gravels, and optimal dissolved oxygen levels, water velocities, and turbidity levels. The presence of deep cold-water pools is essential to the survival of spring-run fish, in particular, due to their unique life history that includes holding over summer in their natal streams (Native Fish Society, Center for Biological Diversity, Umpqua Watersheds 2019)

Primary Constituent Elements (PCEs) are the principal biological or physical constituent elements within a defined area that are essential to the species conservation. Both Central Valley Spring-run Chinook and California Central Valley steelhead have specific PCEs for species conservation including (National Marine Fisheries Service [NMFS] 2014):

- Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation and larval development.
- Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
- Freshwater migration corridors free of obstruction and excessive predation with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.
- Estuarine areas free of obstruction and excessive predation with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage including aquatic invertebrates and fishes, supporting growth and maturation

Little Chico Creek and Dead Horse Slough in the vicinity of the Project are designated Essential Fish Habitat (EFH) under the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S. Code 1801 et seq.) for Pacific salmon. There are no Habitat Areas of Particular Concern in the Project vicinity. The National Oceanic and Atmospheric Administration (NOAA) Fisheries list of ESA-listed species, critical habitat, and essential fish habitat of the Chico USGS Quadrangle are shown in Table 1. No listed species or critical habitat occurrences were identified within the Project area.

Table 1. NOAA Fisheries ESA Listed Species, Critical Habitat, Essential Fish Habitat of the Chico USGS Quadrangle	
Quad Name/Number: Chico 39121-F7	
ESA Anadromous Fish	
CVSR Chinook Salmon ESU (T)[1]	No
SRWR Chinook Salmon ESU (E)[2]	No
CCV Steelhead DPS (T)[3]	No
ESA Anadromous Fish Critical Habitat	
CVSR Chinook Salmon Critical Habitat	No
CCV Steelhead Critical Habitat	No
EFH	
Chinook Salmon EFH[4]	Yes

[1] Central Valley Spring Run Salmon ESU (Threatened)
[2] Sacramento River Winter Run Chinook Salmon ESU (Endangered)
[3] Central Valley Steelhead DPS (Threatened)
[4] EFH

4.0 METHODS

4.1 Literature Search

ECORP biologists queried state and federal databases to determine the special-status fish species that have been documented in the vicinity of the Project site. The following database searches were conducted:

- The California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB; CDFW 2020) within the "Chico, California" USGS 7.5-minute topographic quadrangle and the eight surrounding quadrangles: "Nord-," "Richardson Springs-," "Paradise West-," "Ord Ferry-," "Hamlin Canyon-," "Llano Seco-," "Nelson-," and "Shippee-California."
- NOAA Fisheries EFH Mapper within the "Chico, California" USGS 7.5-minute topographic quadrangle.

4.2 Field Site Assessment

The field visit was conducted on November 12, 2021, by ECORP biologist Daniel Wong. During the site visit, the Project Area was walked to map the vegetation communities, assess fish and wildlife habitats including the potential for riffles with suitable substrates for salmonid spawning, and determine the potential for special-status species to occur within the Project. Photographs were taken during the survey to provide visual representation of the locations within the Project area (Attachment A).

5.0 RESULTS

5.1 Environmental Setting

One intermittent drainage, Dead Horse Slough, is located within the Project area (Figure 3). Intermittent drainages are linear features that exhibit a bed and bank, OHWM, and flow intermittently during the year. Dead Horse Slough is located along the northern boundary of the Project site and connects upstream to California Park Lake, a recreational impoundment formed by an overhead dam that forms a complete barrier to fish migration. Representative site photographs are provided as Attachment A.

Riparian wetlands are located along the banks of Dead Horse Slough and are influenced by a high water table and flooding events associated with Dead Horse Slough. The riparian wetlands are dominated by shrub and tree canopy composed of arroyo willow, sandbar willow, Goodding's willow, Fremont's cottonwood, and valley oak.

5.2 Documented Occurrences and Designated Critical Habitat

The Project site is not located within NMFS or U.S. Fish and Wildlife Service designated critical habitat. Dead Horse Slough terminates at Little Chico Creek approximately 0.35 mile downstream of the Project area. Little Chico Creek is designated critical habitat for California Central Valley steelhead. The critical habitat designation is listed as having periodic and fair quality of spawning habitat and migration utility, periodic and poor quality of natal rearing utility, and no non-natal habitat utility for the DPS.

5.2.1 Chinook Spring-Run Salmon

There are two documented occurrences of Central Valley spring-run Chinook salmon within 10 miles of the Project Area (Attachment B). The nearest locality is in Butte Creek, 3.1 miles from the Project Area. Neither Dead Horse Slough nor Little Chico Creek is designated critical habitat for Central Valley spring-run Chinook salmon.

5.2.2 Central Valley Steelhead

There are three documented occurrences of Central Valley steelhead within 10 miles of the Project Area (Attachment B). The nearest locality is in Big Chico Creek, 0.361 mile from the Project Area.

5.3 Habitat Assessment

Dead Horse Slough is an intermittent stream that typically flows less than 6 months a year during the rainy season and is tributary to Little Chico Creek (U.S. Army Corps of Engineers 2018). The water in the slough at the time of the survey was no more than 2 to 3 feet deep, even after a record storm event in late October and several subsequent rain events. The slough sits at a low-elevation (i.e., less than 250 feet above MSL) with a dam immediately upstream blocking any migration to better spawning and rearing habitat at higher elevations. In a 2007 survey in which an electrofishing boat was used to identify species

Map Features

- Project Boundary - 17.87 acres
- West Coast Steelhead Critical Habitat
- West Coast Chinook Salmon Critical Habitat

Sources: ESRI, NAIP (2018)

ECORP- N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Biological_Resources\BR_FishResourceLocations_20211123.mxd (KIT)-kturnquist 11/23/2021

Map Date: 11/23/2021

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Scale in Feet
0 500

Figure 3. Anadromous Fisheries Context

2018-206.01 Bruce Road

in Dead Horse Slough, no salmonid species were identified (Water Quality Portal 2015). The species identified were redear sunfish (*Lepomis microlophus*), largemouth bass (*Micropterus salmoides*), and striper (*Morone saxatilis*). These are warm water nonnative fish that prey upon juvenile salmonids.

As discussed above, the critical habitat designation for Central Valley steelhead in Little Chico Creek is characterized by NMFS as having periodic and poor to fair habitat utility for supporting this species. This is largely due to the low gradient and elevation of Little Chico Creek near the confluence with Dead Horse Slough. This reach of Little Chico Creek is primarily used as a migration corridor to and from more suitable and higher quality steelhead spawning and rearing habitats at higher elevations in Little Chico Creek. As such, the reach of Little Chico Creek near the confluence of Dead Horse Slough is unlikely to support spawning and rearing of Central Valley steelhead.

The quality of aquatic habitat in Dead Horse Slough is even less suitable than Little Chico Creek for several reasons. First, field observations indicated that there are very few riffle habitats with suitable sized gravels in Dead Horse Slough within the vicinity of the Project Area. Second, Dead Horse Slough downstream of the dam at California Park Lake is an ephemeral water body. Steelhead, the anadromous form of rainbow trout, are an obligate coldwater species that spend 1 to 3 years in their natal stream prior to migration to the ocean (Moyle 2002). As such, the juveniles require clean, cold habitats for over-summering, which are not present in ephemeral, low gradient, valley floor streams, such as Dead Horse Slough. Juvenile steelhead emigrating from the upper reaches of the Little Chico Creek watershed may make short-term non-natal use of Dead Horse Slough during their emigrations (e.g., for foraging). However, this use would most likely occur in the lower reach of Dead Horse Slough near the confluence due to the lack of quality rearing habitat in the slough and would only occur during the wet season (i.e., outside the typical June-October in-water construction period) when surface flow is present and the slough is hydraulically connected to Little Chico Creek. Third, the dam at California Park Lake blocks the migration of Central Valley steelhead and other anadromous fish to any potentially suitable spawning and rearing habitats at high elevations in the Dead Horse Slough watershed and, therefore, the slough has no migration utility for anadromous fish. Finally, the native fish community in the slough appears to be dominated by nonnative warmwater fish species that prey upon juvenile salmonids and are generally not found in salmonid-bearing stream reaches.

Based on these considerations, Little Chico Creek downstream of Dead Horse Slough is considered poor to fair habitat for anadromous salmonids, and habitat conditions, hydrology, elevation, and the migration barrier present in Dead Horse Slough make this water body even less suitable. Water quantity and quality for spawning, incubation and larval development is not suitable in Dead Horse Slough. The slough holds water only intermittently during the rainy season and is dry during the summer months. The low elevation, lack of gravel substrate, absence of deep pools or riffles, and presence of nonnative predatory warm water fish all indicate a lack of suitable spawning and rearing habitat for anadromous fish. The dam immediately upstream prevents migration to better upstream spawning areas. Overall, Dead Horse Slough is unlikely to support use by federally listed anadromous fish for anything more than occasional short-term non-natal habitat use during the winter-spring juvenile emigration period.

6.0 CONCLUSION

Project features within Dead Horse Slough would be limited to three stormwater outfalls, with a total permanent impact area of 0.015 acre. A span-bridge would be constructed over the slough, but the footings for the bridge would be located outside of the OHWM of the slough. Temporary effects would include limited vegetation removal as needed to install the bridge and outfalls. All work within the slough would be conducted when the slough is dry to minimize potential impacts to water quality. Appropriate erosion control measures would be used to prevent downstream transport of sediment during construction, and compliance with the City's Post-Construction Standards Plan would provide stormwater runoff control and treatment to protect water quality and ensure postconstruction runoff rates do not exceed those of preconstruction conditions.

Because work will occur when the slough is dry, the Project will have no direct impact on anadromous fish. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Any habitat utilized by Chinook salmon is considered EFH. No direct impacts to EFH will occur based on the assumption that work will occur when fish are not present. Indirect impacts to Dead Horse Slough and downstream reaches of Little Chico Creek would be avoided and minimized through implementation of erosion controls and other BMPs for the protection of surface water.

Based on this assessment, it is determined that the Project may affect but is not likely to adversely affect spring-run Chinook salmon, Central Valley steelhead, or EFH.

7.0 REFERENCES

California Department of Fish and Wildlife (CDFW). 2021. Rarefind Natural Diversity Database Program. Commercial version accessed: November 2021. California Natural Diversity Database (CNDDB). The Resources Agency, Sacramento.

Natural Resources Conservation Service (NRCS), U.S. Geological Survey (USGS), and U.S. Environmental Protection Agency (USEPA). 2020. Watershed Boundary Dataset for California. Available online: http://datageteway.nrcs.usda.gov.

Moyle, P.B. 2002. Inland fishes of California. University of California Press, Berkeley and Los Angeles.

Native Fish Society, Center for Biological Diversity, and Umpqua Watershed. 2019. Petition to list the Oregon Coast ESU of Spring-Run Chinook Salmon (Oncorhynchus tshawytscha) under the Endangered Species Act.

National Marine Fisheries Service (NMFS). 2014. Recovery Plan for the Evolutionarily Significant Units of Sacramento River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of California Central Valley Steelhead. California Central Valley Area Office. July 2014

National Oceanic and Atmospheric Administration (NOAA). 2021. Essential Fish Habitat Mapper. https://www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper. Accessed 17 November 2021.

_____. 2006. Magnuson-Stevens Fishery Conservation and Management Act. 16 U.S.C. 1801 et seq.

U.S. Army Corps of Engineers (USACE). 2018. Approved Jurisdictional Determination for the proposed Creekside Development site (SPK-2005-00063). March 22, 2018.

U.S. Geological Survey (USGS). 1980. "Fairfield North, California" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

Water Quality Portal (WQP). 2015. United States Geological Survey, United States Environmental Protection Agency, and National Water Quality Council. https://www.waterqualitydata.us/. Accessed 17 November 2021

LIST OF ATTACHMENTS

ATTACHMENT A

Representative Site Photographs

Above: Dead Horse Slough in the northern portion of the Study Area, facing north.

Below: Flooded section of the riparian area along Dead Horse Slough, facing north.

ATTACHMENT B

California Natural Diversity Database Records

Print

California Natural Diversity Database (CNDDB) Commercial [ds85]

Scientific Name	Common Name	Element Code	Occ Number	MAPNDX	EONDX	Key Quad Code	Key Quad Name	Key County Code	Accuracy	Presence	Occ Type	Occ Rank	Sensitive	Site Date	Elm Date	Owner Management	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank	CDFW Status	Other Status	Symbology	Taxon Group
Monardella venosa	veiny monardella	PDLAM18082	5	21634	8448	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	19920510	19920510	PVT	None	None	G1	S1	1B.1		SB_CalBG/RSABG; SB_UCBG	102	Dicots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	50	25712	13755	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19670410	19670410	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	103	Monocots
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	4	30680	4350	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19920626	19920626	UNKNOWN	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	103	Dicots
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	58	28058	28559	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	UNKNOWN	Endangered	None	G4	S3S4			IUCN_EN	202	Crustaceans
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	24	10726	15607	3912167	Chico	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19851210	19851210	CITY OF CHICO	None	None	G1	S1.1				302	Riparian
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	57	26171	4913	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G3	S2.1				302	Marsh
Euphorbia hooveri	Hoover's spurge	PDEUP0D150	4	10909	2298	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	2011XXXX	19860715	PVT	Threatened	None	G1	S1	1B.2			801	Dicots
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	10	10909	2297	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	19800518	19800518	PVT	None	None	G3	S3.1				801	Herbaceous
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	37	10552	22011	3912178	Nord	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19290304	19290304	UNKNOWN	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	104	Monocots
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	PDMAL0H0R3	70	10604	20800	3912157	Nelson	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	UNKNOWN	None	None	G5T3	S3	1B.2		SB_CalBG/RSABG; SB_UCBG	104	Dicots
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	PMJUN011L2	9	10816	22190	3912177	Richardson Springs	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19800515	19800515	PVT	None	None	G2T2	S2	1B.1		BLM_S; USFS_S	104	Monocots
Astragalus tener var. ferrisiae	Ferris' milk-vetch	PDFAB0F8R3	3	22137	19961	3912178	Nord	BUT	1 mile	Possibly Extirpated	Natural/Native occurrence	None	N	20020502	19220430	UNKNOWN	None	None	G2T1	S1	1B.1			104	Dicots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	48	25716	5698	3912167	Chico	BUT	1 mile	Possibly Extirpated	Natural/Native occurrence	None	N	193505XX	193505XX	CITY OF DURHAM, UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	804	Monocots
Rhynchospora californica	California beaked-rush	PMCYP0N060	6	30553	4459	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	19880614	19880614	UNKNOWN	None	None	G1	S1	1B.1			101	Monocots
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	5	30693	4241	3912176	Paradise West	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19280619	19280619	UNKNOWN	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	104	Dicots
Northern Volcanic Mud Flow Vernal Pool	Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	7	10747	26145	3912177	Richardson Springs	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	1986XXXX	1986XXXX	UNKNOWN	None	None	G1	S1.1				304	Herbaceous
Buteo swainsoni	Swainson's hawk	ABNKC19070	699	38867	33874	3912167	Chico	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	19980518	19980518	CSU-CHICO	None	Threatened	G5	S3			BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	121	10909	33953	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	20090320	20090320	PVT	Endangered	None	G4	S3S4			IUCN_EN	801	Crustaceans
Athene cunicularia	burrowing owl	ABNSB10010	304	40259	35261	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	19981112	19981112	PVT	None	None	G4	S3		SSC	BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Athene cunicularia	burrowing owl	ABNSB10010	305	40260	35262	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	19981112	19981112	PVT	None	None	G4	S3		SSC	BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	157	43437	43437	3912177	Richardson Springs	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Good	N	20000315	20000315	UNKNOWN	Endangered	None	G4	S3S4			IUCN_EN	204	Crustaceans
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	33	25716	45337	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	193503XX	193503XX	CITY OF DURHAM, UNKNOWN	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	804	Monocots
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	89	45357	45357	3912177	Richardson Springs	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19340225	19340225	UNKNOWN	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	104	Monocots
Linderiella occidentalis	California linderiella	ICBRA06010	110	32762	668	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	19960213	19960213	CITY OF CHICO	None	None	G2G3	S2S3			IUCN_NT	802	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	121	32762	670	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	19960213	19960213	CITY OF CHICO	Threatened	None	G3	S3			IUCN_VU	802	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	55	32762	669	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	19960213	19960213	CITY OF CHICO	Endangered	None	G4	S3S4			IUCN_EN	802	Crustaceans
Fritillaria	Butte County						Paradise		non-	Presumed	Natural/Native														

eastwoodiae	fritillary	PMLIL0V060	13	25848	5420	3912176	West	BUT	specific area	Extant	occurrence	Unknown	N	19780322	19780322	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	803	Monocots
Agelaius tricolor	tricolored blackbird	ABPBXB0020	261	24022	6695	3912167	Chico	BUT	non-specific area	Possibly Extirpated	Natural/Native occurrence	None	N	19830528	19830528	UNKNOWN	None	Threatened	G1G2	S1S2		SSC	BLM_S; IUCN_EN; NABCI_RWL; USFWS_BCC	203	Birds
Oncorhynchus tshawytscha pop. 11	chinook salmon - Central Valley spring-run ESU	AFCHA0205L	2	34000	536	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Poor	N	19970829	19970829	PVT, CITY OF CHICO	Threatened	Threatened	G5T1T2Q	S2			AFS_TH	202	Fish
Oncorhynchus tshawytscha pop. 11	chinook salmon - Central Valley spring-run ESU	AFCHA0205L	3	34001	535	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20100715	20100715	PVT	Threatened	Threatened	G5T1T2Q	S2			AFS_TH	202	Fish
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	6	10222	4917	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	DFG-SACRAMENTO RIVER WA	None	None	G2	S2.1				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	10	10267	4907	3912168	Ord Ferry	GLE	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	1987XXXX	1987XXXX	PVT	None	None	G2	S2.1				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	9	10309	4909	3912168	Ord Ferry	GLE	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	PVT	None	None	G2	S2.1				302	Riparian
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	7	10316	4919	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	PVT	None	None	G2	S2.2				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	7	10321	4914	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	19850901	19850901	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G2	S2.1				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	8	10342	4911	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Poor	N	1987XXXX	1987XXXX	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G2	S2.1				302	Riparian
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	42	10679	15627	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	19891228	19851210	CITY OF CHICO	None	None	G2	S2.2				302	Riparian
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	20	10736	15611	3912157	Nelson	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	19860501	19860501	PVT	None	None	G1	S1.1				302	Riparian
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	21	10759	15610	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19851210	19851210	CITY OF CHICO	None	None	G1	S1.1				302	Riparian
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	40	10794	15628	3912167	Chico	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19851115	19851115	PVT	None	None	G2	S2.2				302	Riparian
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	62	26167	4905	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G2	S2.2				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	46	26168	4912	3912168	Ord Ferry	GLE	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G2	S2.1				302	Riparian
Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	47	26169	4908	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G2	S2.1				302	Riparian
Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	38	26170	4910	3912168	Ord Ferry	GLE	specific area	Presumed Extant	Natural/Native occurrence	Good	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G1	S1.1				302	Riparian
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	56	26173	4916	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G3	S2.1				302	Marsh
Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	61	26174	4915	3912168	Ord Ferry	GLE	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	1987XXXX	1987XXXX	UNKNOWN	None	None	G2	S2.2				302	Riparian
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	PDMAL0H0R3	121	24949	6312	3912168	Ord Ferry	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Good	N	19900831	19900831	PVT	None	None	G5T3	S3	1B.2		SB_CalBG/RSABG; SB_UCBG	104	Dicots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	49	25715	22314	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	19760316	19760316	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	101	Monocots
	Swainson's									Presumed	Natural/Native												BLM_S; IUCN_LC;		

Buteo swainsoni	hawk	ABNKC19070	492	23035	20053	3912168	Ord Ferry	BUT	1/5 mile	Extant	occurrence	Unknown	N	19890531	19890531	UNKNOWN	None	Threatened	G5	S3			USFWS_BCC	204	Birds
Buteo swainsoni	Swainson's hawk	ABNKC19070	652	25827	18244	3912157	Nelson	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	19940613	19940613	PVT-GORRILL LAND CO	None	Threatened	G5	S3			BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Buteo swainsoni	Swainson's hawk	ABNKC19070	650	25832	13535	3912168	Ord Ferry	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	19980515	19980515	DPR-BIDWELL-SACRAMENTO RIV SP	None	Threatened	G5	S3			BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	107	33037	3766	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	19910614	19910614	CITY OF CHICO	Threatened	None	G3T2	S3				201	Insects
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	108	33038	3767	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	19910614	19910614	CITY OF CHICO	Threatened	None	G3T2	S3				201	Insects
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	78	33662	30635	3912167	Chico	BUT	3/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20061006	19930111	UNKNOWN	Endangered	None	G4	S3S4			IUCN_EN	204	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	63	34783	28609	3912156	Shippee	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	1993XXXX	1993XXXX	UNKNOWN	Endangered	None	G4	S3S4			IUCN_EN	204	Crustaceans
Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	76	10365	26875	3912178	Nord	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19860426	19860426	PVT	None	None	G3	S3.1				304	Herbaceous
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	183	41880	41880	3912167	Chico	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	199512XX	199512XX	PVT	Threatened	None	G3T2	S3				203	Insects
Wolffia brasiliensis	Brazilian watermeal	PMLEM03020	2	44470	44470	3912168	Ord Ferry	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	2000XXXX	19881106	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G5	S2	2B.3			104	Monocots
Rhynchospora capitellata	brownish beaked-rush	PMCYP0N080	9	30552	50478	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	19880619	19880619	UNKNOWN	None	None	G5	S1	2B.2		IUCN_LC	101	Monocots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	26	51452	51452	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	2004XXXX	2004XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	11	25716	51449	3912167	Chico	BUT	1 mile	Possibly Extirpated	Natural/Native occurrence	None	N	19740630	19340508	UNKNOWN	None	None	G2	S2	1B.2		BLM_S	804	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	2	10956	20706	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	19910613	19910613	BLM	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Rhynchospora californica	California beaked-rush	PMCYP0N060	8	30551	4460	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20020627	20020627	CITY OF CHICO	None	None	G1	S1	1B.1			102	Monocots
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	PDMAL0H0R3	123	31192	3219	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20020806	20020806	CITY OF CHICO	None	None	G5T3	S3	1B.2		SB_CalBG/RSABG; SB_UCBG	102	Dicots
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	190	58092	58128	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Good	N	20030306	20030306	CITY OF CHICO	Endangered	None	G4	S3S4			IUCN_EN	204	Crustaceans
Athene cunicularia	burrowing owl	ABNSB10010	730	59763	59799	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20050108	20050108	PVT-BIDWELL RANCH	None	None	G4	S3		SSC	BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Lasionycteris noctivagans	silver-haired bat	AMACC02010	14	60986	61022	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19920831	19920831	UNKNOWN	None	None	G3G4	S3S4			IUCN_LC; WBWG_M	804	Mammals
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	19	62016	62052	3912176	Paradise West	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20050909	20050909	UNKNOWN	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	104	Dicots
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	20	62017	62053	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	20090603	20090603	CITY OF CHICO	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	101	Dicots
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	21	62019	62055	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19630703	19630703	UNKNOWN	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	103	Dicots
Haliaeetus leucocephalus	bald eagle	ABNKC10010	248	62717	62754	3912177	Richardson Springs	BUT	4/5 mile	Presumed Extant	Natural/Native occurrence	Good	N	20050102	20050102	PVT	Delisted	Endangered	G5	S3		FP	BLM_S; CDF_S; IUCN_LC; USFS_S; USFWS_BCC	204	Birds
Antrozous pallidus	pallid bat	AMACC10010	132	60986	66589	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19920911	19920911	UNKNOWN	None	None	G4	S3		SSC	BLM_S; IUCN_LC; USFS_S; WBWG_H	804	Mammals
Eumops perotis californicus	western mastiff bat	AMACD02011	45	25716	66372	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19970227	19970227	CITY OF DURHAM, UNKNOWN	None	None	G4G5T4	S3S4		SSC	BLM_S; WBWG_H	804	Mammals
Myotis yumanensis	Yuma myotis	AMACC01020	45	68415	68649	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20060727	20060727	PVT-PGE	None	None	G5	S4			BLM_S; IUCN_LC; WBWG_LM	201	Mammals
Lasiurus cinereus	hoary bat	AMACC05030	18	60986	68775	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19920406	19920406	UNKNOWN	None	None	G3G4	S4			IUCN_LC; WBWG_M	804	Mammals
Myotis yumanensis	Yuma myotis	AMACC01020	187	68982	69673	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990921	19990921	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G5	S4			BLM_S; IUCN_LC; WBWG_LM	803	Mammals
Lasiurus cinereus	hoary bat	AMACC05030	197	68982	69674	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990921	19990921	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G3G4	S4			IUCN_LC; WBWG_M	803	Mammals
Lasionycteris	silver-haired								non-	Presumed	Natural/Native					DPR-BIDWELL-							IUCN_LC;		

noctivagans	bat	AMACC02010	137	68982	69675	3912168	Ord Ferry	BUT	specific area	Extant	occurrence	Unknown	N	19990921	19990921	SACRAMENTO RIV SP	None	None	G3G4	S3S4			WBWG_M	803	Mammals
Lasiurus blossevillii	western red bat	AMACC05060	56	68982	69676	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990921	19990921	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G4	S3		SSC	IUCN_LC; WBWG_H	803	Mammals
Lasiurus blossevillii	western red bat	AMACC05060	57	68984	69677	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923	19990923	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G4	S3		SSC	IUCN_LC; WBWG_H	803	Mammals
Lasiurus cinereus	hoary bat	AMACC05030	198	68984	69678	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923	19990923	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G3G4	S4			IUCN_LC; WBWG_M	803	Mammals
Myotis yumanensis	Yuma myotis	AMACC01020	188	68984	69679	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923	19990923	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G5	S4			BLM_S; IUCN_LC; WBWG_LM	803	Mammals
Eumops perotis californicus	western mastiff bat	AMACD02011	233	68982	69697	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990921	19990921	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G4G5T4	S3S4		SSC	BLM_S; WBWG_H	803	Mammals
Eumops perotis californicus	western mastiff bat	AMACD02011	234	68984	69698	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19990923	19990923	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G4G5T4	S3S4		SSC	BLM_S; WBWG_H	803	Mammals
Imperata brevifolia	California satintail	PMPOA3D020	26	69083	69860	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19890928	19890928	PVT	None	None	G4	S3	2B.1		SB_CalBG/RSABG; SB_SBBG; USFS_S	103	Monocots
Imperata brevifolia	California satintail	PMPOA3D020	25	25848	69858	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19891203	19891203	UNKNOWN	None	None	G4	S3	2B.1		SB_CalBG/RSABG; SB_SBBG; USFS_S	803	Monocots
Haliaeetus leucocephalus	bald eagle	ABNKC10010	268	69236	70015	3912177	Richardson Springs	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Excellent	N	20070204	20070204	CITY OF CHICO, PVT	Delisted	Endangered	G5	S3		FP	BLM_S; CDF_S; IUCN_LC; USFS_S; USFWS_BCC	204	Birds
Phrynosoma blainvillii	coast horned lizard	ARACF12100	666	69279	70062	3912166	Hamlin Canyon	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19330918	19330918	UNKNOWN	None	None	G3G4	S3S4		SSC	BLM_S; IUCN_LC	204	Reptiles
Linderiella occidentalis	California linderiella	ICBRA06010	269	69348	70124	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Excellent	N	20051229	20051229	PVT	None	None	G2G3	S2S3			IUCN_NT	204	Crustaceans
Campylopodiella stenocarpa	flagella-like atractylocarpus	NBMUS84010	2	69545	70323	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20010115	20010115	CITY OF CHICO	None	None	G5	S1?	2B.2			104	Bryophytes
Spea hammondii	western spadefoot	AAABF02020	180	42741	42741	3912177	Richardson Springs	BUT	non-specific area	Possibly Extirpated	Natural/Native occurrence	None	N	20000405	20000405	PVT	None	None	G2G3	S3		SSC	BLM_S; IUCN_NT	203	Amphibians
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	PDCON04012	11	45118	45118	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19830607	19830607	UNKNOWN	None	None	G5T3	S3	4.2			103	Dicots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	51	25713	16607	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19780324	19780324	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	103	Monocots
Athene cunicularia	burrowing owl	ABNSB10010	1029	70987	71904	3912167	Chico	BUT	specific area	Extirpated	Natural/Native occurrence	None	N	20060515	20060515	UNKNOWN	None	None	G4	S3		SSC	BLM_S; IUCN_LC; USFWS_BCC	202	Birds
Emys marmorata	western pond turtle	ARAAD02030	775	71429	72326	3912167	Chico	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	20080507	20080507	CITY OF CHICO	None	None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	201	Reptiles
Tuctoria greenei	Greene's tuctoria	PMPOA6N010	51	71549	72445	3912178	Nord	BUT	non-specific area	Extirpated	Natural/Native occurrence	None	N	20100909	19740812	UNKNOWN	Endangered	Rare	G1	S1	1B.1			103	Monocots
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	PDLIM02043	57	37919	32926	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Excellent	N	19851025	19851025	PVT	None	None	G4T4	S3	4.2		SB_UCBG	104	Dicots
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	PDLIM02043	58	37920	32927	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	PVT	None	None	G4T4	S3	4.2		SB_UCBG	103	Dicots
Stuckenia filiformis ssp. alpina	northern slender pondweed	PMPOT03091	19	73372	74342	3912167	Chico	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19870525	19870525	DPR-BUTTE CREEK CANYON ER?	None	None	G5T5	S2S3	2B.2			104	Monocots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	11	25847	5422	3912176	Paradise West	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19900503	19900503	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	104	Monocots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	12	25849	5421	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20070507	20070507	UNKNOWN	None	None	G3Q	S3	3.2		USFS_S	102	Monocots
Fritillaria eastwoodiae	Butte County fritillary	PMLIL0V060	181	73831	74822	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20070507	20070507	PVT-PGE?	None	None	G3Q	S3	3.2		USFS_S	101	Monocots
Calystegia atriplicifolia ssp. buttensis	Butte County morning-glory	PDCON04012	117	74171	74884	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060714	20060714	PVT-PGE?	None	None	G5T3	S3	4.2			102	Dicots
Laterallus jamaicensis coturniculus	California black rail	ABNME03041	206	76039	77039	3912176	Paradise West	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Good	N	20080416	20080416	CITY OF CHICO	None	Threatened	G3G4T1	S1		FP	BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC	204	Birds
Laterallus jamaicensis coturniculus	California black rail	ABNME03041	236	76637	77582	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	UNKNOWN	None	Threatened	G3G4T1	S1		FP	BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC	203	Birds

Laterallus jamaicensis coturniculus	California black rail	ABNME03041	237	76638	77583	3912165	Cherokee	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	UNKNOWN	None	Threatened	G3G4T1	S1		FP	BLM_S; IUCN_NT; NABCI_RWL; USFWS_BCC	203	Birds
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	34	10661	22020	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19800312	19800312	UNKNOWN	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	103	Monocots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	37	20285	25689	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Poor	N	20080325	20080325	CITY OF CHICO	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	35	20286	19366	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20080327	20080327	CITY OF CHICO	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	44	78109	78966	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20080324	20080324	CITY OF CHICO	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Emys marmorata	western pond turtle	ARAAD02030	1226	79579	80563	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	20100714	20100714	CSU-CHICO	None	None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	801	Reptiles
Emys marmorata	western pond turtle	ARAAD02030	1225	79578	80562	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	20100723	20100723	CSU-CHICO	None	None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	801	Reptiles
Branchinecta conservatio	Conservancy fairy shrimp	ICBRA03010	33	79621	80608	3912178	Nord	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19810408	19810408	UNKNOWN	Endangered	None	G2	S2			IUCN_EN	204	Crustaceans
Emys marmorata	western pond turtle	ARAAD02030	1224	79575	80559	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20100624	20100624	CITY OF CHICO	None	None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	202	Reptiles
Emys marmorata	western pond turtle	ARAAD02030	1227	79584	80570	3912167	Chico	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20100316	20100316	CITY OF CHICO	None	None	G3G4	S3		SSC	BLM_S; IUCN_VU; USFS_S	202	Reptiles
Castilleja rubicundula var. rubicundula	pink creamsacs	PDSCR0D482	6	81230	49128	3912166	Hamlin Canyon	BUT	1 mile	Possibly Extirpated	Natural/Native occurrence	None	N	19270507	19270507	UNKNOWN	None	None	G5T2	S2	1B.2		BLM_S	104	Dicots
Castilleja rubicundula var. rubicundula	pink creamsacs	PDSCR0D482	8	49130	49130	3912178	Nord	BUT	1/10 mile	Possibly Extirpated	Natural/Native occurrence	None	N	19860506	19860506	PVT	None	None	G5T2	S2	1B.2		BLM_S	104	Dicots
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	36	10702	22016	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19800312	19800312	PVT	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	103	Monocots
Buteo swainsoni	Swainson's hawk	ABNKC19070	1724	81998	82975	3912178	Nord	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20090527	20090527	PVT	None	Threatened	G5	S3			BLM_S; IUCN_LC; USFWS_BCC	201	Birds
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	45	78113	78997	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20100317	20100317	PVT-RESTORATION RESOURCES	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	53	83374	84383	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20100323	20100323	PVT-RESTORATION RESOURCES	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	6	10918	20704	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	19890620	19890620	PVT, BLM	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	15	10790	20697	3912167	Chico	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	2003XXXX	1981XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	104	Dicots
Riparia riparia	bank swallow	ABPAU08010	39	36739	25221	3912168	Ord Ferry	GLE	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20100802	20100802	DFG-SACRAMENTO RIVER WA	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Riparia riparia	bank swallow	ABPAU08010	276	83944	84965	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19980618	19980618	DFG-SACRAMENTO RIVER WA	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Riparia riparia	bank swallow	ABPAU08010	277	83945	84976	3912168	Ord Ferry	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	1997XXXX	1997XXXX	DPR-BIDWELL-SACRAMENTO RIV SP	None	Threatened	G5	S2			BLM_S; IUCN_LC	204	Birds
Riparia riparia	bank swallow	ABPAU08010	278	83946	84977	3912168	Ord Ferry	GLE	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19980617	19980617	USFWS-SACRAMENTO NWR	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Riparia riparia	bank swallow	ABPAU08010	279	83951	85005	3912168	Ord Ferry	GLE	non-specific area	Presumed Extant	Natural/Native occurrence	Good	N	20080610	20080610	USFWS-SACRAMENTO NWR, UNKNOWN	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Riparia riparia	bank swallow	ABPAU08010	38	10334	12272	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20080610	20080610	PVT	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Riparia riparia	bank swallow	ABPAU08010	280	83987	85015	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Good	N	20090611	20090611	PVT, UNKNOWN	None	Threatened	G5	S2			BLM_S; IUCN_LC	203	Birds
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	33	84090	85114	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060524	20060524	PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	51	83343	84355	3912167	Chico	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20100324	20100324	PVT	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	103	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	3	83694	20707	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20050601	20050601	PVT, BLM, BUT COUNTY	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County	PDMAL110P0	4	83695	20705	3912176	Paradise	BUT	specific	Presumed	Natural/Native	Unknown	N	2004XXXX	2004XXXX	PVT, DFG	None	None	G2	S2	1B.2		BLM_S	102	Dicots

	checkerbloom						West		area	Extant	occurrence													
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	5	10871	20701	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1990XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	17	49129	20699	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	20060509	20060509	PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	20	84359	85391	3912165	Cherokee	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	2004XXXX	2004XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	22	10949	20693	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1990XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	32	84086	85113	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1990XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	35	84092	85116	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19910330	19910330	PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	36	84093	85120	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	37	84366	85396	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1990XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	38	84367	85397	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	39	84368	85398	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	40	84369	85399	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	41	84371	85401	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	42	84372	85402	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1991XXXX	1991XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	43	84373	85403	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1990XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	44	84374	85404	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	2004XXXX	2004XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	45	84376	85406	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	2004XXXX	2004XXXX	PVT	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	1	11001	20703	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19820219	19820219	PVT	None	None	G2	S2	1B.2		BLM_S	103	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	13	10534	19816	3912178	Nord	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	20100331	20100331	PVT	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	103	Dicots
Spea hammondii	western spadefoot	AAABF02020	422	84641	85662	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	20110404	20110404	DFG-STONE RIDGE ER	None	None	G2G3	S3		SSC	BLM_S; IUCN_NT	201	Amphibians
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	39	25355	5903	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Poor	N	20100324	20100324	PVT	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Tuctoria greenei	Greene's tuctoria	PMPOA6N010	18	88955	2299	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	2011XXXX	2011XXXX	PVT	Endangered	Rare	G1	S1	1B.1			102	Monocots
Paronychia ahartii	Ahart's paronychia	PDCAR0L0V0	8	10694	21246	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19860618	19860618	PVT	None	None	G3	S3	1B.1		BLM_S	102	Dicots
Balsamorhiza macrolepis	big-scale balsamroot	PDAST11061	45	60986	91038	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	XXXXXXXX	XXXXXXXX	UNKNOWN	None	None	G2	S2	1B.2		BLM_S; USFS_S	804	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	46	90267	91299	3912177	Richardson Springs	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	2010XXXX	2010XXXX	DFG-STONE RIDGE ER	None	None	G2	S2	1B.2		BLM_S	104	Dicots
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	6	91068	92090	4012242	Balls Ferry	SHA	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	2010XXXX	2010XXXX	STATE, UNKNOWN	Threatened	None	G5T2Q	S2			AFS_TH	203	Fish
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	17	91229	92266	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	2013XXXX	2013XXXX	UNKNOWN, CITY OF CHICO	Threatened	None	G5T2Q	S2			AFS_TH	203	Fish
Vireo bellii pusillus	least Bell's vireo	ABPBW01114	513	60986	92723	3912167	Chico	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19060707	19060707	UNKNOWN	Endangered	Endangered	G5T2	S2			IUCN_NT; NABCI_YWL	804	Birds
Oncorhynchus mykiss irideus pop. 11	steelhead - Central Valley DPS	AFCHA0209K	29	91658	92729	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	2008XXXX	2008XXXX	UNKNOWN	Threatened	None	G5T2Q	S2			AFS_TH	203	Fish
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	682	93384	94521	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20110304	20110304	PVT-RESTORATION RESOURCES	Threatened	None	G3	S3			IUCN_VU	202	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	683	93385	94522	3912178	Nord	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Fair	N	20100211	20100211	PVT-RESTORATION RESOURCES	Threatened	None	G3	S3			IUCN_VU	201	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	684	93387	94523	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20110331	20110331	PVT-RESTORATION RESOURCES	Threatened	None	G3	S3			IUCN_VU	202	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	685	93388	94524	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20110401	20110401	PVT-RESTORATION	Threatened	None	G3	S3			IUCN_VU	202	Crustaceans

																RESOURCES									
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	541	69354	70131	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20110119	20110119	PVT-RESTORATION RESOURCES	Threatened	None	G3	S3			IUCN_VU	202	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	686	93389	94525	3912178	Nord	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20030122	20030122	UNKNOWN	Threatened	None	G3	S3			IUCN_VU	204	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	687	93390	94526	3912178	Nord	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20110401	20110401	PVT-RESTORATION RESOURCES	Threatened	None	G3	S3			IUCN_VU	201	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	689	93404	94546	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20090305	20090305	CITY OF CHICO-BIDWELL RANCH	Threatened	None	G3	S3			IUCN_VU	202	Crustaceans
Thamnophis gigas	giant gartersnake	ARADB36150	396	94488	95601	3912168	Ord Ferry	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19500319	19500319	UNKNOWN	Threatened	Threatened	G2	S2			IUCN_VU	204	Reptiles
Thamnophis gigas	giant gartersnake	ARADB36150	235	64231	64326	3912168	Ord Ferry	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20050420	20050420	CITY OF CHICO	Threatened	Threatened	G2	S2			IUCN_VU	204	Reptiles
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	228	94734	95845	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20120630	20100630	CITY OF CHICO	Threatened	None	G3T2	S3				204	Insects
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	313	94760	95865	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20110331	20110331	BUT COUNTY	Endangered	None	G4	S3S4			IUCN_EN	202	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	314	94761	95866	3912178	Nord	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20110331	20110331	BUT COUNTY	Endangered	None	G4	S3S4			IUCN_EN	201	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	315	94762	95867	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20090113	20090113	CITY OF CHICO	Endangered	None	G4	S3S4			IUCN_EN	202	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	59	28059	28560	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20090113	20090113	CITY OF CHICO	Endangered	None	G4	S3S4			IUCN_EN	201	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	146	42060	42060	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20080310	20080310	UNKNOWN	Endangered	None	G4	S3S4			IUCN_EN	202	Crustaceans
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	288	95246	96380	3912168	Ord Ferry	GLE	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20031218	20031218	USFWS-SACRAMENTO NWR	Threatened	None	G3T2	S3				201	Insects
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	289	95252	96383	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20051121	20051121	UNKNOWN	Threatened	None	G3T2	S3				203	Insects
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	291	95258	96389	3912177	Richardson Springs	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20010516	20010516	CITY OF CHICO	Threatened	None	G3T2	S3				204	Insects
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	301	95366	96497	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20140516	20140516	USFWS-SACRAMENTO NWR	Threatened	None	G3T2	S3				203	Insects
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	6	95678	25621	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20130629	20130629	USFWS, DFG, TNC	Threatened	Endangered	G5T2T3	S1			BLM_S; NABCI_RWL; USFS_S; USFWS_BCC	203	Birds
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	8	36738	13014	3912168	Ord Ferry	GLE	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19770813	19770813	DFG-SACRAMENTO RIVER WA	Threatened	Endangered	G5T2T3	S1			BLM_S; NABCI_RWL; USFS_S; USFWS_BCC	204	Birds
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	9	95749	25618	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20130724	20130724	DPR, USFWS	Threatened	Endangered	G5T2T3	S1			BLM_S; NABCI_RWL; USFS_S; USFWS_BCC	203	Birds
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	136	95243	34403	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20031218	20031218	PVT	Threatened	None	G3T2	S3				203	Insects
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	212	69351	70127	3912168	Ord Ferry	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20110528	20030624	UNKNOWN	Threatened	None	G3T2	S3				202	Insects
Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	10	10299	14718	3912168	Ord Ferry	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	1990XXXX	1989XXXX	PVT	Threatened	Endangered	G5T2T3	S1			BLM_S; NABCI_RWL; USFS_S; USFWS_BCC	203	Birds
Spea hammondii	western spadefoot	AAABF02020	391	69602	70375	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20160120	20160120	UNKNOWN, CITY OF CHICO	None	None	G2G3	S3		SSC	BLM_S; IUCN_NT	202	Amphibians
Spea hammondii	western spadefoot	AAABF02020	442	99119	100641	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Poor	N	20160121	20160121	UNKNOWN	None	None	G2G3	S3		SSC	BLM_S; IUCN_NT	203	Amphibians
Rhynchospora	California	PMCYP0N060	5	10843	4458	3912176	Paradise	BUT	specific	Presumed	Natural/Native	Good	N	20020716	20020716	CITY OF	None	None	G1	S1	1B.1			102	Monocots

californica	beaked-rush						West		area	Extant	occurrence					CHICO								
Rhynchospora californica	California beaked-rush	PMCYP0N060	11	55688	55704	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20120901	20120901	CITY OF CHICO	None	None	G1	S1	1B.1			101	Monocots
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	PDONA050J1	6	30694	4240	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20040530	20040530	UNKNOWN	None	None	G5T3	S3	1B.2		BLM_S; SB_UCBG; USFS_S	103	Dicots
Rana boylii	foothill yellow-legged frog	AAABH01050	1303	79578	108366	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Excellent	N	20100723	20100723	CSU-CHICO	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	801	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	1304	79579	108367	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20110528	20110528	CSU-CHICO	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	801	Amphibians
Fritillaria pluriflora	adobe-lily	PMLIL0V0F0	118	89745	90752	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20200302	20200302	DFG-STONE RIDGE ER	None	None	G2G3	S2S3	1B.2		BLM_S; SB_CalBG/RSABG; SB_UCBG	102	Monocots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	36	20284	25000	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	20180328	20180328	CITY OF CHICO, PVT	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	38	22127	13269	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20190322	20190322	DFG-STONE RIDGE ER, PVT	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	14	10799	20702	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20190517	20190517	CITY OF CHICO	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	27	51453	51453	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	N	20190601	20190601	CITY OF CHICO, PVT	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	47	B3282	115197	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20180310	20180310	UNKNOWN	None	None	G2	S2	1B.2		BLM_S	101	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	48	B3283	115198	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20190517	20190517	CITY OF CHICO	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	49	B3284	115199	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20190126	20190126	UNKNOWN	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	28	51460	51460	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20190523	20190523	CITY OF CHICO	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	20	10763	19817	3912167	Chico	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20180420	20180420	PVT, CITY OF CHICO	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Limnanthes floccosa ssp. californica	Butte County meadowfoam	PDLIM02042	7	10755	9240	3912167	Chico	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20190419	20190419	PVT, CITY OF CHICO	Endangered	Endangered	G4T1	S1	1B.1		SB_CalBG/RSABG	102	Dicots
Paronychia ahartii	Ahart's paronychia	PDCAR0L0V0	62	89810	90818	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	2019XXXX	2019XXXX	DFG-STONE RIDGE ER	None	None	G3	S3	1B.1		BLM_S	102	Dicots
Stygobromus gallawayae	Gallaway's amphipod	ICMAL05E10	1	B5282	118234	3912186	Cohasset	BUT	5 miles	Presumed Extant	Natural/Native occurrence	Unknown	N	19970728	19970728	BLM, UNKNOWN	None	None	G1	S1				204	Crustaceans
Rana boylii	foothill yellow-legged frog	AAABH01050	2221	B0549	112413	3912168	Ord Ferry	BUT	1 mile	Extirpated	Natural/Native occurrence	None	N	1978XXXX	19610508	UNKNOWN	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	204	Amphibians
Spea hammondii	western spadefoot	AAABF02020	1405	B5429	118389	3912178	Nord	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20XXXXXX	20XXXXXX	UNKNOWN	None	None	G2G3	S3		SSC	BLM_S; IUCN_NT	204	Amphibians
Bombus crotchii	Crotch bumble bee	IIHYM24480	292	B6251	119301	3912177	Richardson Springs	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20200412	20200412	PVT	None	None	G3G4	S1S2				201	Insects
Erethizon dorsatum	North American porcupine	AMAFJ01010	235	A5104	106807	3912166	Hamlin Canyon	BUT	1 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19750313	19750313	UNKNOWN	None	None	G5	S3			IUCN_LC	204	Mammals
Erethizon dorsatum	North American porcupine	AMAFJ01010	233	A5098	106805	3912167	Chico	BUT	3/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19691026	19691026	UNKNOWN	None	None	G5	S3			IUCN_LC	204	Mammals
Rana boylii	foothill yellow-legged frog	AAABH01050	2219	B0525	112388	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060919	20060919	DFG, UNKNOWN	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
Erethizon dorsatum	North American porcupine	AMAFJ01010	223	A5078	106787	3912168	Ord Ferry	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	201407XX	201407XX	UNKNOWN	None	None	G5	S3			IUCN_LC	204	Mammals
Erethizon dorsatum	North American porcupine	AMAFJ01010	224	A5079	106788	3912168	Ord Ferry	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	201408XX	201408XX	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G5	S3			IUCN_LC	204	Mammals
Rana boylii	foothill yellow-legged frog	AAABH01050	1297	A6588	108353	3912177	Richardson Springs	BUT	3/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19690219	19690219	UNKNOWN	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	204	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	1291	A6936	108337	3912177	Richardson Springs	BUT	3/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19610504	19610504	UNKNOWN	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	204	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	1305	A6602	108369	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060919	20060919	PVT-PGE, BLM, UNKNOWN	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
Atractelmis wawona	Wawona riffle beetle	IICOL58010	53	B4777	117718	3912176	Paradise West	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20090709	20090709	UNKNOWN	None	None	G3	S1S2				204	Insects
Rana boylii	foothill yellow-legged frog	AAABH01050	1362	A7097	108872	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060919	20060919	UNKNOWN, BLM	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
									non-															

Rana boylii	foothill yellow-legged frog	AAABH01050	1302	A6597	108362	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	1978XXXX	1978XXXX	CITY OF CHICO	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	2220	B0526	112389	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20060919	20060919	BLM	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
Linderiella occidentalis	California linderiella	ICBRA06010	467	B5543	118510	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20110304	20110304	UNKNOWN	None	None	G2G3	S2S3			IUCN_NT	202	Crustaceans
Rana boylii	foothill yellow-legged frog	AAABH01050	1306	A6603	108371	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20140920	20140920	PVT	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	201	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	2582	B3680	116593	3912166	Hamlin Canyon	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20190605	20190605	PVT	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	201	Amphibians
Linderiella occidentalis	California linderiella	ICBRA06010	466	B5541	118509	3912178	Nord	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	N	20100310	20100310	UNKNOWN	None	None	G2G3	S2S3			IUCN_NT	202	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	497	B5578	118549	3912177	Richardson Springs	BUT	1/10 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	19880109	19880109	UNKNOWN	None	None	G2G3	S2S3			IUCN_NT	204	Crustaceans
Sidalcea robusta	Butte County checkerbloom	PDMAL110P0	50	B3285	115200	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	20180415	20180415	CITY OF CHICO	None	None	G2	S2	1B.2		BLM_S	102	Dicots
Rana boylii	foothill yellow-legged frog	AAABH01050	2572	B3629	116544	3912176	Paradise West	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20180526	20180526	CSU-CHICO	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	201	Amphibians
Linderiella occidentalis	California linderiella	ICBRA06010	464	B5538	118505	3912178	Nord	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Good	N	20110303	20110303	UNKNOWN	None	None	G2G3	S2S3			IUCN_NT	201	Crustaceans
Erethizon dorsatum	North American porcupine	AMAFJ01010	225	A5080	106789	3912168	Ord Ferry	BUT	2/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	2005XXXX	2005XXXX	UNKNOWN	None	None	G5	S3			IUCN_LC	204	Mammals
Erethizon dorsatum	North American porcupine	AMAFJ01010	226	A5081	106790	3912168	Ord Ferry	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20150629	20150629	UNKNOWN, PVT	None	None	G5	S3			IUCN_LC	204	Mammals
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	PDLIM02043	4	37166	32163	3912177	Richardson Springs	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	N	19910331	19910331	UNKNOWN	None	None	G4T4	S3	4.2		SB_UCBG	102	Dicots
Rana boylii	foothill yellow-legged frog	AAABH01050	1359	A7091	108869	3912166	Hamlin Canyon	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Fair	N	20190607	20190607	PVT-PARADISE IRRIGATION	None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	203	Amphibians
Erethizon dorsatum	North American porcupine	AMAFJ01010	495	A6512	108273	3912177	Richardson Springs	BUT	1/5 mile	Presumed Extant	Natural/Native occurrence	Unknown	N	20160907	20160907	UNKNOWN	None	None	G5	S3			IUCN_LC	204	Mammals
Cryptantha crinita	silky cryptantha	PDBOR0A0Q0	48	A1831	103426	3912168	Ord Ferry	GLE	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	N	20100525	20100525	DPR-BIDWELL-SACRAMENTO RIV SP	None	None	G2	S2	1B.2		BLM_S; USFS_S	101	Dicots
Limnanthes floccosa ssp. floccosa	woolly meadowfoam	PDLIM02043	59	37922	32929	3912177	Richardson Springs	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Good	N	19851025	19851025	PVT	None	None	G4T4	S3	4.2		SB_UCBG	103	Dicots
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	690	93406	94548	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	19940309	19940309		Threatened	None	G3	S3			IUCN_VU	999	Crustaceans
Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	899	96436	97603	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20040218	20040218		Threatened	None	G3	S3			IUCN_VU	999	Crustaceans
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	30	69684	70469	3912166	Hamlin Canyon	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	Y	20140614	20140614		Delisted	Delisted	G4T4	S3S4		FP	CDF_S; USFWS_BCC	999	Birds
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	34	69685	70470	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Excellent	Y	20140614	20140614		Delisted	Delisted	G4T4	S3S4		FP	CDF_S; USFWS_BCC	999	Birds
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	61	B5945	118961	3912176	Paradise West	BUT	specific area	Presumed Extant	Natural/Native occurrence	Good	Y	20140628	20140628		Delisted	Delisted	G4T4	S3S4		FP	CDF_S; USFWS_BCC	999	Birds
Falco peregrinus anatum	American peregrine falcon	ABNKD06071	62	B5947	118962	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Good	Y	20140613	20140613		Delisted	Delisted	G4T4	S3S4		FP	CDF_S; USFWS_BCC	999	Birds
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	368	96472	97648	3912158	Llano Seco	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20100316	20100316		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	369	96473	97649	3912158	Llano Seco	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20100316	20100316		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	370	96474	97650	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	19930311	19930311		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	371	96477	97651	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20100316	20100316		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	372	96488	97652	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20100316	20100316		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	373	96490	97653	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20100316	20100316		Endangered	None	G4	S3S4			IUCN_EN	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	433	96473	97664	3912158	Llano Seco	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	434	96499	97665	3912158	Llano Seco	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans

Linderiella occidentalis	California linderiella	ICBRA06010	435	96490	97666	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	436	96488	97667	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	437	96477	97668	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	438	96500	97669	3912158	Llano Seco	BUT	specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Linderiella occidentalis	California linderiella	ICBRA06010	439	96436	97670	3912158	Llano Seco	BUT	80 meters	Presumed Extant	Natural/Native occurrence	Unknown	Y	20020211	20020211		None	None	G2G3	S2S3			IUCN_NT	999	Crustaceans
Rana boylii	foothill yellow-legged frog	AAABH01050	1360	A7093	108870	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Fair	Y	20110705	20110705		None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	999	Amphibians
Rana boylii	foothill yellow-legged frog	AAABH01050	1361	A7094	108871	3912176	Paradise West	BUT	non-specific area	Presumed Extant	Natural/Native occurrence	Unknown	Y	20110705	20110705		None	Endangered	G3	S3		SSC	BLM_S; IUCN_NT; USFS_S	999	Amphibians

MEMORANDUM

TO:	Ms. Hillary Craft, Project Manager, U.S. Army Corps of Engineers, Sacramento CA
FROM:	Ms. Molly Enloe, Project Manager
DATE:	November 18, 2021
RE:	Valley Elderberry Longhorn Beetle Survey for Bruce Road/Highway 32 Project

INTRODUCTION

On behalf of George Eshoo – 32 and Bruce, LLC, ECORP Consulting, Inc. conducted a valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*; VELB) survey for the Bruce Road/Highway 32 Project (Study Area). The Study Area is located north of Highway 32, West of the Bruce Road, and south of Sterling Oaks Drive in Chico, California (*Figure 1*). The Study Area corresponds to Section 19, Township 22 North, and Range 02 East (Mount Diablo and Base Meridian) of the "Chico, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1948). The Study Area lies within the Butte Creek Watershed (Hydrologic Unit Code #18020158) (Natural Resources Conservation Service [NRCS] et al., 2016). The Study Area occurs at an elevational range of approximately 245 to 250 feet above mean sea level.

The purpose of this effort was to survey in the vicinity of and within the Study Area to identify and map the locations of elderberry shrubs (*Sambucus* ssp.), the obligate plant host for larval life stages of VELB, as well as assess the elderberry shrubs for evidence of VELB presence (i.e., exit holes).

VELB Background

VELB was listed as a threatened species pursuant to the federal Endangered Species Act in 1980 (U.S. Fish and Wildlife Service [USFWS] 1980). Larval stages of VELB are completely dependent on elderberry shrubs. Elderberry plants with one or more stems measuring one inch or greater in diameter at ground level within the range of VELB are considered habitat for the species (USFWS 2017). The current presumed range of VELB includes the Central Valley and lower foothills from Shasta County in the north to Fresno County in the south. VELB is not typically found above 500 feet in elevation (USFWS 2017).

The adult VELB flight season extends from late March through June, during which adults feed on foliage and flowers, mate, and females lay eggs on living elderberry plants (Barr 1991). After hatching, VELB larvae bore into live elderberry stems, where they live and develop for one to two years while feeding on the pith inside the stems. The final larval stage creates an emergence hole in the stem and then plugs the hole, remaining within the stem through pupation. Following pupation, an adult beetle emerges from the previously created emergence hole and completes its life cycle.

2525 Warren Drive ● Rocklin, CA 95677 ● Tel: (916) 782-9100 ● Fax: (916) 782-9134 ● www.ecorpconsulting.com

METHODS

The VELB survey was conducted on the November 12, 2021, by ECORP biologist Daniel Wong. Mr. Wong conducted meandering transects throughout the Study Area and within a 150-foot buffer beyond the Study Area, to map any potential elderberry shrubs with a post-processing capable global positioning system unit with sub-meter accuracy (Juniper Systems Geode). If any elderberry shrubs were located, the health and height would be noted for each elderberry shrub encountered and the shrub would be searched for the presence of exit holes that may suggest presence of VELB.

RESULTS

ECORP biologist Daniel Wong surveyed the Study Area and within 150-foot of the Study Area for elderberry shrubs and the presence of VELB on November 12, 2021. No elderberry shrubs or VELB were observed.

Representative photos of the Study Area are included as Attachment A.

REFERENCES

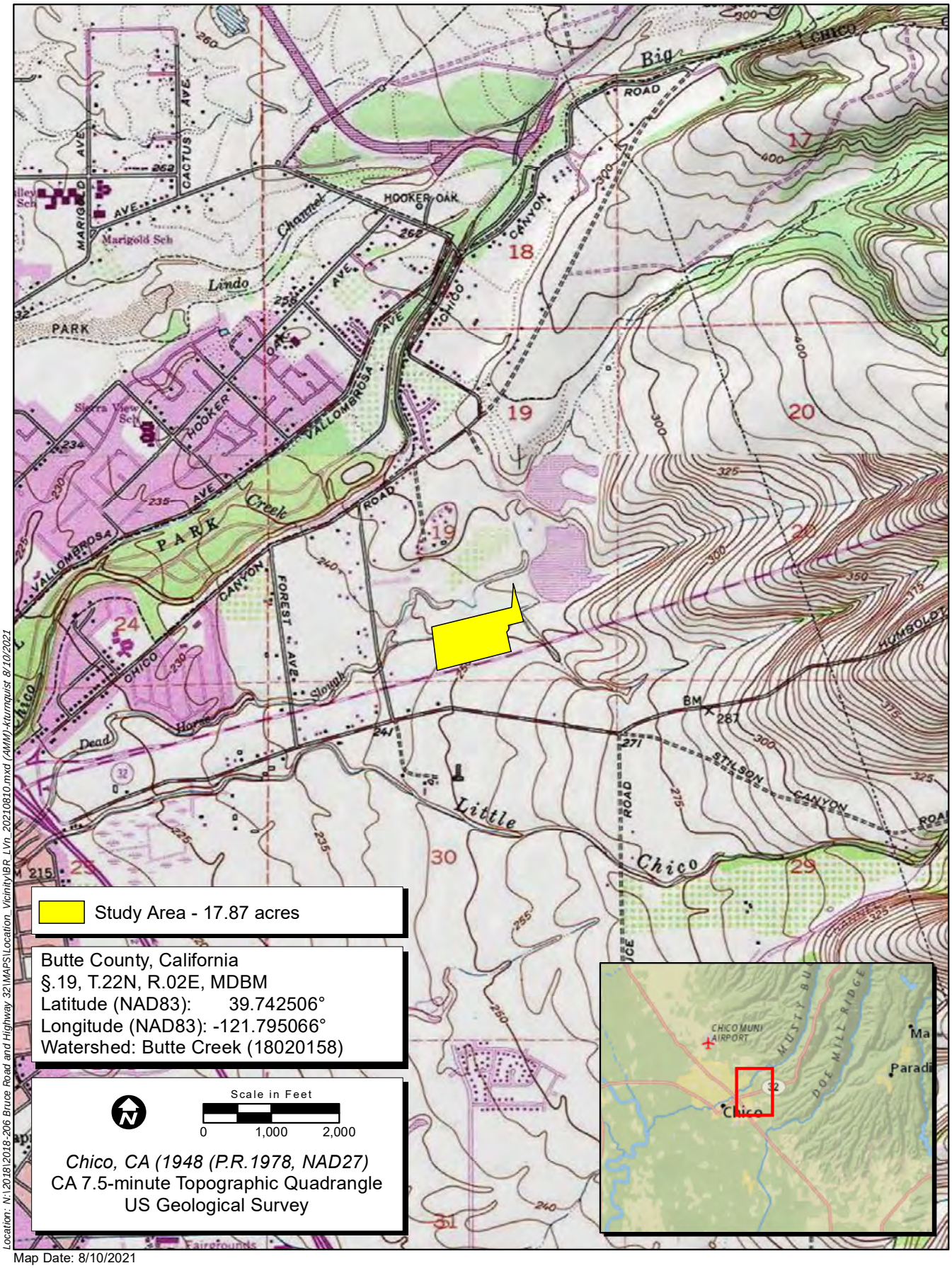
Barr, C.B. 1991. The distribution, habitat and status of the valley elderberry longhorn beetle *Desmocerus californicus dimorphus* Fisher (Coleoptera: Cerambycidae). U.S. Fish and Wildlife Service, Sacramento, California.

Natural Resources Conservation Service (NRCS), U.S. Geological Survey (USGS), and U.S. Environmental Protection Agency. 2016. Watershed Boundary Dataset for California. Available online: https://datagateway.nrcs.usda.gov. Dated 09/21/2016.

U.S Fish and Wildlife Service (USFWS). 2017. Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*). U.S. Fish and Wildlife Service; Sacramento, California. 28 pp.

_____. 1980. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Final Rule. Federal Register 45(155):52803-52807.

U.S. Geological Survey (USGS). 1948. Photo-revised 1978. "Chico, California" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.



Location: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Location_Vicinity\BR_LVn_20210810.mxd (AMM)-kturnquist 8/10/2021

Map Date: 8/10/2021
Sources: Esri, USGS

Figure 1. Study Area Location and Vicinity

2018-206.01 Bruce Road

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

ATTACHMENT A

Representative Site Photos

Above: Gravel path adjacent to the riparian canopy of Dead Horse Slough, facing west.

Below: Flooded section of the riparian area along Dead Horse Slough, facing north.

Above: Needlegrass grassland at the northern portion of the Study Area, facing south.

Below: Representative photo of riparian canopy along Dead Horse Slough, facing west

Above: Dead Horse Slough in the northern portion of the Study Area, facing north.

Below: Representative photo of the annual grassland habitat within the Study Area, facing west.

April 11, 2022

Mr. George P Eshoo
George P. Eshoo Law Offices
702 Marshall Street, Suite 500
Redwood City, CA 94063

RE: Bruce Road and Highway 32 Project, Butte County, California – Focused Special-Status Plant Survey Results

Dear Mr. Eshoo:

At the request of George P Eshoo Law offices, ECORP Consulting, Inc. conducted a focused special-status plant survey for Butte County meadowfoam (*Limnanthes californica* ssp. *floccosa*) for the Bruce Road and Highway 32 Project (Survey Area), located in northwestern Butte County within the City of Chico. The approximately 17.87-acre Survey Area corresponds to Section 19, Township 22 North, Range 2 East (Mount Diablo Base and Meridian) of the "Chico, California" U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps (USGS 1948; photo-revised 1978, Figure 1). The approximate center of the Survey Area is located at 39.742506˚ North and -121.795066˚ West within the Butte Creek watershed (USGS Hydrological Unit Code #18020158) (Natural Resources Conservation Service [NRCS] et al. 2016).

The purpose of the survey was to identify and map all locations of Butte County meadowfoam within the Survey Area. Butte County meadowfoam is listed as endangered pursuant to both the federal and California Endangered Species Acts, and is designated as a California Rare Plant Rank 1B.1 species by the California Native Plant Society (CNPS) . Butte County meadowfoam is an herbaceous annual with erect stems less than 25 cm (9.8 inches) tall. It occurs primarily in seasonal wetland swales and on the margins of vernal pools within valley and foothill grasslands. Butte County meadowfoam is not typically found in the deeper portions of pools that remain inundated for longer periods, or in drainages with swiftly flowing water (USFWS 2002). The flowering period for Butte County meadowfoam occurs between March and May (Ornduff and Morin 2012) but may vary depending on the previous rainy season. It is known to occur at elevations between 150 to 3,050 feet above mean sea level. Butte County meadowfoam is endemic to California; the current known range for this species includes Butte County (CNPS 2022).

Butte County meadowfoam was previously recorded in the Survey Area by Gallaway Enterprises, Inc. (Gallaway 2018; Attachment A). Their mapping includes large polygons identified as "Butte County meadowfoam occurrences." Their report does not document how many individuals were observed onsite and does not describe how the occurrences were mapped. The larger sized polygons on their mapping appear to include deeper portions of vernal pools as well as substantial areas of upland habitats between pools, both of which are not typical habitat for Butte County meadowfoam. It is uncertain whether their mapped occurrences correlate with areas actually occupied by Butte County meadowfoam, or whether they include interstitial areas between plants or groups of plants. Without specific details concerning the number of plants observed and the methodology used for collecting and analyzing geospatial data, the

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report does not provide sufficient information to interpret or validate the acreage of occupied Butte County meadowfoam habitat at the site.

The purpose of ECORP's survey effort was to provide detailed data regarding the specific numbers of Butte County meadowfoam plants observed, their distribution within the site, and the acreage of occupied Butte County meadowfoam habitat.

METHODS

Prior to conducting the survey, background information was collected on the previous efforts for Butte County meadowfoam. Presence of Butte County meadowfoam within or near the Survey Area was analyzed from a variety of sources, including the previous report from Gallaway Enterprises Inc. (Gallaway 2018), the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2022), the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation tool (USFWS 2022), and the CNPS Rare Plant Inventory (CNPS 2022).

Herbaria specimens, Calflora (Calflora 2020), Calphotos (Calphotos 2020), and *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012) were used as a reference to confirm the identification of Butte County meadowfoam.

ECORP botanist Hannah Kang conducted the survey on March 25, 2022, and was accompanied by staff from the CDFW and USFWS. The survey was conducted in accordance with guidelines promulgated by USFWS (2000), CDFW (2018), and CNPS (2001). The surveyor walked meandering transects throughout the Survey Area, including all suitable habitat for Butte County meadowfoam. All observations of Butte County meadowfoam were mapped using a post-processing capable global positioning system (GPS) unit with sub-meter accuracy (Juniper Systems Geode). Groups of plants were mapped by walking the perimeter of the population to create a polygon from which the acreage of the occurrence could be generated. The number of individual plants within each polygon was recorded using the GPS unit. Individual plants or small groups of two to four plants were mapped using a point location. Acreages of these point locations were generated by assuming an average 1-meter-diameter buffer area around each location. The majority of these locations were single plants, so this buffer provides an upper-range estimate of the area occupied by Butte County meadowfoam at the point locations.

RESULTS

Butte County meadowfoam was documented during the 2022 focused survey to occur at 35 locations within the Survey Area (Figure 2). Occurrences were located along the margins of vernal pool and seasonal wetland swale habitats, and within shallow swales and ditches along the southern and western edges the site (Figure 3). The populations documented onsite consist of approximately 400 individuals and occupy an area of approximately 0.047 acre. Attachment B contains representative photographs of Butte County meadowfoam observations within the Survey Area.

For reference, Figure 2 also provides the locations of incidental observations of Butte County meadowfoam recorded during a biological reconnaissance survey conducted by ECORP biologists Keith

Kwan and Theresa Johnson on March 27, 2020. Six locations of Butte County meadowfoam were documented within the same general area as 2022, except for one occurrence in riparian habitat at the northeast corner of the site. This location was inspected during the 2022 survey and the occurrence was no longer present.

CONCLUSION

Protocol-level surveys were conducted during the peak blooming period for Butte County meadowfoam. The entire Survey Area was traversed to identify occurrences of Butte County meadowfoam, and individual plants and groups of plants were recorded and mapped. Approximately 400 Butte County meadowfoam plants were observed during the survey, occupying approximately 0.047 acre.

If you have any questions, please call me at (916) 782-9100.

Sincerely,

Molly Enloe
Principal Biologist/Project Manager

REFERENCES

Baldwin, B. G., D. H Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley, California.

California Department of Fish and Wildlife (CDFW). 2022. Rarefind Natural Diversity Database Program. California Natural Diversity Database (CNDDB). The Resources Agency, Sacramento, California.

_____. 2018. Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities. Sacramento, California.

California Native Plant Society, Rare Plant Program (CNPS). 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website: https://www.rareplants.cnps.org (accessed March 18, 2022).

_____. 2001. CNPS Botanical Survey Guidelines. California Native Plant Society. Available online: http://www.cnps.org/cnps/rareplants/pdf/cnps_survey_guidelines.pdf

Calflora. 2022. Information on California plants for education, research, and conservation. Berkeley, California: The Calflora Database [a non-profit organization]. Available online: https://www.calflora.org/.

Calphotos. 2022. Regents of the University of California, Berkeley. Available online: http://calphotos.berkeley.edu/.

Gallaway Enterprises, Inc. 2018. *Botanical Survey for Butte County Meadowfoam (Limnanthes* floccosa *ssp. californica*). Prepared for the Creekside Townhouses Project. April 9.

Natural Resources Conservation Service (NRCS), U.S. Geological Survey (USGS), and U.S. Environmental Protection Agency (USEPA). 2016. Watershed Boundary Dataset for California. http://datageteway.nrcs.usda.gov.

_____. 2000. Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants. January.

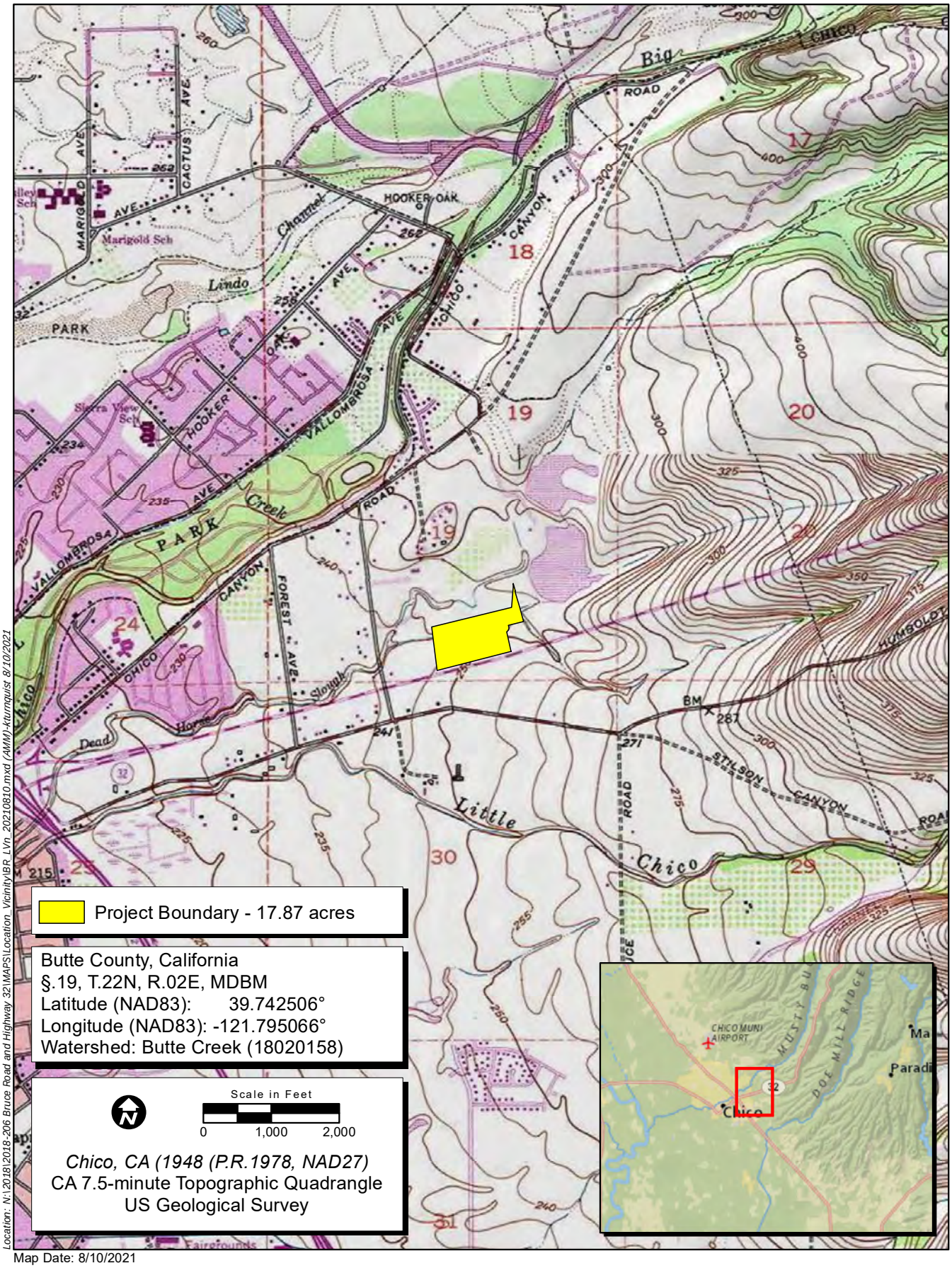
Ornduff, Robert & Nancy R. Morin. 2012. *Limnanthes floccosa subsp. californica*, in Jepson Flora Project (eds.) Jepson eFlora, https://ucjeps.berkeley.edu/eflora/eflora_display.php?tid=51264, accessed on April 08, 2022.

U.S. Geological Survey (USGS). 1948. "Chico, California" 7.5-minute Quadrangle (Photo revised 1978). Geological Survey. Denver, Colorado.

U.S. Fish and Wildlife Service (USFWS). 2022. USFWS Resource Report List. Information for Planning and Conservation. Internet website: http://ecos.fws.gov/ipac/.

_____. 2002. Federal Register, 50 CFR Part 17, Endangered and Threatened Wildlife and Plants; Critical Habitat Designation for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Proposed Rule. September 24, 2022.

LIST OF FIGURES



Location: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Location_Vicinity\BR_LVn_20210810.mxd (AMM)-kturnquist 8/10/2021

Map Date: 8/10/2021
Sources: Esri, USGS

Figure 1. Property Location and Vicinity

2018-206.01 Bruce Road

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

STERLING OAKS DR

SIERRA SUNRISE TERR

BRUCE RD

HWY 32 E

2020

2022

Map Features

- Project Boundary - 17.87 acres
- Butte County Meadowfoam (2020) - 0.001 ac.
- Butte County Meadowfoam (2022) - 0.047 ac.

Base Sources: ESRI, Maxar (2021), Rolls Anderson & Rolls

ECORP: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Biological_Resources\BR_Plant_ButteMeadowfoam_20220330.mxd (AMM/JDS)-JSwager 4/11/2022

Map Date: 4/11/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 150

Figure 2. Butte County Meadowfoam

2018-206 Bruce Road

Map Features

- Project Boundary - 17.87 acres
- Butte County Meadowfoam (2020) - 0.001 ac.
- Butte County Meadowfoam (2022) - 0.047 ac.

Aquatic Features

- Other Waters - Intermittent
- Other Waters - Perennial
- Riparian
- Seasonal Swale
- Seasonal Wetland
- Vernal Pool

Base Sources: ESRI, Maxar (2021), Rolls Anderson & Rolls

ECORP: N:\2018\2018-206 Bruce Road and Highway 32\MAPS\Biological_Resources\BR_Plant_ButteMeadowfoam_20220330.mxd (AMM/JDS) JSwager 4/11/2022

Map Date: 4/11/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 150

Figure 3. Butte County Meadowfoam with Aquatic Resources
2018-206 Bruce Road

LIST OF ATTACHMENTS

Attachment A - Gallaway Enterprises Butte County Meadowfoam Survey Report

Attachment B - Representative Photos of Butte County Meadowfoam

ATTACHMENT A

Gallaway Enterprises Butte County Meadowfoam Survey Report

gallaway
ENTERPRISES

117 Meyers Street • Suite 120 • Chico CA 95928 • 530-332-9909

April 9, 2018

Law Offices of George P. Eshoo
Attn: George Eshoo
702 Marshall Street, # 500
Redwood City, CA 94063

Dear Mr. Eshoo;

As requested, Gallaway Enterprises conducted a protocol-level botanical survey for Butte County meadowfoam (*Limnanthes flocossa* ssp. *californica,* BCM) within the approximately 20-acre Creekside Townhouses Project survey area (survey area) on March 19, 2018. Butte County meadowfoam is a state and federal endangered species and a California Native Plant Society (CNPS) Rank 1B.1[1] species, therefore, the survey was conducted per U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (DFW) guidelines.

Location

The survey area is located within the City Limits of Chico, Butte County, CA, within the United States Geological Survey (USGS) Chico Quadrangle, Section 19, Township 22N, Range 2E. It is located on the northwest corner of Highway 32 and Bruce Road (survey area, **Figure 1**). Dead Horse Slough occurs along the northern boundary of the survey area. The majority of the western portion of the survey area was historically disturbed from soil removal/scraping activities. The survey area is primarily composed of annual grassland with mound-swale topography with thin soils. South of Dead Horse Slough, the soils within the annual grassland habitat present include the Redtough-Redswale, 0 to 2 percent slopes soil map unit and a small area of the Doemill-Jokerst, 3 to 8 percent slopes soil map unit which are both known to support habitat for BCM. A known California Natural Diversity Database (CNDDB) occurrence of BCM is located within the survey area. While the survey area is not within USFWS designated critical habitat for BCM, USFWS designated critical habitat for BCM occurs immediately to the south of the survey area.

Methodology

The survey for BCM was conducted on March 19, 2018 during the appropriate flowering window of the target species, by botanist Elena Gregg (see **Attachment A** for Botanist Qualifications). The entire survey

[1] According to the CNPS Inventory of Rare and Endangered Plants, 1B.1 plants are species that are rare, threatened, or endangered in California and elsewhere; and are seriously endangered in California (over 80% of occurrences threatened /high degree and immediacy of threat).

Creekside Townhouses Project
Regional Location
Figure 1

gallaway ENTERPRISES

GE: #14-139 Map Date: 09/26/17

area was surveyed for BCM. All of the wetlands within the survey area were surveyed and the upland portion of the site was traversed on foot using meandering transects. A Trimble Geo Explorer 6000 Series GPS Receiver was on hand to record any special-status plant occurrences observed. The survey was conducted in accordance with the September 1996 and January 2000 USFWS *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* and the November 2009 DFW *Protocols for Surveying and Evaluation Impacts to Special Status Native Plant Populations and Natural Communities*. The rainfall and inundation was considered below average during the winter of 2017/2018 according to the National Oceanic and Atmospheric Administration (NOAA), but moisture in the soil had been sufficient to allow for BCM seed germination based on a visit to a BCM reference population. A visit to the BCM reference population at the Meriam Park Preserve in Chico, CA was conducted on March 12, 2018. The vast majority of BCM was observed in the flowering stage during the reference site visit with a small percentage still in the budding stage.

Results

Approximately 0.55 acre of BCM plants were observed within the survey area during the protocol-level survey conducted (**Attachment B**). A dense population of BCM was observed within the wetlands and mesic areas in the western portion of the survey area.

Also, a small population of one CNPS Rank 4 plant species, *Polygonum bidwelliae*, was observed in the gravely thin soils in the southeastern portion of the survey area. A CNPS Rank 4 plant species is considered to be limited in distribution in California and are on a watch list. As such, CNPS Rank 4 plant species may need to be evaluated for impact significance during the California Environmental Quality Act (CEQA) review process. A list of all of the plant species observed during the survey is provided as **Attachment C**.

The CDFW and USFWS typically consider protocol-level botanical surveys to be valid for 2 years.

Should you have any questions, please do not hesitate to contact me at (530) 332-9909 or via email at elena@gallawayenterprises.com.

Sincerely,

Elena Gregg, Senior Botanist
Gallaway Enterprises

Attachment A

Surveyor Qualifications

Elena Gregg, Senior Botanist / ISA Certified Arborist

EDUCATION

- **B.S., Environmental Biology and Management,** 2004
  University of California, Davis

EXPERIENCE 12 Years

- **Gallaway Enterprises (2013-Current)**
  Senior Botanist, ISA Certified Arborist
- **NorthStar Engineering (2009-2013)**
  Senior Botanist, ISA Certified Arborist
- **Gallaway Consulting, Inc. (2006-2008)**
  Botanist, ISA Certified Arborist
- **Jones and Stokes (2005)**
  On-call Field Botanist
- **U.S. Forest Service, Truckee and Sierraville Ranger Districts (2004 and 2005)**
  Botanical Technician

AREAS OF EXPERTISE

- Rare Plant Surveys
- Wetland Delineations
- Habitat Assessments
- Tree Inventories
- State and Federal permit Facilitation
- Endangered Species Act Documentation
- Mitigation Monitoring
- CRAM Assessments
- Arborist Construction Monitoring
- Habitat Restoration
- Environmental Awareness Training

Elena has over twelve years of professional experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds a CDFW collection permit for listed plant species. Through her ample field experience in a wide array of habitats and eco-regions in Northern California, Mrs. Gregg has gained knowledge of locally invasive plants species as well as rare species. In particular, Mrs. Gregg has surveyed extensively for Butte County meadowfoam, a locally endangered plant species. Mrs. Gregg has a working knowledge of the Clean Water Act regulations and facilitation of local and federal environmental permits. She regularly prepares Caltrans documentation for projects receiving Caltrans Local Assistance. In 2007 Mrs. Gregg gained her Professional Arborist Certification from the International Society of Arboriculture. As a Certified Arborist, Mrs. Gregg conducts tree inventories, tree health assessments, and heritage tree surveys. She also prepares tree preservation plans and has been called upon to monitor trees during construction. Her experience with habitat restoration includes preparing wetland restoration plans, mitigation and monitoring plans, and reclamation plans. Mrs. Gregg also conducts annual monitoring associated with mitigation and re-vegetation projects, and in 2012 was trained in using CRAM to assess riverine and vernal pool systems.

Attachment B

Butte County Meadowfoam Occurrence Location Map

1:1,650

0 100 200 Feet

NORTH

Data Sources: ESRI (imagery sourced 03/19/18), USGS, Butte County

Creekside Townhomes Project
Rare Plant Survey
Attachment B

Mapped by: E Gregg
03/19/2018

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GE: #17-085 Map Date: 03/19/18

Attachment B

Plant Species Observed

Plant Species Observed within the Creekside Development Project March 19, 2018	
Scientific Name	**Common Name**
Aira caryophyllea	Silver hairgrass
Allium amplectens	Clasping onion
Alopecurus saccatus	Vernal pool foxtail
Amsinkia intermedia	Common fiddleneck
Blenospermma nana	Yellow carpet
Bromus hordeaceus	Soft chess
Bromus madritensis ssp. rubens	Red brome
Callitriche heterophylla	Water starwort
Centaurea solstitialis	Yellow star thistle
Cerastium glomeratum	Mouse-eared chickweed
Cichorium intybus	Chicory
Clarkia purpurea ssp. quadrivulnera	Four-spot clarkia
Crassula aquatica	Aquatic pygmyweed
Crassula tillaea	Moss pygmyweed
Deschampsia danthonoides	Annual hairgrass
Dichelostemma capitatum	Blue dicks
Eleocharis macrostachya	Pale spike-rush
Elymus caput-medusae	Medusahead
Eriogonum nudum var. pubiflorum	Naked buckwheat
Erodium botrys	Long-beaked stork's-bill
Erodium brachycarpum	Foothill filaree
Eryngium castrense	Coyote thistle
Eschscholzia lobbii	Fryingpans
Festuca bromoides	Six-weeks fescue
Festuca perennis	Rye-grass
Geranium dissectum	Cut-leaved geranium
Grindelia hirsutula var. davyi	Foothill gumplant
Hordeum marinum ssp. *gussoneanum*	Mediterranean barley
Juncus bufonius	Toadrush
Lasthenia fremontia	Goldfields
Layia fremontii	Tidy-tips
Leontodon saxatilis	Hawkbit
Lepidium nitidum	Shinning pepperweed
Leptosiphon bicolor	True babystars
Limnanthes floccosa ssp. californica	**Butte County meadowfoam (CNPS Rank 1B)**
Logfia gallica	Narrowleaf cottonrose
Lomatium caruifolium var. denticulatum	Foothill lomatium
Lupinus nanus	Sky lupine
Medicago polymorpha	Common bur-clover
Micropus californicus var. californicus	Q tips
Mimulus guttatus	Seep monkeyflower
Minuartia douglasii	Douglas' sandwort
Montia fontana	Water montia

Scientific Name	Common Name
Navarretia sp.	Pincushion plant
Navarretia leucocephala	White pin-cushion
Plagiobothrys austiniae	Austin's popcorn flower
Plagiobothrys fulvus	Common popcorn flower
Plagiobothrys stipitatus var. *micranthus*	Small-flowered popcornflower
Plantago elongata	Prairie plantain
Plantago erecta	Erect plantain
Plantago lanceolata	English plantain
Pogogyne zizyphoroides	Sacramento Valley pogogyne
Polygonum bidwelliae	**Bidwell's knotweed (CNPS Rank 4)**
Primula clevelandii ssp patula	Lowland shootingstar
Quercus lobata	Valley oak
Ranunculus arvensis	Field buttercup
Ranunculus muricatus	Prickle-seeded buttercup
Rumex crispus	Curly dock
Salix exigua	Sandbar willow
Salix lasiolepis	Arroyo willow
Sedella pumila	Dwarf-stonecrop
Senecio vulgaris	Old-man-in-the-Spring
Sherardia arvensis	Field-madder
Sidalcea calycosa ssp. calycosa	Annual checkerbloom
Stellaria media	Common chickweed
Trifolium depauperatum	Cowbag clover
Trifolium hirtum	Rose clover
Trifolium varigatum	White-tipped clover
Trifolium willdenovii	Wildcat clover
Triteleia spp.	Wild hyacinth
Tryphisaria ericaria	Johnnytuck
Veronica peregrina ssp. *xalapensis*	Purslane speedwell
Vicia sativa	Garden vetch
Vicia villosa	Winter vetch

ATTACHMENT B

Representative Photos of Butte County Meadowfoam

Photo 1. Representative Butte County meadowfoam habitat photo, View: Northwest. Photo taken March 25, 2022.

Photo 2. Butte County meadowfoam in flower. Photo taken March 25, 2022.

Photo 3. Overview of Butte County meadowfoam, View: South Photo taken March 25, 2022.

Photo 4. Butte County meadowfoam in fruiting stages. Photo taken March 25, 2022.