



Natural Environment Study

Bridge No. 21C0056

Napa County, California

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BRLS 5921 (061)

February 2019



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STATE OF CALIFORNIA
Department of Transportation
Napa County Public Works

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Summary

Napa County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing structurally deficient Dry Creek Road Bridge (bridge) over Dry Creek as part of the Highway Bridge Program (HBP). The biological study area (BSA) is located 0.8 mile west of Mt. Veeder Road and spans over Dry Creek in an unincorporated rural area of Napa County, California. The purpose of the Dry Creek Bridge Replacement Project (project) is to provide a safe, functional, and reliable crossing over Dry Creek on Dry Creek Road.

The BSA is approximately 5.14 acres and is comprised of rural-residential properties, Dry Creek Road and bridge, Dry Creek, and three vegetative communities including *Quercus* Forest Alliance (Mixed Oak Forest), *Umbellularia Californica* Forest Alliance (California Bay Forest), and *Bromus* Semi-Natural Herbaceous Stands (Annual Brome Grassland).

Approximately 0.02 acre of wetlands and 0.10 acre of non-wetland waters were delineated in and adjacent to Dry Creek within the BSA under the jurisdiction of the United States Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB). In addition, approximately 0.80 acre of waters under jurisdiction of the California Department of Fish and Wildlife (CDFW) were delineated in the BSA.

Construction activities would result in temporary impacts on approximately 0.01 acre of wetlands and approximately 0.05 acre of non-wetland waters under jurisdiction of the USACE and RWQCB. In addition, the project would result in temporary impacts on approximately 0.34 acre under jurisdiction of the CDFW. The project would result in permanent impacts of less than 0.001 acre on wetlands under the jurisdiction of the USACE and RWQCB. Approximately 0.11 acre of permanent impacts on CDFW jurisdiction are anticipated. However, with the implementation of the proposed avoidance and minimization measures, adverse impacts on jurisdictional features are not expected.

The project would result in temporary and permanent impacts on waters under jurisdiction of the USACE and RWQCB; therefore, a Clean Water Act (CWA) Section 404 Pre-Construction Verification and CWA Section 401 Water Quality Certification would be required under the CWA. The project would also result in temporary and permanent impacts on waters under jurisdiction of the CDFW; therefore, a California Fish and Game Code Section 1602 Streambed Alteration Agreement (SAA) would be required.

Project activities would require the removal of oak woodland, specifically the Mixed Oak Forest vegetative community, within the BSA along the proposed roadway and bridge alignment. Approximately 0.74 acre of Mixed Oak Forest would be temporarily impacted and 0.47 acre would be permanently impacted for construction activities. However, with implementation of avoidance and minimization measures, no adverse impacts on the Mixed Oak Forest community would result and no mitigation is proposed.

There are multiple special-status plant species with the potential to be in the BSA, including the following: Napa false indigo (*Amorpha californica* var. *napensis*), bent-flowered fiddleneck (*Amsinckia lunaris*), slender silver moss (*Anomobryum julaceum*), big-scale balsamroot (*Balsamorhiza macrolepis*), streamside daisy (*Erigeron biolettii*), congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), harlequin lotus (*Hosackia gracilis*), northern

California black walnut (*Juglans hindsii*), bristly leptosiphon (*Leptosiphon acicularis*), redwood lily (*Lilium rubescens*), Cobb Mountain lupine (*Lupinus sericatus*), marsh microseris (*Microseris paludosa*), Victor's gooseberry (*Ribes victoris*), marsh checkerbloom (*Sidalcea oregana* spp. *hydrophila*), Napa bluecurls (*Trichostema ruygtii*), dark-mouthed tritelelia (*Triteleia lugens*), and oval-leaved viburnum (*Viburnum ellipticum*). None of the special-status plant species with potential to be in the BSA are listed, or a candidate to be listed, as endangered or threatened under the Federal Endangered Species Act (FESA) or the California Endangered Species Act (CESA). In addition, the northern California black walnut is the only special-status plant species observed during project level surveys. With the implementation of avoidance, minimization, and mitigation measures, adverse impacts on special-status plants are not expected.

There is potential for the federally threatened steelhead - central California coast Distinct Population Segment (DPS) (steelhead) (*Oncorhynchus mykiss irideus*), the federally threatened California red-legged frog (*Rana draytonii*), and the state candidate threatened foothill yellow-legged frog (*Rana boylei*) to be in the BSA. In addition, Dry Creek is designated as steelhead critical habitat; however, there is no critical habitat for the California red-legged frog within or adjacent to the BSA. For the purposes of this Natural Environment Study (NES), presence of steelhead, the California red-legged frog and the foothill yellow-legged frog in the BSA is inferred. Based on project analysis, the project **may affect, and is likely to adversely affect** steelhead; the project **may affect, but is not likely to adversely modify** steelhead critical habitat. The project **may affect, but is not likely to adversely affect** the California red-legged frog and **no effect** on California red-legged frog critical habitat. In addition, project impacts on the foothill yellow-legged frog, including potential for take (mortality), are also expected; therefore, an Incidental Take Permit from the CDFW is anticipated. Consultation with the National Marine Fisheries Service (NMFS) to discuss potential effects on steelhead and steelhead critical habitat and the USFWS for effects on the California red-legged frog is anticipated. The BSA is outside of the known range for Coho and Chinook salmon; therefore, there is no Pacific Salmon Essential Fish Habitat (EFH) within the BSA.

Additional special-status wildlife species with potential to be in the BSA include the California giant salamander (*Dicamptodon ensatus*), Coast Range newt (*Taricha torosa*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), snowy egret (*Egretta thula*), yellow-breasted chat (*Icteria virens*), black-crowned night heron (*Nycticorax nycticorax*), purple martin (*Progne subis*), yellow warbler (*Setophaga petechia*), western bumble bee (*Bombus occidentalis*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), North American porcupine (*Erethizon dorsatum*), silver-haired bat (*Lasionycteris noctivagans*), western red bat (*Lasiurus blossewillii*), western small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), and Yuma myotis (*Myotis yumanensis*). However, with implementation of avoidance and minimization measures, adverse impacts on special-status wildlife species are not expected.

Invasive plant species were observed within the BSA. Invasive species are often found in disturbed areas and project activities would have the potential to spread invasive species through further disturbance of the BSA. These species could also be spread through the improper disposal of graded and excavated soils on site or off site, or through landscaping with invasive species.

However, standard Best Management Practices (BMP) would be implemented to prevent the spread of invasive species.

There is the potential for migratory birds to nest and forage within the trees and vegetation in the BSA during construction. However, with the implementation of avoidance measures, the project would be in compliance with the Migratory Bird Treaty Act (MBTA) and the California Fish and Game Code.

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List of Abbreviated Terms

AASHTO	American Association of State Highway and Transportation Officials
AC	asphalt concrete
BIOS	Biogeographic Information and Observation System
BMP	Best Management Practices
bridge	Dry Creek Road Bridge
Cal-IPC	California Invasive Plant Council
BSA	Biological Study Area
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CDFA	California Department of Food and Agriculture
CFR	Code of Federal Regulations
CIDH	Cast-in-Drilled-Hole
CIP	cast-in-place
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CON	Conservation
County	Napa County Department of Public Works
CWA	Clean Water Act
DBH	diameter at breast height
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESA	Environmentally Sensitive Area
F	Fahrenheit
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
GIS	Geographic Information System
GPA	GPA Consulting
HBP	Highway Bridge Program
IPaC	Information for Planning and Consultation
JD	Jurisdictional Delineation

MBTA	Migratory Bird Treaty Act
MBGR	metal beam guard rails
MLRA	Major Land Resource Area
mph	Miles Per Hour
msl	Mean Sea Level
NBI	National Bridge Inventory
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
POA	Plan of Action
project	Dry Creek Bridge Replacement Project
ROW	Right of Way
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SSC	Species of Special Concern
steelhead	steelhead - central California coast DPS
SWRCB	State Water Resources Control Board
S1	Critically Imperiled - extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California
S2	Imperiled- rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or California
S3	Vulnerable- restricted range, relatively few populations [often 80 or fewer], recent and widespread declines, or other factors making it vulnerable to extirpation in California
S4	Apparently Secure - uncommon but not rare; some cause for long-term concern due to declines or other factors
TCE	Temporary Construction Easement
WICC	Watershed Information & Conservation Council
U.S. EPA	United States Environmental Protection Agency
U.S.	United States
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
WDR	Waste Discharge Requirements
WL	Watch List
1B.2	Plant species that are rare, threatened, or endangered in California and elsewhere, and moderately threatened in California
3	Plants about which we need more information
4.2	Plants of limited distribution and moderately threatened in California
4.3	Plants of limited distribution and not very threatened in California

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Chapter 1 - Introduction

Napa County (County), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing structurally deficient Dry Creek Road Bridge (bridge) over Dry Creek as part of the Highway Bridge Program (HBP) (see **Figure 1**). The bridge (Bridge No. 21C0056) is 0.8 mile west of Mt. Veeder Road and spans over Dry Creek in an unincorporated rural area of Napa County, California (see **Figure 2** and **Figure 3**).

The County is the Lead Agency pursuant to the California Environmental Quality Act (CEQA). Caltrans, under authority delegated by the Federal Highway Administration (FHWA), is the Lead Agency pursuant to the National Environmental Policy Act (NEPA).

1.1 Project History

The bridge was originally built in 1920 at the western leg of a hairpin curve on Dry Creek Road where it intersects with Dry Creek Fork Road. The existing structure has been rated as structurally deficient.

Work recommendations have been completed for this bridge in the past and are noted as still being valid in the Structure Inventory and Appraisal Report in the HBRRP application:

- 2003 work recommendation to repair metal beam guard rails (MBGR).
- 2005 work recommendation to repair retaining wall.
- Scour Plan of Action (POA) dated 11/1/2008 submitted and archived (still valid).
- 2001 and 2005 work recommendations provide scour countermeasures.

The bridge is included in the Caltrans Historic Bridge Inventory of local bridges and is identified as a Category 5 bridge, which means that it is not eligible for listing under the National Register of Historic Places.

1.1.1 PROJECT PURPOSE

The purpose of the project is to provide a safe, functional, and reliable crossing over Dry Creek on Dry Creek Road.

1.1.2 PROJECT NEED

The existing bridge is structurally deficient and is located in a seismically active region of northern California that includes several active faults capable of producing earthquakes and may cause strong ground shaking in the project area.

The following deficiencies have been observed:

- The substructure has deterioration consisting of cracking and weathering of the mortar in the joints of the stone masonry abutments. The top section of the retaining wall near Abutment Two has broken away and is leaning outward horizontally.
- There are two spalls (i.e. chipped material from corrosion, weathering, impacts, etc.) with exposed rebar on the exterior girder of Abutment Two. Rock pockets are scattered throughout the soffit (i.e. underside) and girders.

- The deck asphalt concrete (AC) overlay has potholes in the southbound direction for the right wheel line at Abutment One and the left wheel line at midspan. In addition, the width of the bridge does not meet standard lane and shoulder widths (i.e. minimum American Association of State Highway and Transportation Officials (AASHTO) standards for lane widths is 11 feet, the existing lane width on the bridge is nine feet).
- The approach MBGR at Abutment Two have sustained traffic hits. Damage include missing timber blocking, ripped MBGR, out of plumb timber posts, and loose rail connections. The soil in which the timber posts are embedded has diminished lateral support due to the deterioration of the retaining wall.
- The bridge is identified as “unstable for calculated scour” for National Bridge Inventory (NBI) Element 113, Scour Critical Bridges. Water is seeping through the abutment and leaking steadily onto the scoured area underneath the wall.

Additionally, the current alignment of Dry Creek Road as it approaches the bridge does not provide for a clear sight line for approaching vehicles and does not meet current AASHTO or Caltrans standards.

1.2 Project Description

1.2.1 EXISTING CONDITIONS

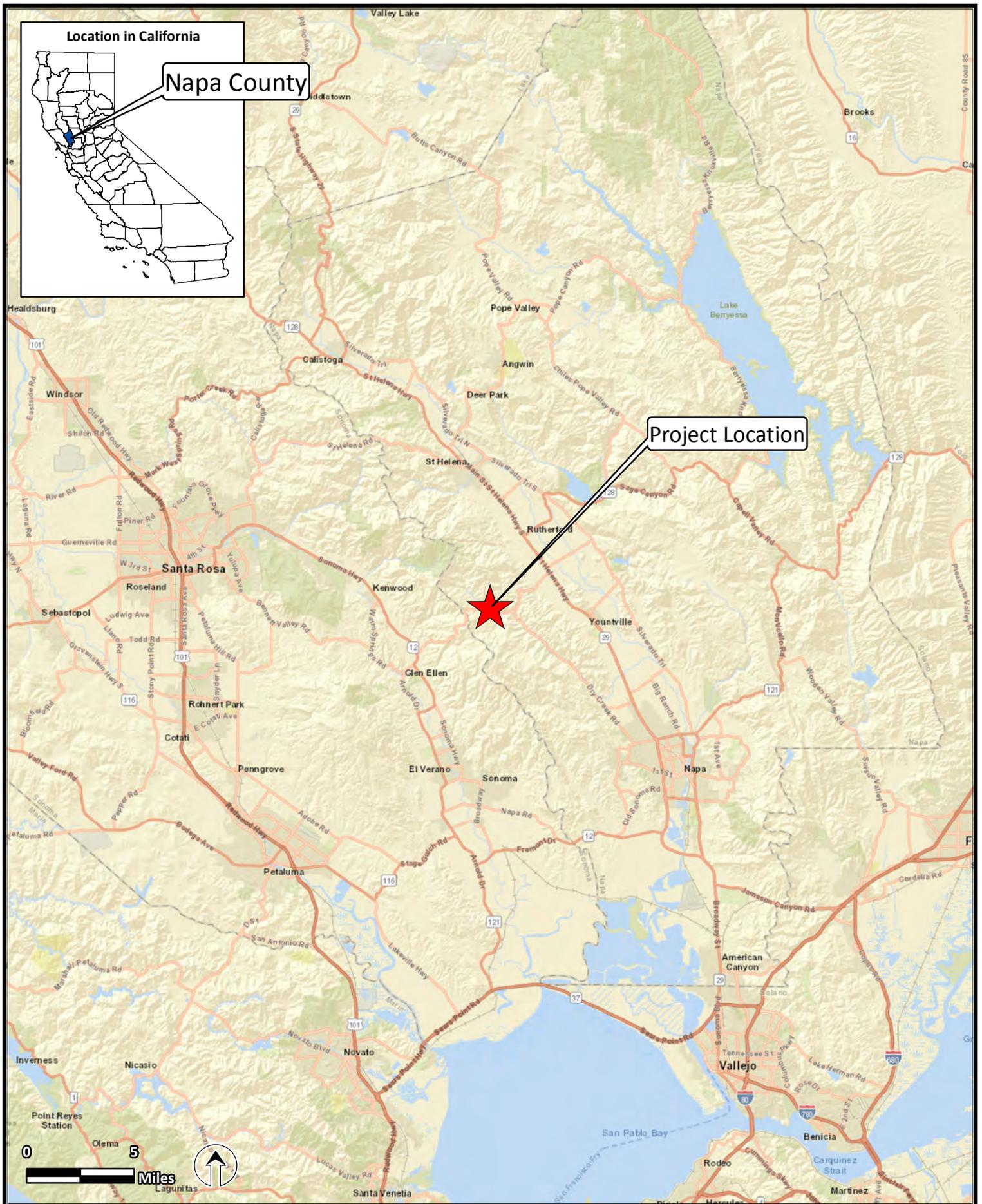
The bridge is a 34-foot long single span, reinforced concrete structure with “T” girders supported on cemented stone masonry abutments founded on erodible bedrock. The bridge is a single lane bridge with no shoulders that carries 2-way traffic. The approximate total bridge width is 20.5 feet while the structure curb-to-curb width is approximately 18 feet.

The project area is largely undeveloped and rural with several rural residential properties located along Dry Creek Road and Dry Creek Fork Road. The residential structures in the project vicinity are between approximately 250 feet and 600 feet from the existing bridge. No residences are visible from the existing bridge.

In the project area, Dry Creek Road is classified as a rural minor collector. The existing bridge and roadway approach are on a winding road alignment with limited views to and from the bridge because of the angle of the roadway and bridge, and trees and vegetation surrounding the roadway and bridge.

Within the project area, Dry Creek is a natural, un-lined waterway with medium to heavily vegetated banks and a rocky/cobbly creek bed. Several areas along the creek are lined with steep slopes and dense vegetation, such as poison oak, making the creek inaccessible at these locations.

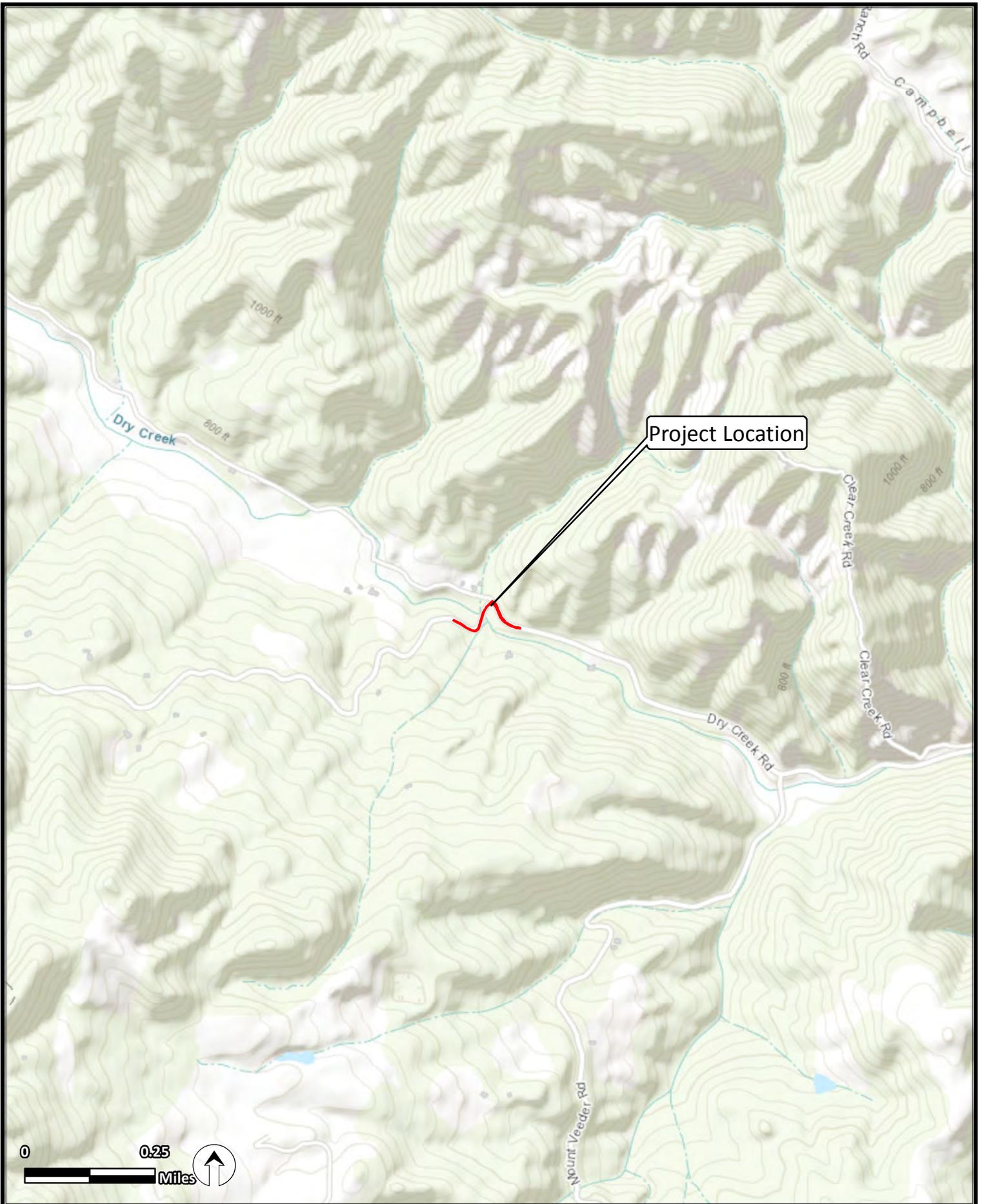
There are overhead utility lines, which are not expected to require relocation. One 3-inch diameter AT&T conduit has been identified on the existing bridge and would require relocation to the new bridge.



Sources: ESRI 2018.



**FIGURE 1: REGIONAL LOCATION
Dry Creek Road Bridge Replacement Project**



Sources: ESRI 2018.



FIGURE 2: PROJECT LOCATION
Dry Creek Road Bridge Replacement Project

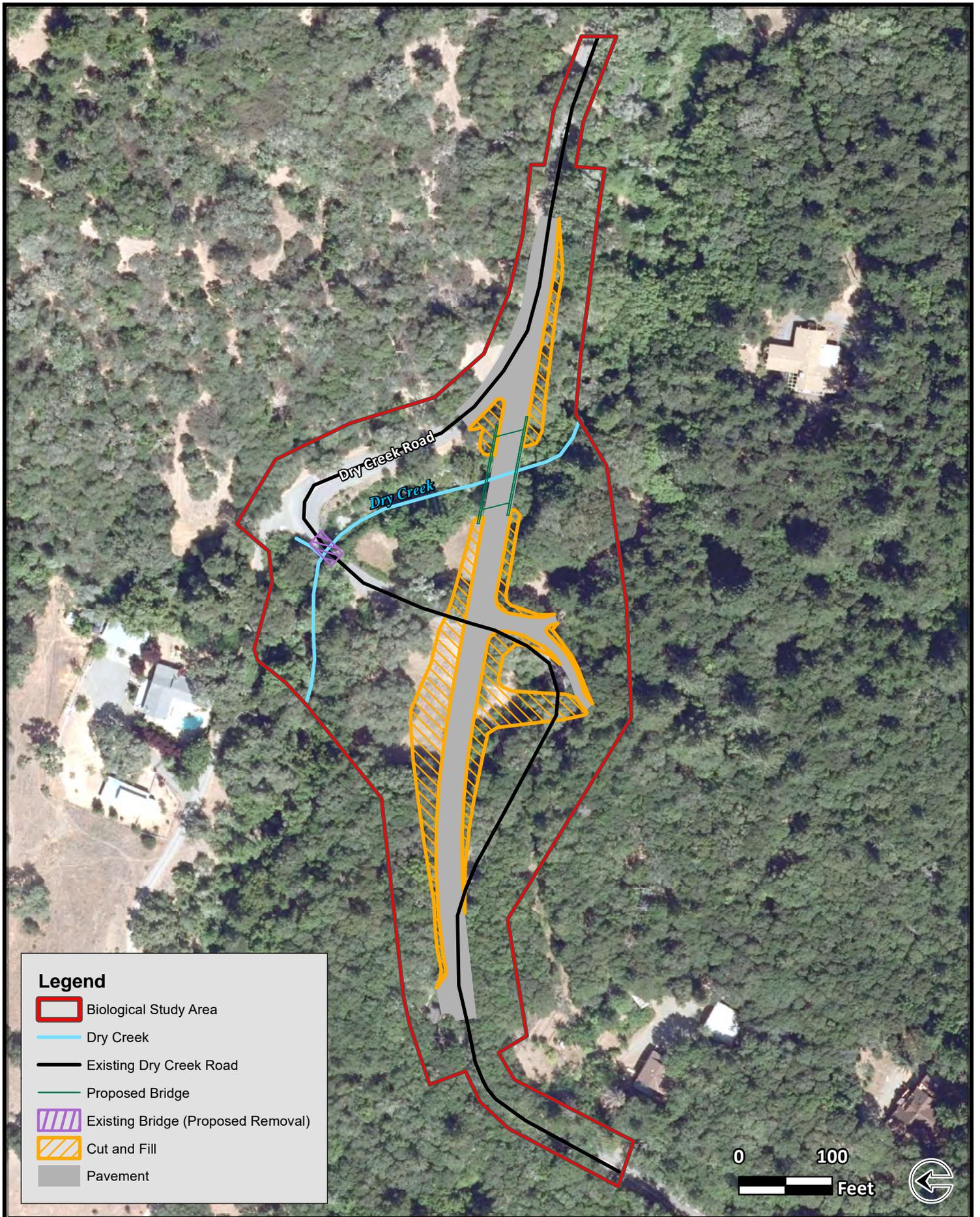


FIGURE 3. BIOLOGICAL STUDY AREA AND PROJECT FEATURES
Dry Creek Bridge Replacement Project

1.2.2 PROPOSED PROJECT

The County proposes to replace the existing bridge structure on a new straight roadway alignment; the existing bridge and roadway would be removed while maintaining access to the properties along Dry Creek Road and Dry Creek Fork Road. The new bridge would be constructed along a roughly east-west alignment located approximately 150 feet south of the existing bridge in order to straighten the bridge approach and bypass the hairpin curve segment of Dry Creek Road.

The following improvements are proposed:

- The new structure would be single span and approximately 32 feet wide with two 11-foot lanes (one in each direction) and 3-foot shoulders on each side of the bridge.
- The new bridge would be approximately 81 feet in length, which is approximately 50 feet longer than the existing structure.
- The bridge structure would consist of a precast-prestressed concrete “I” girder bridge. The structure would consist of a single span with five precast “I” girders utilizing a cast-in-place (CIP) concrete deck. The CIP concrete deck would be placed on stay-in-place metal corrugated deck forms and would not require falsework within the creek to construct the bridge deck.
- Standard Caltrans concrete barriers would be utilized with tubular bicycle railing on each side of the bridge deck.
- New 15-foot-high embankment is proposed for the west approach.
- The proposed bridge substructure would consist of short seat cantilever abutments founded on two rows of Caltrans standard 24-inch Cast-in-Drilled-Hole (CIDH) piles. All excavation within the channel banks would remain outside of the 100-year water surface elevation.
- Access to existing properties would be maintained during construction and a permanent connector would be provided with the new structure.
- The approach to and from the bridge would be widened from 22 feet to 28 feet.
- Construction of the project would require excavation for new bridge abutments to a depth of approximately seven feet.
- Rock slope protection (RSP) would be placed in front of the proposed abutments to protect against scour. The bridge structural system would be designed assuming no RSP to ensure no collapse in the event of scoured abutment condition. The RSP would extend 25 feet beyond the edge of the bridge deck both upstream and downstream.

The existing bridge and abutments would be removed. At one existing abutment (Abutment One), the channel slope would be restored using a “soil burrito”¹ to re-establish the natural channel vegetation. At the other existing abutment (Abutment Two), regrading would not be necessary because it is founded on rock, which is scour resistant. Both sides of the creek banks at the

¹ A soil burrito is a layer of dirt wrapped into a large piece of burlap.

existing bridge would be regraded to a lesser slope (to approximately 4:1 or 3:1 slope), which requires some excavation, and “soil burritos” would be placed on top of the new slope and staked into place.

The portion of the road between the existing bridge and the proposed new roadway to the south would be demolished. The portion of the roadway north of the existing bridge that connects to Dry Creek Fork Road would be ground, overlain, and re-stripped to remove the connection to the existing bridge and connect only to Dry Creek Fork Road.

Utilities

One 3-inch diameter AT&T conduit would be relocated from the existing bridge into the base of the concrete barrier along the north edge of the bridge deck. No other utilities have been identified that would require relocation.

Right of Way

Portions of the existing roadway and bridge are within County right of way (ROW). It is anticipated that the increased width of the new bridge, realignment of the roadway could require ROW acquisition from adjacent properties, including assessor’s parcel numbers (APN) 027-330-002, 027-330-010, 027-330-015, 027-330-017, 027-530-003, 027-530-004, and 027-530-005 (see **Figure 4**). Some Temporary Construction Easements (TCE) may be needed.

1.3 Anticipated Construction Schedule and Methods

Project construction is anticipated to take approximately 12 months (over two construction seasons). A construction season is typically defined as the combined spring, summer, and fall of any year. Full closure of Dry Creek Road may not be permissible during construction because the shortest detour route would be approximately 40 miles. Therefore, the bridge replacement and roadway realignment would be conducted in four stages.

- **Stage 1 (approximately five months):** During Stage 1 construction, the new bridge over Dry Creek and approximately 100 feet of the roadway approach in each direction would be constructed. Approximately 200 feet of the new roadway west of the new bridge, grading for the new roadway sections, and the temporary roadway sections would be built. Temporary roadway sections would be required to allow one lane of traffic through in each direction during Stages 2 through 4 of construction. Throughout Stage 1 construction, the existing Dry Creek Road would remain open to traffic in both directions. Temporary K-Railing would be placed to protect construction crew from traffic during construction.
- **Stage 2 (approximately two months):** During Stage 2 construction, the proposed new roadway alignment from Driveway 1 (APN 027-330-002) to the new roadway completed during Stage 1 construction would be constructed. Additionally, two driveways (Driveways 2 and 3 [APN 027-330-015 and 027-330-017]) would be built to conform to the new roadway alignment. Driveways 2 and 3 would merge together before intersecting with the new roadway alignment. Driveway access would be provided at all times during Stage 2 construction. The existing roadway along Driveways 2 and 3 would be extended to provide a second travel lane during Stage 3 construction.

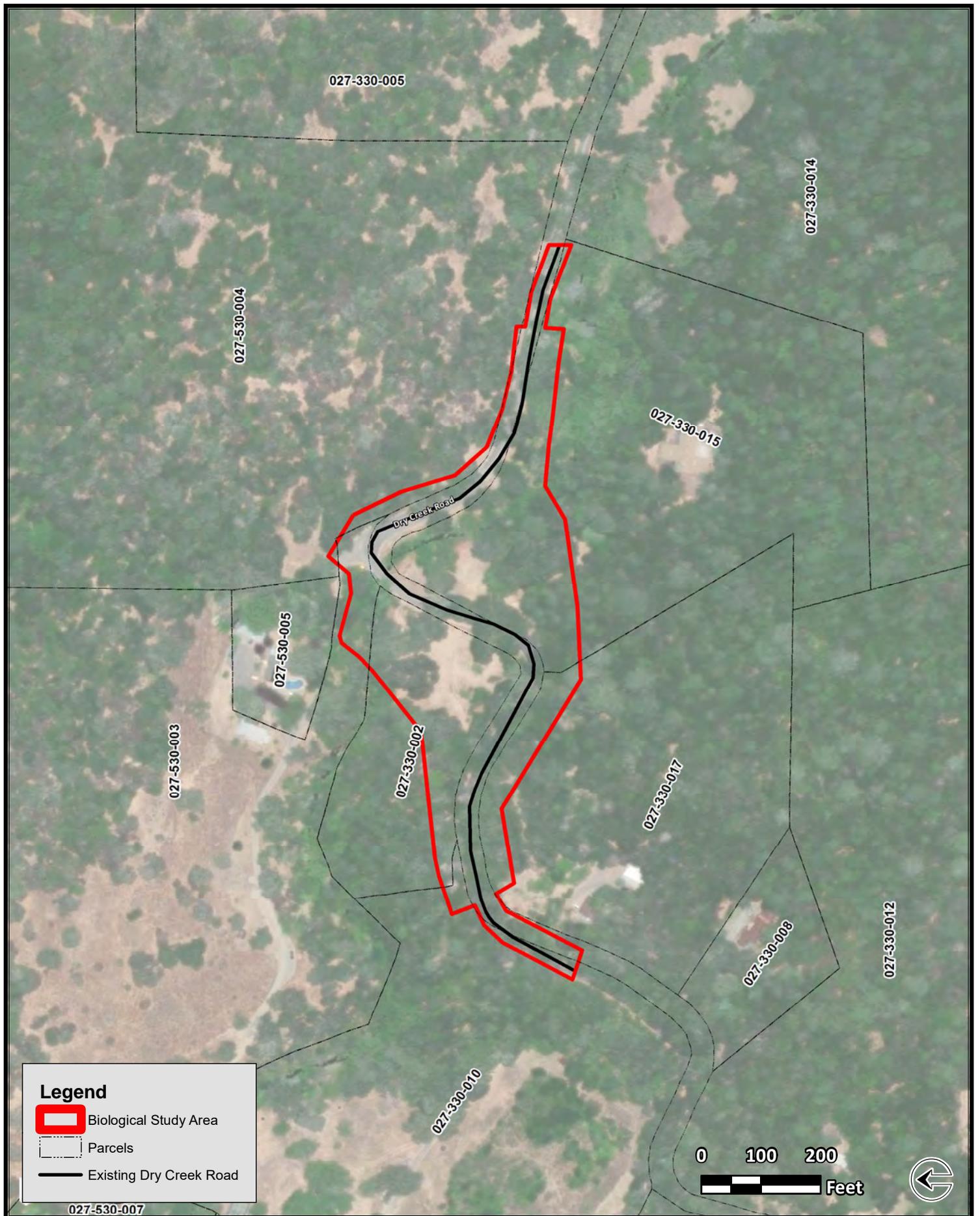


FIGURE 4. PROJECT AREA PARCELS
Dry Creek Bridge Replacement Project



During Stage 2 construction, the existing Dry Creek Road would be diverted around the construction areas using the temporary lanes constructed during Stage 1 construction. Temporary K-railing would be placed to protect personnel from traffic during construction. To accommodate traffic during Stage 3 construction, the barriers proposed east of Driveways 2 and 3 would be built during Stage 4.

- **Stage 3 (approximately three months):** During Stage 3 construction, the remaining proposed new roadway alignment would be constructed. The existing Dry Creek Road would be converted to a driveway access, Driveway 4 (existing Dry Creek Fork Road), for the properties located along Dry Creek Fork Road. Driveway 4 would be implemented, leaving one lane width for vehicles entering and existing the properties. The northern section of the existing Dry Creek Road, east of Driveway 4, would be constructed to conform to the new Dry Creek Road alignment. Traffic using the existing Dry Creek Road between Driveways 2 and 3 and the existing bridge would be diverted onto the new roadway and bridge. For traffic to Dry Creek Fork Road, one lane of traffic would utilize the temporary roadway widening constructed during Stage 1 construction. Temporary K-railing would be placed to protect personnel from traffic during construction.
- **Stage 4 (approximately three months):** During Stage 4 construction, one lane of traffic would be diverted onto the temporary lane constructed during Stage 1 construction, starting at the western edge of Driveway 1 and continuing along the proposed Dry Creek Road alignment for approximately 125 feet. Traffic would then exclusively use the new roadway alignment. Full closure and the use of flaggers would be required along 70 feet of roadway along Dry Creek Road between Driveway 4 and the construction limit.

The barriers east of Driveways 2 and 3 would be built. The temporary roadway widening sections constructed during Stage 1 would be removed, and the existing bridge over Dry Creek would be removed. The existing AC pavement on Dry Creek Roadway, from Dry Creek Fork Road to Driveway 4, would be removed and overlaid with new AC pavement. Temporary K-railing would be placed to protect personnel from traffic during construction.

Chapter 2 - Study Methods

The following discussion provides a summary of state and federal laws and regulations pertaining to the project and study methods that were undertaken as required by resource agencies and environmental laws.

2.1 Regulatory Requirements

2.1.1 CLEAN WATER ACT

The United States Army Corps of Engineers (USACE) regulates the placement of dredged and fill material into waters of the United States (U.S.), including wetlands, under Section 404 of the Clean Water Act (CWA). No discharge of dredged or fill material into jurisdictional features is permitted unless authorized under an USACE Nationwide Permit or Individual Permit. For all work subject to an USACE Section 404 permit, project proponents must obtain a Water Quality Certification from the applicable Regional Water Quality Control Board (RWQCB) under CWA Section 401 stating that the project would comply with applicable water quality regulations.

Waters of the United States

The USACE Regulatory Program regulates activities within federal wetlands and waters of the U.S. pursuant to Section 404 of the CWA. Waters of the U.S. are divided into several categories as defined by the Code of Federal Regulations (CFR). Under the CFR (CFR 33 Section 328.3), waters of the U.S. include, but are not limited to:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands; and
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats; sand flats; wetlands; sloughs; prairie potholes; wet meadows; playa lakes; or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce. This includes any such waters which are or could be used by interstate or foreign travelers for recreational or other purposes, and from which fish or shellfish could be taken and sold in interstate or foreign commerce, or which are used or could be used for industrial purposes in interstate commerce.

In streams and rivers where adjacent wetlands are absent, the USACE jurisdiction extends to the ordinary high water mark (OHWM). The OHWM is defined as “the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR Section 328.3[e]). If the OHWM is not readily distinguishable, the USACE jurisdiction within streams extends to the “bankfull discharge” elevation, which is the level at which water begins to leave the channel and move into the floodplain (Rosgen, 1996). This level is reached at a discharge which generally has a recurrence interval of approximately 1.5 to two years on the annual flood series (Leopold, 1994).

In 2015, the USACE and United States Environmental Protection Agency (U.S. EPA) published the Clean Water Rule, which more clearly defined waters of the U.S. The intent of the rule was to make the definition of waters of the U.S. easier to understand, more predictable, and more consistent with current science, while better protecting waters of the U.S. The rule went into effect on August 28, 2015; however, on October 9, 2015, the U.S. Court of Appeals for the Sixth Circuit stayed the Clean Water Rule nationwide pending further action of the court. In response, the USACE and U.S. EPA resumed using the prior regulations defining waters of the U.S. This report uses the current definition of waters of the U.S., provided above.

Federal wetlands are transitional areas between well-drained upland habitats and permanently flooded (deepwater) aquatic habitats, which are defined differently by the resource agencies. The USACE and the U.S. EPA define wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR Section 328.3[b]).

Waters of the State

The term “waters of the state,” under jurisdiction of the RWQCB, is defined by California Water Code as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code Section 13050(e)).

Currently, the RWQCB relies upon the definition used in the CWA to define wetlands. However, the State Water Resources Control Board (SWRCB) is in the process of redefining wetlands as part of their proposed Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB, 2017). The new definition, which is currently not adopted, is “an area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.” This report uses the current definition of wetlands.

2.1.2 FEDERAL ENDANGERED SPECIES ACT

The Federal Endangered Species Act (FESA) was established in 1973 to provide a framework to conserve and protect endangered and threatened species and their habitat. Section 7 of the FESA requires federal agencies to ensure that actions they engage in, permit, or fund do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of designated critical habitat for these species. Section 7 consultation provides for the “incidental take” of endangered and threatened wildlife species by federal entities if adverse effects to species cannot be avoided. Incidental take is defined by the FESA as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. The term “take” means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

2.1.3 MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA) (50 CFR Part 10 and Part 21) protects migratory birds, their occupied nests, and their eggs from disturbance and/or destruction. “Migratory birds” under

the MBTA include all bird species listed in 50 CFR Part 10.13, as updated in December 2013 (USFWS, 2013). In accordance with the Migratory Bird Treaty Reform Act of 2004 the United States Fish and Wildlife Service (USFWS) included all species native to the U.S. (or U.S. territories) that are known to be present as a result of natural biological or ecological processes. In addition, the USFWS provided clarification that the MBTA does not apply to any nonnative species whose presence in the U.S. are solely the result of intentional or unintentional human-assisted introduction (USFWS, 2017a). Nonnative bird species not protected by the MBTA include, but are not limited to, the house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and rock pigeon (*Columba livia*).

2.1.4 EXECUTIVE ORDER 13112

Executive Order 13112 directs all federal agencies to refrain from authorizing, funding, or carrying out actions or projects that may spread invasive species. This order further directs federal agencies to prevent the introduction of invasive species, control and monitor existing invasive species populations, restore native species to invaded ecosystems, research and develop prevention and control methods for invasive species, and promote public education on invasive species.

2.1.5 PORTER COLOGNE ACT

The RWQCB also asserts authority over waters of the state under the Porter-Cologne Act, which establishes a regulatory program to protect water quality and to protect beneficial uses of state waters. The Porter-Cologne Act empowers the RWQCB to formulate and adopt a Water Quality Control Plan that designates beneficial uses and establishes such water quality objectives that in its judgment will ensure reasonable protection of beneficial uses. Each RWQCB establishes water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of water quality degradation. Dredge or fill activities with the potential to affect water quality in these waters must comply with Waste Discharge Requirements (WDR) issued by the RWQCB. Waters of the state are defined by the Porter-Cologne Act as any surface or subsurface water or groundwater, including saline waters, within the boundaries of the state.

2.1.6 CALIFORNIA FISH AND GAME CODE

Section 1602 of the California Fish and Game Code governs construction activities that substantially divert or obstruct natural stream flow or substantially change the bed, channel, or bank of any river, stream, or lake under the jurisdiction of California Department of Fish and Wildlife (CDFW). Under the California Fish and Game Code, the limits of CDFW's jurisdiction within streams and other drainages extends from the top of the stream bank to the top of the opposite bank, to the outer drip line in areas containing riparian vegetation, and/or within the 100-year floodplain of a stream or river system containing fish or wildlife resources. Streams are defined in the California Code of Regulations (CCR) (14 CCR Section 1.72) as "a body of water that follows at least periodically or intermittently through a bed or channel having banks and that support fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Under Section 1602, a Streambed Alteration Agreement (SAA) must be issued by the CDFW prior to the initiation of construction activities that may substantially divert or obstruct the natural flow of any river, stream, or lake; substantially change or use any material from the bed, channel, or bank, of any river, stream, or lake; or deposit

debris, waste, or other materials that could pass into any river, stream, or lake under CDFW's jurisdiction.

The CDFW has jurisdictional authority over waters of the state, including wetlands. In practice, CDFW follows the USFWS definition of wetlands in Cowardin's Classification of Wetlands and Deepwater Habitats of the United States: "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports hydrophytes; 2) the substrate is predominantly undrained hydric soil; and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Cowardin et al., 1979).

Section 2126 of the California Fish and Game Code states that it is unlawful for any person to take any mammals that are identified within Section 2118, including all species of bats.

Sections 3503, 3513, and 3800 of the California Fish and Game Code prohibit the take of birds protected under the MBTA and protects their occupied nests. In addition, Section 3503.5 of the California Fish and Game Code prohibits the take of any birds in the order Falconiformes or Strigiformes (birds-of-prey) and protects their occupied nests. Pursuant to Section 3801 and 3800, the only species authorized for take without prior authorization from CDFW is the house sparrow (*Passer domesticus*), European starling (*Sturnus vulgaris*), and rock pigeon (*Columba livia*).

State-listed species and those petitioned for listing by the CDFW are fully protected under the California Endangered Species Act (CESA). Under Section 2080.1 of the California Fish and Game Code, if a project would result in take of a species that is both federally and state listed, a consistency determination may be completed in lieu of undergoing separate CESA consultation. Under Section 2081, if a project would result in take of a species that is state-only listed as threatened or endangered, then an incidental take permit from the CDFW is required.

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code prohibit the take or possession of 37 fully protected bird, mammal, reptile, amphibian, and fish species. Each of the statutes states that no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to "take" the species, and states that no previously issued permit or licenses for take of the species "shall have any force or effect" for authorizing take or possession. The CDFW will not authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

2.1.7 NAPA COUNTY

Napa County Municipal Code

The Napa County Municipal Code 16.04.750 Riparian Zones-Restricted Activities prohibits removal of more than the following per 100 linear feet of riparian zone on each side of the floodplain: a native tree 18 inches diameter at breast height (DBH), three native trees at 12 inches DBH or greater, or six native trees at six inches DBH or greater. The removal of more than 500 square feet of vegetation within a riparian zone beyond 10 feet from the top of the bank, or the temporary removal of a portion of riparian vegetation not more than 15 feet wide beyond 10 feet from the top of the bank, is prohibited (Napa County, 2017). Because the project is a public works

project, Napa County has determined that the project is exempt from Napa County Municipal Code 16.04.750.

Napa County General Plan

Conservation (CON) Sections

Policy CON-13 requires projects (including residential, commercial, and industrial) address impacts on wildlife habitat and avoid impacts on fisheries and habitat supporting special-status species, to the extent feasible. Where impacts on wildlife and special-status species cannot be avoided, projects must include effective mitigation and management plans (Napa County, 2013).

Policy CON-14 requires developers to mitigate for loss of fishery and riparian habitat when avoidance of impacts is determined to not be feasible. Mitigation measures may include replacement habitat either on-site or at an approved off-site location (preference is given to on-site) or paying in-kind funds to an approved fishery and riparian habitat improvement and acquisition fund (Napa County, 2013).

Policy CON-24 requires that the County:

- Maintain and improve oak woodland habitat through appropriate measures including, but not limited to the following: preserve, to the extent feasible, oak trees near the heads of drainages or depressions for agricultural projects;
- Comply with the Oak Woodlands Preservation Act (California Code, Public Resources Code 21083.4) for oak woodland preservation and retention, to the extent feasible, as part of residential, commercial, and industrial approvals;
- Provide replacement of lost oak woodlands or preservation of like habitat at a 2:1 ratio when retention of existing vegetation is found to be infeasible;
- Minimize the removal of oak species limited in distribution to the maximum extent feasible;
- Support hardwood cutting criteria that requires retention of adequate stands of oak trees;
- Maintain, to the extent feasible, a mixture of oak species for acorn production; and,
- Support the County Agricultural Commission's enforcement of state and federal regulations for sudden oak death and similar future threats.

When the County determines that removal of native oak woodlands is significant, they provide replacement or preservation of lost oak woodland habitat pursuant to Napa County General Plan Action Item CON NR-7 (Voluntary Oak Woodlands Management Plan), which implements Policy CON-24 (Napa County, 2013).

2.1.8 OAK WOODLANDS PRESERVATION ACT

The Oak Woodlands Preservation Act (California Code, Public Resources Code 21083.4) requires that a lead agency evaluate potential impacts on native oak woodlands and must determine if a project would result in a significant impact on oak woodlands. If it is determined that a project may result in a significant impact on oak woodlands, then the lead agency must complete one or more of the following: conserve oak woodlands through the use of conservation easements; plant an appropriate number of trees, including maintenance of plantings and

replacement of failed plantings; contribute funds to the Oak Woodlands Conservation Fund for the purpose of purchasing oak woodlands conservation easements; and/or other mitigation measures.

2.2 Studies Required

2.2.1 LITERATURE RESEARCH

Prior to conducting the biological survey, available literature and imagery were reviewed to identify any special-status plants, wildlife, and/or sensitive habitats previously recorded within or near the Biological Study Area (BSA). Sources used to identify special-status species and/or habitats with potential to be in or near the BSA include the following:

- Natural Resources Conservation Service (NRCS) Web Soils Survey for Napa County, Western part California (NRCS, 2017);
- CDFW's Biogeographic Information and Observation System (BIOS) (CDFW, 2018a);
- USFWS' National Wetlands Inventory Wetlands Mapper (USFWS, 2018a);
- National Marine Fisheries Service (NMFS) West Coast Region California Species List (NMFS, 2018a);
- NMFS Essential Fish Habitat (EFH) mapper (NMFS, 2018b);
- CDFW's California Natural Diversity Database (CNDDDB) (CDFW, 2018) for the Calistoga, Chiles Valley, Glen Ellen, Kenwood, Napa, Rutherford, Sonoma, St. Helena, and Yountville 7.5-minute series topographic quadrangles (see **Appendix A**);
- USFWS Information for Planning and Consultation Database (IPaC) (USFWS, 2018c) (see **Appendix A**); and
- Google Earth (Google Earth, 2018) and Napa County Hi-resolution Aerial Imagery (Napa County, 2016).

2.2.2 FIELD REVIEWS

After a review of the results of the CNDDDB query and related information described above, biological surveys of the BSA were conducted by senior biologist Marieka Schrader and associate biologist Dawn Cunningham on April 27, May 12, and July 11, 2017. An additional site visit was conducted by senior biologist Angela Scudiere and Ms. Cunningham on February 13, 2018, to evaluate stream conditions and conduct an early blooming plant survey. Weather conditions during the April 27, 2017 survey were sunny and clear with a temperature of approximately 73 degrees Fahrenheit (F), with winds blowing west, southwest at seven miles per hour (mph). Weather conditions during the May 12, 2017 survey were sunny and clear to partly cloudy with a temperature of approximately 69 degrees F, with winds blowing west at approximately 15 mph. Weather conditions during the July 11, 2017 survey were sunny and clear with a temperature of approximately 76 degrees F, with winds blowing south, southwest at 12 mph. Weather conditions during the February 13, 2018 surveys were sunny and clear with a temperature of approximately 65 degrees F, with winds blowing north at seven mph.

A jurisdictional assessment was conducted by Ms. Scudiere and Ms. Cunningham on February

13, 2018.

2.2.3 SURVEY METHODS

The BSA was visually surveyed on foot, to the extent feasible, and all plant and animal species within the BSA were identified to determine the potential for protected species to be in the BSA. Some areas within the Dry Creek channel and banks were not accessible because of steep slopes, the presence of poison oak, and dense blackberry thickets. Nomenclature for plants and animals conforms to the Jepson eFlora (Jepson Herbarium, 2018) and the CNDDDB. Species observed in the BSA during the biological surveys are included in **Appendix B**.

The jurisdictional assessment consisted of pre-survey literature reviews and field surveys to verify existing conditions. Field surveys evaluated the type, amount, and extent of wetlands and waters within the BSA that are under the potential jurisdiction of the USACE, RWQCB, and/or the CDFW. Wetland locations within and adjacent to Dry Creek were determined to be variable from year to year and between seasons. In addition, soils were extremely rocky and problematic. Therefore, the limits of wetlands were qualitatively delineated using a compilation of field photographs, aerial mapping, hydrophytic vegetation and the OHWM. Results of the assessment are summarized in Section 4.1.1 Jurisdictional Features.

2.3 Personnel and Survey Dates

Biological surveys were conducted by Ms. Schrader and Ms. Cunningham on April 27, May 12, and July 11, 2017. A follow up site visit was conducted by Ms. Scudiere and Ms. Cunningham on February 13, 2018. Representative photographs of the BSA were taken during the surveys and are included in **Appendix C**.

2.4 Agency Coordination and Professional Contacts

A preliminary agency coordination field meeting was held on November 28, 2017 between the County, Garret Allen of the CDFW Bay Delta Region, Daniel Logan of the NMFS West Coast Region, Ron Oen of BCA Engineering, and Ms. Schrader and Melissa Logue of GPA Consulting (GPA). Below is a summary of the resulting agency discussions:

California Department of Fish and Wildlife

Discussions with the CDFW included proposed potential seasonal constraints and mitigation opportunities. In addition, the potential need for consultation for foothill yellow-legged frog (*Rana boylei*) was discussed. No other CDFW coordination has been conducted to date.

National Marine Fisheries Service

Discussions with the NMFS included proposed seasonal constraints for steelhead, concerns about potential creek impacts from construction, restoration opportunities, and steelhead habitat improvement. In addition, NMFS confirmed that consultation for steelhead and steelhead critical habitat would be needed. An official species list was obtained from NMFS (NMFS, 2018a). No other NMFS coordination has been conducted to date.

United States Fish and Wildlife Service

An official species list was obtained from the Sacramento USFWS (USFWS, 2018). No other

USFWS coordination has been conducted to date.

2.5 Limitations That May Influence Results

In a less than normal rainfall year, annual plants may not germinate; their seeds may remain dormant until conditions that are more favorable exist. As a result, in dry years, annual plants may only be present in seed form, and there is a lower probability of identifying these plants in the field. In addition, perennial plants that are dormant during the dry season may not come out of dormancy or may even die during these years.

While the 2017/2018 wet season has been below average to date, the 2016/2017 wet season was considered an above average rainfall year for Napa County and is considered the third wettest year since record keeping began in 1893. This record setting rainfall was preceded by an average rainfall year in 2015/2016 (Resource Conservation District, 2017). Therefore, the 2017 survey year was a better than average year for detecting rare plants. Typically, plant survey results are considered valid for a 2-year period, after which additional surveys may be warranted to confirm presence or absence of individual species.

Botanical surveys for the project were conducted on April 27, May 12, and July 11, 2017. The BSA limits were increased after the botanical surveys had been completed; therefore, the entire BSA was not surveyed for the presence or absence of special-status plants. However, based on a review of aerial imagery and Google Earth street view, the vegetation communities within the expanded areas are consistent with the surveyed vegetation communities. Therefore, special-status plants with similar habitat requirements were assumed to have potential to be within the expanded areas of the BSA.

During the biological surveys, portions of the BSA were inaccessible by foot. Because not all areas in the BSA could be surveyed on foot for botanical species, the potential for some special-status plant species to be in the BSA could not be ruled out based on the presence of suitable vegetative communities. Areas not accessible by foot were visually evaluated to the greatest extent feasible using binoculars during field evaluations.

Chapter 3 - Results: Environmental Setting

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 BIOLOGICAL STUDY AREA

The BSA is located approximately 0.8 mile west of Mt. Veeder Road in unincorporated Napa County, California within Section 31 of Township 7 north and Range 5 west. The BSA is approximately 5.14 acres. The BSA includes areas that would be directly or indirectly impacted by the project, either temporarily or permanently. The limits of the BSA were determined by reviewing project plans and aerial photography, and evaluating potential jurisdictional areas during field visits (see **Figure 3**).

Land in the BSA consists of rural-residential properties, Dry Creek Road, Dry Creek Bridge, Dry Creek, and three vegetation communities, which are discussed in Section 3.1.3: Biological Conditions in the Biological Study Area. According to the County, the land use surrounding the project area is zoned as Agriculture, Watershed, and Open Space (Napa County, 2013).

3.1.2 PHYSICAL CONDITIONS

Topography

The BSA is in the United States Geological Survey (USGS) Rutherford 7.5-minute quadrangle. The topography of the BSA is gently sloping with an elevation of approximately 635 to 711 feet above mean sea level (msl). The BSA is situated in a shallow valley just southwest of Napa Valley and north of Mount Veeder.

Climate

The BSA is in the northern California Climate Zone 15: Chilly Winters Along the Coast Range (Sunset Western Garden Collection, 2018). Based on the geographic climate data, including temperature and precipitation from Yountville, California, the average annual high temperature for the project vicinity is approximately 73.6 degrees F and the average annual low temperature is approximately 44.7 degrees F. The annual average rainfall is approximately 33.79 inches, with the greatest amount of rain typically falling in November through March (NOAA, 2018).

Soils

According to the NRCS Web Soils Survey for Napa County, there are four soil units mapped within the BSA: Felton Gravelly Loam, 30 to 50 Percent Slopes; Lodo-Maymen-Felton Association, 30 to 75 Percent Slopes; Millsholm Loam, 6 to 55 Percent Slopes, Major Land Resource Area (MLRA) 15; and Sobrante Loam, 5 to 30 Percent Slopes (NRCS, 2017) (see **Figure 5**). These soils are discussed further below:

Felton Gravelly Loam, 30 to 50 Percent Slopes

The Felton Gravelly Loam, 30 to 50 Percent Slopes soil unit is well drained, more than 80 inches to the water table, and within 30 to 40 inches of a restrictive feature (paralithic bedrock) (NRCS, 2017). This soil unit is a moderate component of the soils underlying the BSA and is located in the southwest portion of the BSA. This soil unit is not considered hydric and does not contain the mineral serpentine.

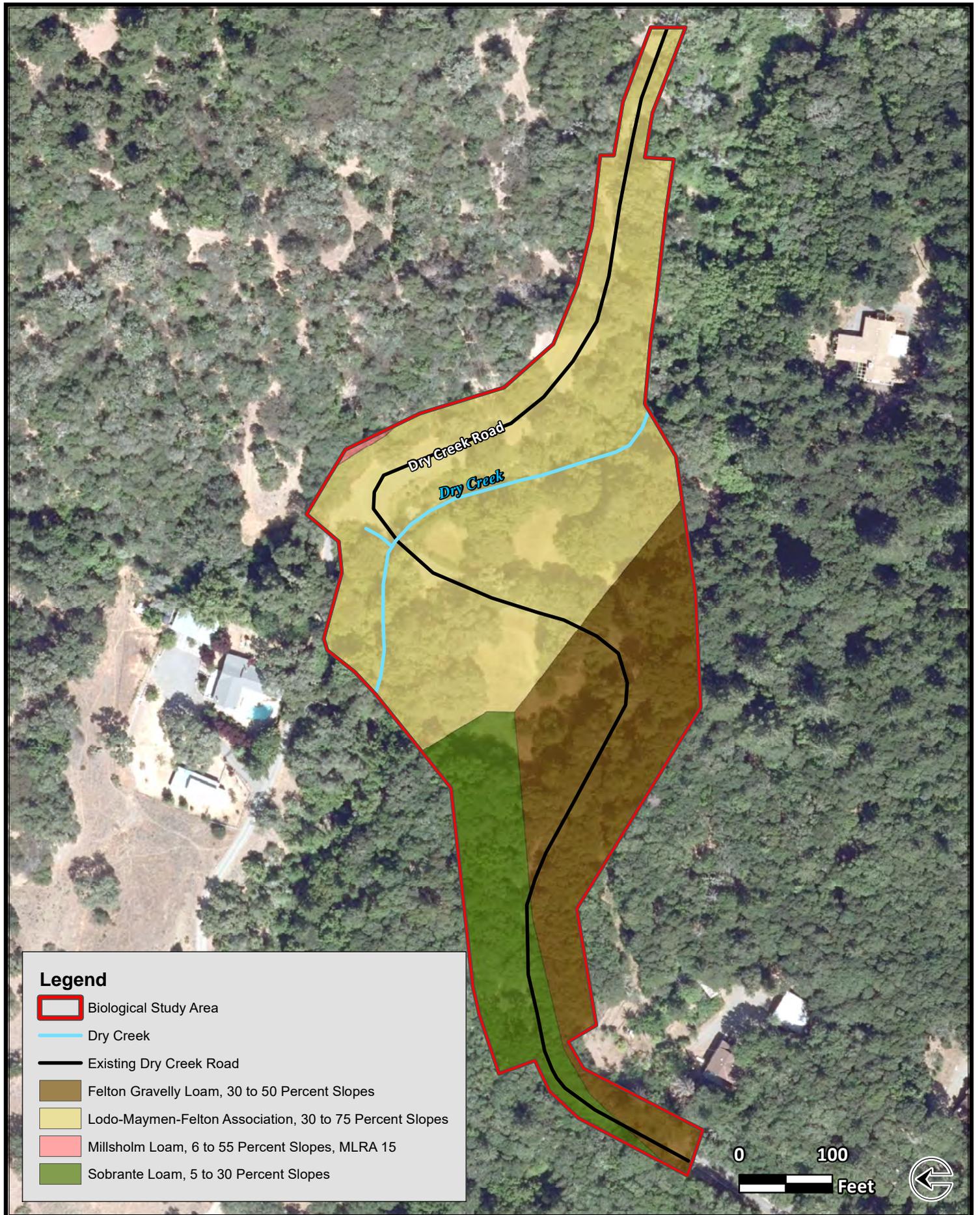


FIGURE 5. SOILS
Dry Creek Bridge Replacement Project



Lodo-Maymen-Felton Association, 30 to 75 Percent Slopes

The Lodo-Maymen-Felton Association, 30 to 75 Percent Slopes soil unit is comprised of Lodo, Maymen, and Felton soils. Lodo soils make up 45 percent of the composition, Maymen soils make up 25 percent of the composition, and Felton soils make up 20 percent of the composition of this soil unit. This association is recorded as somewhat excessively drained, is more than 80 inches to the water table, and is within six to 20 inches of a restrictive feature (paralithic bedrock) (NRCS, 2017). The Lodo-Maymen-Felton association soil unit is the predominant soil unit within the BSA and is located in the central and northeastern portion of the BSA, including the soil underlying Dry Creek. This soil unit is not considered hydric and does not contain the mineral serpentine.

Millsholm Loam, 6 to 55 Percent Slopes, MLRA 15

The Millsholm Loam, 6 to 55 Percent Slopes soil unit is well drained, more than 80 inches to the water table, and within 10 to 20 inches of a restrictive feature (lithic bedrock) (NRCS, 2017). This soil unit is a minor component of the soils underlying the BSA. Within the BSA, this soil unit is found northeast of the Dry Creek Road Bridge. This soil unit is not considered hydric and does not contain the mineral serpentine.

Sobrante Loam, 5 to 30 Percent Slopes

The Sobrante Loam, 5 to 30 Percent Slopes soil unit is well drained, more than 80 inches to the water table, and within 25 to 40 inches of a restrictive feature (lithic bedrock) (NRCS, 2017). This soil unit is a moderate component of the soils underlying the BSA. This soil unit is found on the northwestern side of the BSA. This soil unit is not considered hydric and does not contain the mineral serpentine.

Hydrology

According to the USGS WBD HUC10 and WBD HUC 12 datasets, the project area is located within the Napa River Watershed, which covers approximately 133,467 acres, and Dry Creek Subwatershed, which covers approximately 18,471 acres (USGS, 2018; CDFW, 2018a). However, the Napa County Watershed Information & Conservation Council (WICC) apparently uses different parameters than the USGS to define the watersheds within the County and only delineates three watersheds within Napa County: Napa River, Putah Creek, and Suisun Creek. According to the Napa County WICC, the Napa River Watershed is bounded by Mount Saint Helena to the north, Mayacamos Mountains to the west, Howell Mountain, Altas Peak, and Mount George to the east, and the Napa-Sonoma Marsh to the south. The Napa River runs through the center of the watershed, draining numerous tributaries including Dry Creek from the headwaters of Mount Saint Helena to the San Pablo Bay. The 55-mile-long river traverses through forested mountain slopes, vineyards, urban areas, open pasture, grasslands, industrial zones, and marshes (Napa County WICC, 2018b). Hydrological features in the BSA include Dry Creek and a roadside drainage to Dry Creek.

Dry Creek

Dry Creek has perennial flows that drain northwest to southeast through the BSA. Within the BSA, the width of the Dry Creek channel at the OHWM ranges from approximately eight to 20 feet. The creek flows to the Napa River, which flows into the San Pablo Bay. Dry Creek is a natural, un-

lined waterway with a rocky to cobbly substrate and a complex stream habitat. A stream habitat inventory conducted for the project identified the following in-stream habitats within the 600 feet of stream length evaluated: riffle, flatwater (predominantly step-run), main channel pool (predominantly step-pool), and scour pool (mostly bedrock-formed) (Avila, 2018).

In addition, surveys observed the following vegetative layers associated with Dry Creek: a sparse herbaceous layer within the wetted Dry Creek channel, comprised of scattered patches of torrent sedge (*Carex nudata*) (an obligate wetland species); a dense to open shrub layer dominated by poison oak (*Toxicodendron diversilobum*), willow (*Salix* sp.), California grape (*Vitis californica*), wild rose (*Rosa* sp.), California blackberry (*Rubus ursinus*), and Himalayan blackberry (*Rubus armeniacus*) growing on the lower and middle portion of the Dry Creek banks; and a dense to open tree canopy layer growing on the middle and upper portion of the Dry Creek banks. Dry Creek is under the jurisdiction of the USACE, RWQCB, and CDFW.

Tributary to Dry Creek

The tributary to Dry Creek appears to receive intermittent nuisance flows from the roadway that drain directly into Dry Creek immediately west of the bridge in the northernmost portion of the BSA. Only a small portion of the tributary to Dry Creek is within the BSA. The width of the OHWM ranges from approximately two to three feet. The tributary to Dry Creek falls under jurisdiction of the USACE, RWQCB, and CDFW.

3.1.3 BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

Vegetation Communities

Vegetation communities were classified and delineated within GIS (Geographic Information System) based on a 0.1-acre size threshold. Vegetation communities smaller than 0.1 acre were included in the representative surrounding vegetation within the BSA. The boundaries of vegetation communities included the footprint of a tree canopy. Because of their small acreage, some features within the BSA, including Dry Creek and developed areas associated with Dry Creek Road and residential roadways, were included in the representative surrounding vegetation communities mapped in the BSA.

The BSA is surrounded by rural residential properties, including residential structures such as houses and storage sheds. Vegetation communities classified within the BSA include *Quercus* Forest Alliance (Mixed Oak Forest), *Umbellularia Californica* Forest Alliance (California Bay Forest), and *Bromus* Semi-Natural Herbaceous Stands (Annual Brome Grassland) (see **Figure 6**). The vegetation communities in the BSA are described below.

Quercus Forest Alliance (Mixed Oak Forest)

This community is classified as Mixed Oak Forest in the California Native Plant Society (CNPS) Manual of California Vegetation (Sawyer et. al, 2012). This community consists of three or more oak (*Quercus*) species that are present at greater than 30 percent coverage and are co-dominant in the tree canopy. Trees in this alliance are typically less than 100 feet tall, and the overall canopy is intermittent to continuous and can have up to two tiers of vegetation. The shrub layer varies from sparse to dense and herbaceous layer ranges from sparse to abundant and may be grassy. Within California, this alliance typically grows in valleys with gentle to steep slopes.

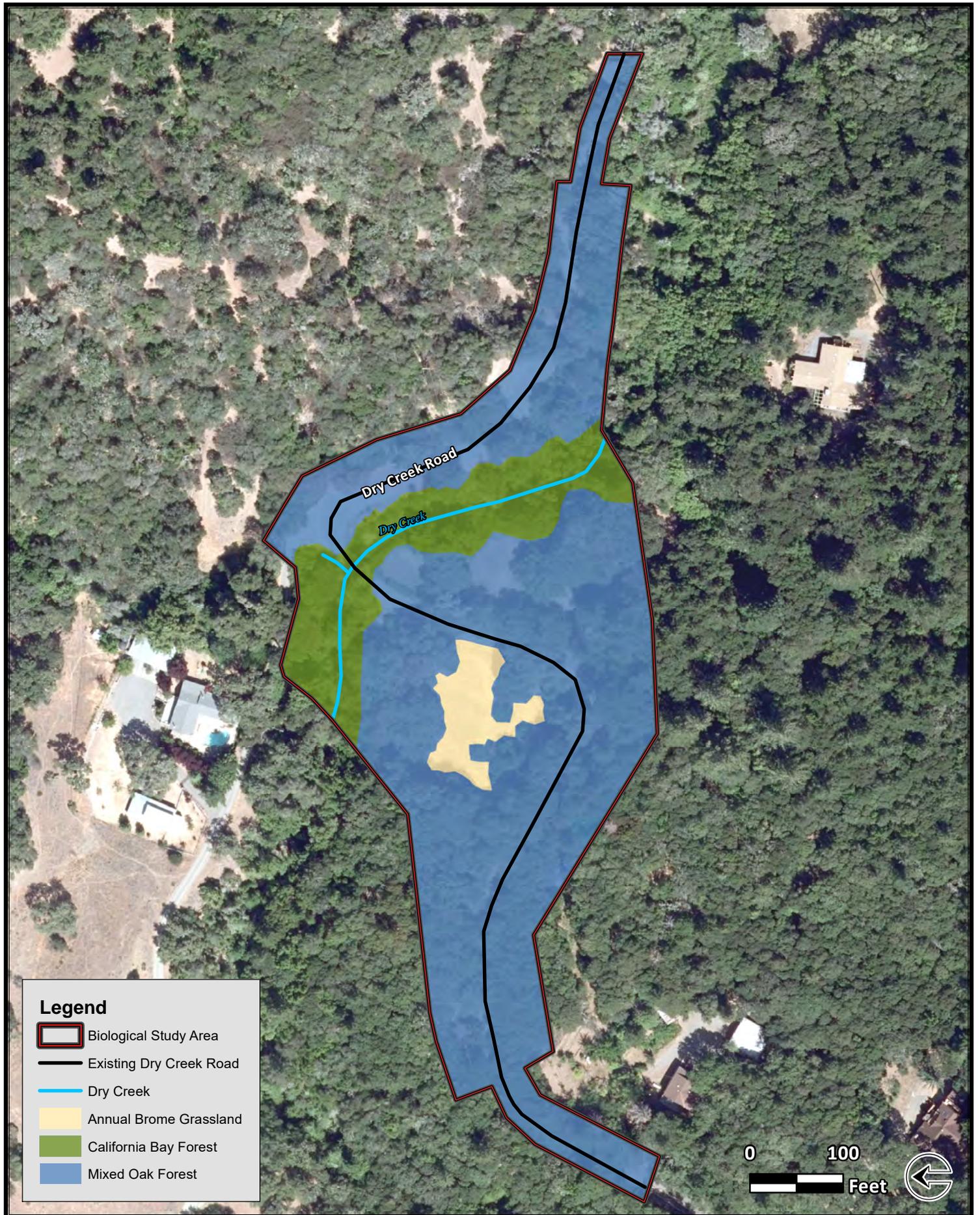


FIGURE 6. VEGETATION COMMUNITIES
Dry Creek Bridge Replacement Project



The Mixed Oak Forest is the dominant vegetation community in the BSA. Dominant species in the canopy layer include California black oak (*Quercus kelloggii*), interior live oak (*Quercus wislizeni*), and oracle oak (*Quercus x morehus*), with a lesser component of California buckeye (*Aesculus californica*), pacific madrone (*Arbutus menziesii*), California bay (*Umbellularia californica*), and Douglas fir (*Pseudotsuga menziesii*). The understory components are dominated by poison oak and California blackberry. The Dry Creek Road, road shoulders, and bridge were included in the Mixed Oak Forest vegetation community.

Umbellularia Californica Forest Alliance (California Bay Forest)

This community is classified as California Bay Forest in the CNPS Manual of California Vegetation. This community typically consists of a California bay canopy represented at greater than 30 percent coverage. Trees in this alliance are typically less than 82 feet tall and the overall canopy is intermittent to continuous. The shrub layer varies from open to intermittent and the herbaceous layer ranges from sparse to abundant. This alliance typically grows on alluvial benches, stream sides, valley bottoms, coastal bluffs, inland ridges, steep north-facing slopes, and rocky outcrops.

Within the BSA, the California Bay Forest is along the embankments of Dry Creek. Dominant species in the canopy layer onsite include California bay, California buckeye, Douglas fir, and oak with a lesser component of Oregon ash (*Fraxinus latifolia*). Understory shrub species are dominated by poison oak, willow, California grape, wild rose, California blackberry, and Himalayan blackberry. In addition, the understory herbaceous species are dominated by scattered patches of torrent sedge, California mugwort (*Artemisia douglasiana*), and spearmint (*Mentha spicata*). The Dry Creek channel and tributary were included within the mapped California Bay Forest vegetation community. The California Bay Forest is within the riparian system on the banks of Dry Creek and, pursuant to California Fish and Game Code Section 1600, is under CDFW jurisdiction within the BSA.

Bromus Semi-Natural Herbaceous Stands (Annual Brome Grassland)

This community is classified as Annual Brome Grassland in the CNPS Manual of California Vegetation. This community consists of a *Bromus* dominant or co-dominant with non-natives in the herbaceous layer. The herbaceous plants in this alliance are typically less than 30 inches tall and the overall cover is intermittent to continuous. Trees and shrubs may be present at low densities. This alliance can establish on all topographic settings in the California foothills, waste places (disturbed unused land), rangelands, and openings in woodlands. Dominant species in the grassland include ripgut brome (*Bromus diandrus*), soft brome (*Bromus hodeaceus*), and false brome (*Brachypodium distachyon*). Within the BSA, the Annual Brome Grassland community is a minor component of the overall vegetation and is an open area in the Mixed Oak Forest that may have once been a part of an old homestead.

Wetlands and Waters Habitats

Wetland and waters habitats within the BSA were classified according to the current USFWS' National Wetland Inventory classification system and were determined to fall into three general systems, Riverine and Palustrine (Cowardin et al., 1979), and Riparian (USFWS, 2018) (USFWS, 2009a). Within the BSA, the Riverine, Palustrine, and Riparian systems were observed in

association with Dry Creek.

Riverine System

A Riverine system includes all wetlands and deepwater habitats within natural and artificial stream, river, or ditch channels with two exceptions: 1) wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and 2) habitats with water containing ocean-derived salts of 0.5 part per thousand or greater. A channel is “an open conduit either naturally or artificially created which periodically or continuously contains moving water, or which forms a connecting link between two bodies of standing water” (Cowardin et. al, 1979). The Riverine system within the BSA includes Dry Creek.

Palustrine System

A Palustrine system includes all freshwater wetlands (such as marshes, bogs, and swamps) dominated by trees, shrubs, emergent herbaceous plants, floating leaved and submergent plants, mosses, and lichens. It also includes wetlands without such vegetation, but with the following characteristics: 1) an area larger than 20 acres, 2) a maximum water depth of 6.6 feet, and 3) a salinity of greater than 0.5 percent (Cowardin et. al, 1979). The Palustrine system within the BSA includes the wetted and near-shore portions of the California Bay Forest, located adjacent to Dry Creek.

Riparian System

The USFWS Riparian system, defines riparian areas as plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent lotic and lentic water bodies (rivers, streams, lakes, or drainage ways). Riparian areas are usually transitional between wetland and upland. Riparian areas have one or both of the following characteristics: 1) distinctly different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms (USFWS, 2018b) (USFWS, 2009a). The Riparian System within the BSA includes portions of the California Bay Forest, on the banks of Dry Creek.

Wildlife

Habitat in the area is minimally disturbed. Many of the animal species observed during surveys included those commonly found in woodland areas, such as the oak titmouse (*Baeolophus inornatus*), California scrub jay (*Aphelocoma californica*), black phoebe (*Sayornis nigricans*), and white-tailed deer (*Odocoileus virginianus*). A complete list of wildlife species observed can be found in **Appendix B**. Presumed black phoebe nests were observed on the existing bridge. In addition, a pair of acorn woodpeckers (*Melanerpes formicivorus*) was nesting in the BSA within a large tree on the northeast side of the bridge. The vegetation communities and creek provide suitable habitat to support nesting birds, roosting bats, foraging mammals, migrating fish, amphibians, reptiles, and invertebrates.

Habitat Connectivity

A migration or wildlife corridor is an area of habitat that connects two or more patches of habitat that would otherwise be isolated from each other. Wildlife corridors are typically adjacent to urban areas. A functional wildlife corridor allows for ease of movement between habitat patches and is

important in preventing habitat fragmentation. Habitat fragmentation is typically caused by human development and can lead to a decrease in biodiversity and ecosystem functionality.

The Napa County General Plan classifies the land surrounding the BSA as Agriculture, Watershed, and Open Space. According to the CDFW BIOS, there are no essential wildlife connectivity areas or natural landscape blocks in the BSA. However, Dry Creek is a known migratory corridor for steelhead. While the BSA is not a high priority migration or travel corridor for land animals, the areas within the BSA may be used for local foraging and movement of terrestrial wildlife species in the project vicinity.

3.2 Regional Species and Habitats and Natural Communities of Concern

A CNDDDB species list was obtained on April 4, 2017 and updated on August 9 and January 26, 2018, to identify federally and state listed species with the potential to be in the BSA based on their geographical range (see **Appendix A**). In addition, a USFWS IPaC species list was obtained on March 16, 2017 and updated on August 9 and February 8, 2018, for the same purpose. A species list was obtained from NMFS on February 8, 2018 and the and EFH mapper was accessed on March 2, 2018 to evaluate the potential for special-status fish and associated fish habitat to be in the BSA.

The following discussion describes the special-status plant and wildlife species with potential to be within the BSA based on their geographical range, presence of suitable habitat, and survey results. Determinations on whether special-status and other sensitive resources could be in the BSA are based on 1) a record reported in the CNDDDB, USFWS IPaC, and NMFS species lists, 2) the presence of suitable habitat, and 3) survey results.

3.2.1 NATURAL COMMUNITIES

According to the CNDDDB search, a total of five special-status natural communities have the potential to be in the BSA based on geographical location, including the Coastal and Valley Freshwater Marsh, Northern Vernal Pool, Serpentine Bunchgrass, Valley Needlegrass Grassland, and Wildflower Field communities (see **Appendix A**). A full list of special-status communities, as identified by the CNDDDB, and a discussion of the potential for each community to be within the BSA is provided in **Table 1** below. Based on the field surveys, there are no special-status vegetation communities identified by the CNDDDB within the BSA. However, based on survey results, the BSA has jurisdictional features (wetlands, riverine and riparian) that are considered special-status communities. In addition, the Napa County General Plan has policies directing project proponents to evaluate impacts on native oak woodlands; therefore, the Mixed Oak Forest in the BSA is considered a special-status vegetation community.

3.2.2 SPECIAL-STATUS PLANTS

According to the CNDDDB and USFWS IPaC searches, 93 special-status plant species have the potential to be in the BSA based on recorded geographical distribution (see **Appendix A**). A full species list with a discussion of the potential for each species to be within the BSA is in provided in **Table 2** below. Based on habitat requirements and survey results, the following 19 special-status plant species have potential to be in the BSA: Napa false indigo (*Amorpha californica* var. *napensis*), bent-flowered fiddleneck (*Amsinckia lunaris*), slender silver moss (*Anomobryum julaceum*), big-scale balsamroot (*Balsamorhiza macrolepis*), streamside daisy (*Erigeron biolettii*),

congested-headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), harlequin lotus (*Hosackia gracilis*), northern California black walnut (*Juglans hindsii*), bristly leptosiphon (*Leptosiphon acicularis*), broad-lobed leptosiphon (*Leptosiphon latisectus*), redwood lily (*Lilium rubescens*), Cobb Mountain lupine (*Lupinus sericatus*), Mt. Diablo cottonweed (*Micropus amphibolus*), marsh microseris (*Microseris paludosa*), Victor's gooseberry (*Ribes victoris*), marsh checkerbloom (*Sidalcea oregana* spp. *hydrophila*), Napa bluecurls (*Trichostema ruygtii*), dark-mouthed tritelelia (*Triteleia lugens*), and oval-leaved viburnum (*Viburnum ellipticum*). None of these species are listed as federally threatened or endangered under the FESA, or state threatened or endangered under the CESA.

3.2.3 SPECIAL-STATUS ANIMALS

According to the CNDDDB, NMFS, and USFWS IPaC searches, 73 special-status animal species have the potential to be in the BSA based on recorded geographical distribution (see **Appendix A**). A full species list with a discussion on the potential for each species to be in the BSA is provided in **Table 3** below. Based on habitat requirements and survey results, the following 27 special-status wildlife species have potential to be in the BSA: western bumble bee (*Bombus occidentalis*), steelhead - central California coast DPS (steelhead) (*Oncorhynchus mykiss irideus*), California giant salamander (*Dicamptodon ensatus*), foothill yellow-legged frog, California red-legged frog (*Rana draytonii*), Coast Range newt (*Taricha torosa*), Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), great egret (*Ardea alba*), great blue heron (*Ardea herodias*), oak titmouse (*Baeolophus inornatus*), snowy egret (*Egretta thula*), yellow-breasted chat (*Icteria virens*), black-crowned night heron (*Nycticorax nycticorax*), purple martin (*Progne subis*), yellow warbler (*Setophaga petechia*), Lawrence's goldfinch (*Spinus lawrencei*), pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), North American porcupine (*Erethizon dorsatum*), silver-haired bat (*Lasionycteris noctivagans*), western red bat (*Lasiurus blossevillii*), western small-footed myotis (*Myotis ciliolabrum*), long-eared myotis (*Myotis evotis*), fringed myotis (*Myotis thysanodes*), long-legged myotis (*Myotis volans*), and Yuma myotis (*Myotis yumanensis*). The California red-legged frog and steelhead are listed as federally threatened under the FESA and the foothill yellow-legged frog is listed as a state candidate threatened species under the CESA. No additional special-status wildlife species are expected to be within the BSA.

Table 1. Special-Status Natural Communities with Potential to be in the BSA

Common and Scientific Names	Status		General Habitat Requirements	Habitat Present/Absent	Rational for Species Presence/Absence
	Federal USFWS	State CDFW			
Coastal and Valley Freshwater Marsh	--	S2.1	The Coastal and Valley Freshwater Marsh is dominated by perennial, emergent monocots, often forming completely closed canopies. Coastal and valley freshwater marshes are permanently flooded by fresh water and have deep, peaty soils. Typical Elevation Range: Zero to 2,480 feet	A	There is no valley freshwater marsh in the BSA. Therefore, this community is absent from the BSA.
Northern Vernal Pool	--	S2.1	Northern vernal pools are found on neutral to alkaline, silica-cemented hardpan soils which are often saline or on old, acidic, iron-silica cemented soils including Corning, Redding, and San Joaquin soil series. Topography is typified by hogwallows and mima mounds, which are found on aggregations most commonly on old alluvial fans. Typical Elevation Range: five to 1,940 feet	A	There are no vernal pools in the BSA. Therefore, this community is absent from the BSA.
Serpentine Bunchgrass	--	S2.2	Serpentine bunchgrass is found on soils derived from serpentine and generally has less overall vegetation cover. Bunchgrasses typically grow in patches and are primarily dominated by medusa head, goatgrass (<i>Aegilops triuncialis</i>), and foxtail brome (<i>Bromus madritensis</i>). Typical Elevation Range: 100 to 5,800 feet	A	There is no serpentine bunchgrass in the BSA. Therefore, this community is absent from the BSA.
Valley Needlegrass Grassland	--	S3.1	Valley needlegrass grassland is a midheight (up to two feet) grassland that is dominated by perennial, tussock-forming <i>Stipa pulchra</i> . Native and introduced annuals are found between the perennials and can exceed the bunchgrass in cover. Typical Elevation Range: -210 to 5,640 feet	A	There are no valley needlegrass grasslands in the BSA. Therefore, this community is absent from the BSA.

Wildflower Field	--	S2.2	Wildflower field is an herb-dominated community. The dominate species vary from site to site and year to year at a particular site. These communities are usually associated with grasslands or oak woodlands. Typical Elevation Range: 560 to 2,950 feet	A	There are no valley and foothill grasslands in the BSA. Therefore, this community is absent from the BSA.
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Table Key: Absent [A] – The vegetation community was not observed in the BSA during the biological survey. Habitat Present [HP] – There is habitat present within the BSA. State Rare (SR); S1 = Critically Imperiled - extreme rarity (often five or fewer observations) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California; S2 = Imperiled- rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or California; S3 = Vulnerable- restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation; S4 = Apparently Secure - uncommon but not rare; some cause for long-term concern due to declines or other factors.

**Information for the habitat requirements was obtained from the following sources: (Holland, 1986) and (Sawyer, et. al, 2009).*

Table 2. Special-Status Plants with Potential to be in the BSA

Common and Scientific Names	Status			General Habitat Requirements	Habitat Present/ Absent	Rational for Species Presence/ Absence
	Federal USFWS	State CDFW	CNPS			
Plants						
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	--	S1	1B.2	The Franciscan onion is a perennial bulbiferous herb found in cismontane woodland and valley and foothill grassland. This species is found on dry slopes with clay soils; often serpentine; sometimes on volcanic soils. Typical Blooming Period: May to June Typical Elevation Range: zero to 2,428 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	FE	S1	1B.1	The Sonoma alopecurus is a perennial herb found in wet areas of freshwater marshes, swamps, riparian scrub, and wetlands on sandy soils within Marin and Sonoma counties. Five of the six known populations are clustered within a 4.6-mile area on the Point Reyes Peninsula in Marin County. The only known extant population in Sonoma County is located at Annadel State	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

				Park. Typical Blooming Period: May to July Typical Elevation Range: 16 to 1,187 feet		
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	--	S2	1B.2	The Napa false indigo is a perennial deciduous shrub found in openings of broadleaved upland forest, chaparral, and cismontane woodland. Typical Blooming Period: April to July Typical Elevation Range: Zero to 6,561 feet	HP	There is suitable forest and woodland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Amsinckia lunaris</i> Bent-flowered fiddleneck	--	S2S3	1B.2	The bent-flowered fiddleneck is an annual herb found in cismontane woodland, valley and foothill grassland, and coastal bluff scrub. Typical Blooming Period: March to June Typical Elevation Range: nine to 2,608 feet	HP	There is suitable woodland habitat for this species in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Anomobryum julaceum</i> Slender silver moss	--	S2	4.2	The slender silver moss is a moss found in broadleaved upland forest, lower montane coniferous forest, and north coast coniferous forest. This species is found on damp rocks and soil, granitic crevices, and cliff crevices, usually along road cuts. Typical Blooming Period: N/A Typical Elevation Range: 328 to 3,280 feet	HP	There is suitable forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Antirrhinum virga</i> Twig-like snapdragon	--	S3	4.3	The twig-like snapdragon is a perennial herb found in chaparral and lower montane coniferous forest. This species is found in rocky openings and often on serpentine soils. Typical Blooming Period: June to July Typical Elevation Range: 33 to 6,610 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Arctostaphylos stanfordiana</i> ssp. <i>decumbens</i> Rincon Ridge manzanita	--	S1	1B.1	The Rincon Ridge manzanita is a perennial evergreen shrub found in chaparral and cismontane woodland. This species has a preference for rhyolite soils. Typical Blooming Period: February to April Typical Elevation Range: 246 to 1,214 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Astragalus breweri</i> Brewer's milk-vetch	--	S3	4.2	The Brewer's milk-vetch is an annual herb found in chaparral, cismontane woodland, meadows, seeps, and valley and foothill grassland. This species is commonly found on or near volcanic or serpentine substrates. Typical Blooming Period: April to June Typical Elevation Range: 295 to 2,395 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	FE	ST	1B.1	The Clara Hunt's milk-vetch is an annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. This species is found on open grassy hillsides, especially on exposed shoulders with serpentinite, volcanic, rocky, or clay substrates. Typical Blooming Period: March to May Typical Elevation Range: 246 to 902 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Astragalus clevelandii</i> Cleveland's milk-vetch	--	S4	4.3	The Cleveland's milk-vetch is a perennial herb found in chaparral, cismontane woodland, and riparian forests of the Inner and High North Coast Ranges. This species is found in moist serpentine areas of seeps, creeks, sandy stream banks, and hillside slopes. Typical Blooming Period: June to September Typical Elevation Range: 328 to 4,921 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Astragalus tener</i> var. <i>tener</i>	--	S2	1B.2	The alkali milk-vetch is an annual herb found in alkaline conditions. The species is	A	The habitat preferred by this species is absent; therefore, it is not expected to

Alkali milk-vetch				found in alkali playas and flats, valley and foothill grassland (within adobe clay substrates), vernal pools, and vernal moist meadows. Typical Blooming Period: March to June Typical Elevation Range: 3 to 551 feet		be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Balsamorhiza macrolepis</i> Big-scale balsamroot	--	S2	1B.2	The big-scale balsamroot is a perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland. This species is sometimes found in serpentine soils. Typical Blooming Period: March to June Typical Elevation Range: 148 to 5,610 feet	HP	There is suitable woodland and non-native annual grassland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Blennosperma bakeri</i> Sonoma sunshine	FE	SE	1B.1	The Sonoma sunshine is an annual herb found in vernal pools, wetlands, mesic valley and foothill grassland, and margins of grassy swales. Typical Blooming Period: March to May Typical Elevation Range: 33 to 361 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Brodiaea leptandra</i> Narrow-anthered brodiaea	--	S3	1B.2	The narrow-anthered brodiaea is a perennial bulbiferous herb found in broadleaved upland forest, lower montane coniferous forest, chaparral, cismontane woodland, and valley and foothill grassland. This species is typically found on volcanic substrates. Typical Blooming Period: May to July Typical Elevation Range: 131 to 3,937 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Calamagrostis ophitidis</i> Serpentine reed grass	--	S3	4.3	The serpentine reed grass is a perennial herb found in meadows, seeps, valley and foothill grasslands, lower montane coniferous forest, and chaparrals on open, often north facing slopes.	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this

				Typical Blooming Period: April to July Typical Elevation Range: zero to 3,494 feet		species.
<i>Calandrinia breweri</i> Brewer's calandrinia	--	S4	4.2	The Brewer's calandrinia is an annual herb found in chaparral and coastal scrub. This species is found in disturbed sites on sandy or loamy soils, often on open, north-facing slopes. Typical Blooming Period: March to June Typical Elevation Range: zero to 4,003 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Calochortus uniflorus</i> Pink star-tulip	--	S4	4.2	The pink star-tulip is a perennial bulbiferous herb found in coastal prairies, coastal scrub, meadows, seeps, and north coast coniferous forest. This species is often found in seasonally moist meadows, sometimes within coastal scrub, or forested habitat; usually at low elevations on the coast. Typical Blooming Period: April to June Typical Elevation Range: zero to 3,511 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Calystegia collina</i> ssp. <i>oxyphylla</i> Mount Saint Helena morning-glory	--	S3	4.2	The Mount Saint Helena morning-glory is a perennial rhizomatous herb found in chaparral, lower montane coniferous forest, and valley and foothill grassland. This species is commonly found in open oak/pine woodland or on open grassy or rocky slopes or hillsides, often on serpentine soils. Typical Blooming Period: April to June Typical Elevation Range: zero to 3,314 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Castilleja ambigua</i> var. <i>ambigua</i> Johnny-nip	--	S4	4.2	The Johnny-nip is an annual herb found in coastal bluff scrub, coastal scrub, coastal prairies, marshes, swamps, vernal pools, and valley and foothill grassland. Typical Blooming Period: March to August Typical Elevation Range: zero to 1,427 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Castilleja ambigua</i> var. <i>meadii</i> Mead's owl-clover	--	S1	1B.1	The Mead's owl's-clover is an annual herb found in meadows, seeps, and vernal pools. This species is found on gravelly, volcanic, or clay soils. Typical Blooming Period: April to May Typical Elevation Range: 1,476 to 1,558 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	--	S1	1B.1	The Rincon Ridge ceanothus is a perennial evergreen shrub found in chaparral, cismontane woodland, and closed-cone coniferous forest. This species is found on dry, shrubby slopes on volcanic or serpentine soils. Typical Blooming Period: February to June Typical Elevation Range: 246 to 3,609 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ceanothus divergens</i> Calistoga ceanothus	--	S2	1B.2	The Calistoga ceanothus is a perennial evergreen shrub found in chaparral and cismontane woodland. This species is found in rocky, serpentine, or volcanic sites. Typical Blooming Period: February to April Typical Elevation Range: 328 to 3,116 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ceanothus gloriosus</i> var. <i>exaltatus</i> Glory brush	--	S4	4.3	The glory brush is a perennial evergreen shrub found in chaparral on sandy or rocky substrates. Typical Blooming Period: March to June Typical Elevation Range: zero to 2,001 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ceanothus pinetorum</i> Kern ceanothus	--	S3	4.3	The Kern ceanothus is a perennial evergreen shrub found on rocky and granitic sites in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest. Typical Blooming Period: May to July Typical Elevation Range: 3445 to 9,022 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Ceanothus purpureus</i> Holly-leaved ceanothus	--	S2	1B.2	The holly-leaved ceanothus is a perennial evergreen shrub found in chaparral and cismontane woodland. This species is found on rocky and volcanic substrates. Typical Blooming Period: February to June Typical Elevation Range: 312 to 2,231 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ceanothus sonomensis</i> Sonoma ceanothus	--	S2	1B.2	The Sonoma ceanothus is a perennial evergreen shrub found in chaparral. This species is found on sandy, serpentine, or volcanic soils. Typical Blooming Period: February to April Typical Elevation Range: 131 to 2,625 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Centromadia parryi</i> ssp. <i>parryi</i> Pappose tarplant	--	S2	1B.2	The pappose tarplant is an annual herb found in chaparral, coastal prairies, marshes, swamps, meadows, seeps, and valley and foothill grassland. This species is often found on alkaline sites. Typical Blooming Period: May to November Typical Elevation Range: zero to 1,377 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Clarkia breweri</i> Brewer's clarkia	--	S4	4.2	The Brewer's clarkia is an annual herb found in chaparral, cismontane woodland, and coastal scrub. This species is often found on serpentine soils. Typical Blooming Period: April to June Typical Elevation Range: zero to 4,429 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Clarkia gracilis</i> ssp. <i>tracyi</i> Tracy's clarkia	--	S3	4.2	The Tracy's clarkia is an annual herb found in openings in chaparral and usually on serpentine soils. Typical Blooming Period: April to July Typical Elevation Range: 213 to 2,165 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Collomia</i>	--	S4	4.3	The serpentine collomia is an annual herb	A	The habitat preferred by this species is

<i>diversifolia</i> Serpentine collomia				found in chaparral and cismontane woodland. This species is found in serpentine soils, on rocky or gravelly sites. Typical Blooming Period: May to June Typical Elevation Range: 197 to 2,427 feet		absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Cordylanthus tenuis</i> ssp. <i>brunneus</i> Serpentine bird's-beak	--	S3	4.3	The serpentine's bird-beak is an annual herb found in chaparral, cismontane woodland, and closed-cone coniferous forest. This species is found on barren and rocky serpentine soil. Typical Blooming Period: July to August Typical Elevation Range: zero to 4,429 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Delphinium uliginosum</i> Swamp larkspur	--	S3	4.2	The swamp larkspur is a perennial herb found in chaparral and valley and foothill grassland. This species is found in moist drainages, meadows, and creek beds on mesic serpentine substrates. Typical Blooming Period: May to June Typical Elevation Range: 1,115 to 2,395 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Downingia pusilla</i> Dwarf downingia	--	S2	2B.2	The dwarf downingia is an annual herb found in valley and foothill grassland (mesic sites), roadside ditches, vernal pools, and wetlands. Typical Blooming Period: March to May Typical Elevation Range: zero to 1,460 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Eleocharis parvula</i> Small spikerush	--	S3	4.3	The small spikerush is a perennial herb found in brackish wet soils in coastal marshes and swamps. Typical Blooming Period: July to August Typical Elevation Range: zero to 9,908 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Erigeron biolettii</i>	--	S3	3	The streamside daisy is a perennial herb	HP	There is suitable forest and woodland

Streamside daisy				found in broadleaved upland forest, north coast coniferous forest, and cismontane woodland on dry slopes, rocks, and ledges along rivers. Typical Blooming Period: June to October Typical Elevation Range: zero to 3,609 feet		habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	--	S3	1B.2	The Greene's narrow-leaved daisy is a perennial herb found in shrubby chaparral on serpentine and volcanic substrates. Typical Blooming Period: May to September Typical Elevation Range: 263 to 5,249 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Eriogonum nervulosum</i> Snow Mountain buckwheat	--	S2	1B.2	The Snow Mountain buckwheat is a perennial rhizomatous herb found in chaparral. This species is found on dry serpentine outcrops and barrens. Typical Blooming Period: June to September Typical Elevation Range: 984 to 6,906 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Eryngium constancei</i> Loch Lomond button-celery	FE	SE	1B.1	The Loch Lomond button-celery is an annual/perennial herb found in vernal pools. Typical Blooming Period: April to June Typical Elevation Range: 1,509 to 2,805 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	--	S2	1B.2	The Jepson's coyote-thistle is a perennial herb found in vernal pools and valley and foothill grassland, often on clay soils. Typical Blooming Period: April to August Typical Elevation Range: zero to 4,593 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Erythronium helenae</i> St. Helena fawn lily	--	S3	4.2	The St. Helena's fawn lily is a perennial bulbiferous herb found in chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. This species is associated with serpentine soils and often volcanic substrates. Typical Blooming Period: March to May Typical Elevation Range: 984 to 4,003 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Extriplex joaquinana</i> San Joaquin spearscale	--	S2	1B.2	The San Joaquin spearscale is an annual herb found in chenopod scrub, alkali meadows, playas, and valley and foothill grassland. This species is found on alkaline soils. This species grows in seasonal alkali wetlands or alkali sink scrub with <i>Distichlis spicata</i> , <i>Frankenia</i> , etc. Typical Blooming Period: April to October Typical Elevation Range: three to 2,740 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Fritillaria liliaceae</i> Fragrant fritillary	--	S2	1B.2	The fragrant fritillary is a perennial bulbiferous herb found in the Inner and Outer South Coast ranges, Sacramento Valley, San Francisco Bay area, and Central Coast in cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland. This species is often found on serpentine soils and usually within clay soils. Typical Blooming Period: February to April Typical Elevation Range: zero to 1,345 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Fritillaria purdyi</i> Purdy's fritillary	--	S4	4.3	The Purdy's fritillary is a perennial bulbiferous herb found in chaparral, cismontane woodland, and lower montane coniferous forest. This species is usually found on serpentine soils. Typical Blooming Period: March to June Typical Elevation Range: 574 to 7,398 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Harmonia nutans</i> Nodding harmonia	--	S3	4.3	The nodding harmonia is an annual herb found in chaparral and cismontane woodland on rocky, volcanic substrates. Typical Blooming Period: March to May Typical Elevation Range: 246 to 3,281 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Helianthus exilis</i> Serpentine sunflower	--	S3	4.2	The serpentine sunflower is an annual herb found in chaparral and cismontane woodland on serpentine seeps and gravelly (often serpentine) streamsides. Typical Blooming Period: June to November Typical Elevation Range: 492 to 5,003 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Hemizonia congesta</i> ssp. <i>congesta</i> Congested-headed hayfield tarplant	--	S1S2	1B.2	The congested-headed hayfield tarplant is an annual herb found in valley and foothill grassland, often along roadsides. Typical Blooming Period: April to November Typical Elevation Range: zero to 1,837 feet	HP	There is suitable grassland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Hesperolinon bicarpellatum</i> Two-carpellate western flax	--	S2	1B.2	The two-carpellate western flax is an annual herb found in chaparral on serpentine substrates. Typical Blooming Period: May to July Typical Elevation Range: 196 to 3,297 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Hesperolinon sharsmithiae</i> Sharsmith's western flax	--	S2	1B.2	The Sharsmith's western flax is an annual herb found in chaparral. This species is found on serpentine substrates. Typical Blooming Period: May to July Typical Elevation Range: 197 to 3,281 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

<i>Horkelia tenuiloba</i> Thin-lobed horkelia	--	S2	1B.2	The thin-lobed horkelia is a perennial herb found on mesic openings or sandy substrate in broadleaved upland forest, chaparral, and valley and foothill grasslands. Typical Blooming Period: May to July Typical Elevation Range: 164 to 1,640 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Hosackia gracilis</i> Harlequin lotus	--	S3	4.2	The harlequin lotus is a perennial rhizomatous herb found in broadleaved upland forest, closed-cone coniferous forest, north coast coniferous forest, wetlands, cismontane woodland, coastal scrub, coastal bluff scrub, coastal prairie, marshes, meadows, seeps, swamps, and valley and foothill grassland. This species is often found along roadsides. Typical Blooming Period: March to July Typical Elevation Range: zero to 2,297 feet	HP	There is suitable forest, woodland, and annual grassland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Iris longipetala</i> Coast iris	--	S3	4.2	The coast iris is a perennial rhizomatous herb found in the North Coast and Outer North Coast ranges, the Central Coast, and San Francisco Bay area in coastal prairies, lower montane coniferous forest, meadows, seeps, and wetlands. This species is found in mesic sites. Typical Blooming Period: March to May Typical Elevation Range: zero to 1,969 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Juglans hindsii</i> Northern California black walnut	--	S1	1B.1	The northern California black walnut is a perennial deciduous tree found in riparian forest and woodland, often along streams. Typical Blooming Period: April to May Typical Elevation Range: zero to 1,444 feet	HP	There is suitable woodland and forest habitat in the BSA. In addition, this species was observed during project level surveys.
<i>Lasthenia burkei</i> Burke's goldfields	FE	SE	1B.1	The Burke's goldfields is an annual herb found in wet meadows, seeps, and vernal pools.	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species

				Typical Blooming Period: April to June Typical Elevation Range: zero to 1,968 feet		was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE	S1	1B.1	The Contra Costa goldfields is an annual herb found in mesic sites within cismontane woodland and valley and foothill grassland, as well as alkali playas, vernal pools, and wet meadows. Typical Blooming Period: March to June Typical Elevation Range: zero to 1,542 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	--	S2	1B.2	The Delta tule pea is a perennial herb found in freshwater and brackish marshes and swamps including coastal estuarine marshes. Typical Blooming Period: May to August Typical Elevation Range: zero to 98 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Layia septentrionalis</i> Colusa layia	--	S2	1B.2	The Colusa layia is an annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. Colonies of this species are found scattered in fields and grassy slopes on sandy or serpentine soils. Typical Blooming Period: April to May Typical Elevation Range: 98 to 3,593 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Legenere limosa</i> Legenere	--	S2	1B.1	The legenere is an annual herb found in vernal pools and ponds. Typical Blooming Period: April to June Typical Elevation Range: three to 3,117 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Leptosiphon acicularis</i> Bristly leptosiphon	--	S3	4.2	The bristly leptosiphon is an annual herb found in chaparral, cismontane woodland, coastal prairies, and valley and foothill grassland.	HP	There is suitable woodland and annual grassland habitat in the BSA; therefore, although this species was not observed during the biological

				Typical Blooming Period: April to July Typical Elevation Range: zero to 4,921 feet		surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	--	S3	1B.2	Jepson's leptosiphon is an annual herb found in chaparral and cismontane woodland. This species is usually found on volcanic substrates. Typical Blooming Period: March to May Typical Elevation Range: zero to 1,640 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Lessingia hololeuca</i> Woolly-headed lessingia	--	S3	3	The woolly-headed lessingia is an annual herb found in broadleaved upland forest, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. This species is found on roadsides and fields in clay and serpentine soils. Typical Blooming Period: June to October Typical Elevation Range: 33 to 1,969 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Leptosiphon latisectus</i> Broad-lobed leptosiphon	--	S4	4.3	The broad-lobed leptosiphon is an annual herb found in broadleaved upland forest and cismontane woodland. This species is found on open or partially shaded grassy slopes. Typical Blooming Period: April to June Typical Elevation Range: zero to 4,921 feet	HP	There is suitable forest habitat and grassy slopes in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	--	S2	1B.1	The Mason's lilaeopsis is a perennial rhizomatous herb found in freshwater or brackish marshes and swamps, streambanks and riparian scrub. Many populations are ephemeral and establish in newly deposited or exposed sediments. This species is susceptible to being over shaded and requires adequate sunshine.	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

				Typical Blooming Period: June to August Typical Elevation Range: zero to 118 feet		
<i>Lilium rubescens</i> Redwood lily	--	S3	4.2	The redwood lily is a perennial bulbiferous herb found in broadleaved upland forest, lower and upper montane coniferous forest, north coast coniferous forest, and chaparral. This species may be found on serpentine soils. Typical Blooming Period: April to September Typical Elevation Range: 98 to 6,266 feet	HP	There is suitable forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	FE	SE	1B.1	The Sebastopol meadowfoam is an annual herb found in wet meadows, seeps, vernal pools, wetlands, and vernal moist valley and foothill grassland. This species is found on poorly drained soils of clay and sandy loam. Typical Blooming Period: April to May Typical Elevation Range: zero to 1,001 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Lomatium repostum</i> Napa lomatium	--	S3	4.3	The Napa lomatium is a perennial herb found in chaparral and cismontane woodland. This species is found in rocky areas with serpentine soils. Typical Blooming Period: March to June Typical Elevation Range: 295 to 3,314 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Lupinus sericatus</i> Cobb Mountain lupine	--	S2	1B.2	The Cobb Mountain lupine is a perennial herb found in broadleaved upland forest, lower montane coniferous forest, chaparral, and cismontane woodland. This species is often found in gravelly soils on open wooded slopes. The Cobb Mountain lupine may also be found on serpentine soils. Typical Blooming Period: March to June Typical Elevation Range: 1,640 to 5,003 feet	HP	There is suitable woodland and forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.

<i>Micropus amphibolus</i> Mt. Diablo cottonweed	--	S3S4	3.2	The Mount Diablo cottonweed is an annual herb found in broadleaved upland forest, chaparral, cismontane woodland, and valley and foothill grassland. This species is found on shallow, rocky soils (sedimentary or volcanic) on slope openings and ridges. Typical Blooming Period: March to May Typical Elevation Range: 131 to 2,953 feet	HP	There is suitable woodland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Microseris paludosa</i> Marsh microseris	--	S2	1B.2	The marsh microseris is a perennial herb found in cismontane woodland, closed-cone coniferous forest, coastal scrub, and valley and foothill grassland. Typical Blooming Period: April to June Typical Elevation Range: nine to 2,001 feet	HP	There is suitable woodland and annual grassland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Monardella viridis</i> Green monardella	--	S4	4.3	The green monardella is a perennial rhizomatous herb found in broadleaved upland forest, chaparral, and cismontane woodland on serpentine soils. Typical Blooming Period: June to September Typical Elevation Range: 98 to 3,313 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Navarretia cotulifolia</i> Cotula navarretia	--	S4	4.2	The cotula navarretia is an annual herb found in chaparral, cismontane woodland, and valley and foothill grassland. This species is found on adobe soils. Typical Blooming Period: May to June Typical Elevation Range: zero to 6,004 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Navarretia heterandra</i> Tehama navarretia	--	S4	4.3	The Tehama navarretia is an annual herb found in vernal pools, wetlands, and mesic valley and foothill grassland. Typical Blooming Period: April to June	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during

				Typical Elevation Range: zero to 3,609 feet		the typical blooming period for this species.
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	--	S2	1B.1	The Baker's navarretia is an annual herb found in cismontane woodland, lower montane coniferous forest, meadows, seeps, vernal pools, wetlands, and valley and foothill grassland. This species is found on adobe or alkaline soils. Typical Blooming Period: April to July Typical Elevation Range: zero to 5,709 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> Few-flowered navarretia	FE	ST	1B.1	The few-flowered navarretia is an annual herb found in volcanic ash flow vernal pools or vernal pools with a volcanic substrate. Typical Blooming Period: May to June Typical Elevation Range: 1,312 to 2,953 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Navarretia rosulata</i> Marin County navarretia	--	S2	1B.2	The Marin County navarretia is an annual herb found in chaparral and closed-cone coniferous forest. This species can be found in rocky, serpentine areas. Typical Booming Period: May to July Typical Elevation Range: 328 to 2,461 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Penstemon newberryi</i> var. <i>sonomensis</i> Sonoma beardtongue	--	S2	1B.3	The Sonoma beardtongue is a perennial herb found in chaparral. This species is found in crevices of rock outcrops and on talus slopes. Typical Booming Period: April to August Typical Elevation Range: 1,640 to 7,874 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Plagiobothrys strictus</i> Calistoga popcornflower	FE	ST	1B.1	The Calistoga popcornflower is an annual herb found in meadows, seeps, vernal pools, wetlands, and valley and foothill grassland. This species is often found in alkaline sites near thermal springs and on	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during

				margins of vernal pools in heavy, dark adobe-like clay. Typical Booming Period: March to June Typical Elevation Range: 295 to 525 feet		the typical blooming period for this species.
<i>Poa napensis</i> Napa blue grass	FE	SE	1B.1	The Napa blue grass is a perennial herb found in moist alkaline meadows and sterile ground fed by runoff from nearby hot springs. Typical Booming Period: May to August Typical Elevation Range: 328 to 656 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Puccinellia simplex</i> California alkali grass	--	S2	1B.2	The California alkali grass is an annual herb found in chenopod scrub, meadows, seeps, vernal pools, and valley and foothill grassland. This species is found on alkaline and vernal mesic sites. Typical Booming Period: March to May Typical Elevation Range: zero to 8,268 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ranunculus lobbii</i> Lobb's aquatic buttercup	--	S3	4.2	The Lobb's aquatic buttercup is an annual herb found in ponds, vernal pools, wetlands, and mesic conditions within cismontane woodland, north coast coniferous forest, and valley and foothill grassland. Typical Booming Period: February to May Typical Elevation Range: zero to 1,870 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Ribes victoris</i> Victor's gooseberry	--	S4	4.3	The Victor's gooseberry is a perennial deciduous shrub found in broadleaved upland forest and chaparral. Typical Booming Period: March to April Typical Elevation Range: 328 to 2,460 feet	HP	There is suitable forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Sagittaria sanfordii</i>	--	S3	1B.2	The Sanford's arrowhead is a perennial rhizomatous herb found in marshes, swamps, and wetlands. This species is	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species

Sanford's arrowhead				found in standing or slow-moving freshwater ponds, marshes, and ditches. Typical Bloom Period: May to October Typical Elevation Range: zero to 2,132 feet		was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Sidalcea hickmanii</i> ssp. <i>napensis</i> Napa checkerbloom	--	S1	1B.1	The Napa checkerbloom is a perennial herb found in chaparral on rhyolitic substrates. Typical Booming Period: April to June Typical Elevation Range: 1,362 to 2,001 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Sidalcea oregana</i> ssp. <i>hydrophila</i> Marsh checkerbloom	--	S2	1B.2	The marsh checkerbloom is a perennial herb found in meadows, seeps, riparian forest, and wetlands. This species is often found on wet soils or streambanks. Typical Booming Period: July to August Typical Elevation Range: 1,444 to 7,546 feet	HP	There is suitable forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Sidalcea oregana</i> ssp. <i>valida</i> Kenwood marsh checkerbloom	FE	SE	1B.1	The Kenwood Marsh checkerbloom is a perennial rhizomatous herb found in freshwater marshes, swamps, and wetlands. Typical Booming Period: June to September Typical Elevation Range: 377 to 492 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Spergularia macrotheca</i> var. <i>longistyla</i> Long-styled sand-spurrey	--	S1	1B.2	The long-styled sand-spurrey is a perennial herb found in alkaline meadows, seeps, marshes, hot springs, and swamps. Blooming period: February to May Elevation: Zero to 836 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Streptanthus hesperidis</i> Green	--	S2	1B.2	The green jewelflower is an annual herb found in openings in chaparral and cismontane woodland. This species is found	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological

jewelflower				on rocky, serpentine sites. Typical Booming Period: May to July Typical Elevation Range: 427 to 2,492 feet		surveys, which were conducted during the typical blooming period for this species.
<i>Symphotrichum lentum</i> Suisun marsh aster	--	S2	1B.2	The Suisun marsh aster is a perennial rhizomatous herb found in brackish and freshwater marshes and swamps. Typical Booming Period: May to November Typical Elevation Range: zero to 984 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Toxicoscordion fontanum</i> Marsh zigadenus	--	S3	4.2	The marsh zigadenus is a perennial bulbiferous herb found in meadows, seeps, swamps, marshes, wetlands and vernal mesic conditions within chaparral, cismontane woodland, and lower montane coniferous forest. This species is often found on serpentine soils. Typical Booming Period: April to July Typical Elevation Range: zero to 3,280 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Trichostema ruygtii</i> Napa bluecurls	--	S1S2	1B.2	The Napa bluecurls is an annual herb found in chaparral, cismontane woodland, lower montane coniferous forest, vernal pools, wetlands, and valley and foothill grassland. Typical Booming Period: June to October Typical Elevation Range: 98 to 2,231 feet	HP	There is suitable woodland habitat and annual grassland in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Trifolium amoenum</i> Two-forked clover or showy Indian clover	FE	S1	1B.1	The two-forked clover is an annual herb found in coastal bluff scrub and valley and foothill grassland on open sunny slopes, swales, roadsides, and eroding cliff faces. This species typically grows in moist, heavy soils and may sometimes be found on serpentine soils. Previously known from 24 historical observances, the range of the species originally included seven counties	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.

				(Mendocino, Sonoma, Marin, Alameda, Santa Clara, Napa, Solano and Marin Counties). Currently, the population is reduced to one natural population in Marin County, two small experimental populations in Sonoma County, and two experimental populations at Point Reyes National Seashore in Marin County. Typical Booming Period: April to June Typical Elevation Range: 16 to 1,362 feet		
<i>Trifolium hydrophilum</i> Saline clover	--	S2	1B.2	The saline clover is an annual herb found in marshes, swamps, vernal pools, wetlands, and mesic valley and foothill grassland. This species is found on alkaline soils. Typical Booming Period: April to June Typical Elevation Range: zero to 984 feet	A	The habitat preferred by this species is absent; therefore, it is not expected to be in the BSA. In addition, this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species.
<i>Triteleia lugens</i> Dark-mouthed triteleia	--	S4	4.3	The dark-mouthed triteleia is a perennial bulbiferous herb found in broadleaved upland forest, lower montane coniferous forest, chaparral, and coastal scrub. Typical Booming Period: April to June Typical Elevation Range: 328 to 3,280 feet	HP	There is suitable forest habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.
<i>Viburnum ellipticum</i> Oval-leaved viburnum	--	S3	2B.3	The oval-leaved viburnum is a perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest. Typical Blooming Period: May to June Typical Elevation Range: 525 to 4,593 feet	HP	There is suitable woodland habitat in the BSA; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.

Table Key: Absent [A] –vegetation community or habitat requirements were not observed in the BSA during the biological survey. Habitat Present [HP] – There is habitat present within the BSA. Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST); Federal Candidate Species (FC); State Candidate Endangered (SCE), State Candidate Threatened (SCT), Fully Protected (FP); Federally Delisted (FD); State Delisted (SD) Watch List (WL);

State Species of Special Concern (SSC); State Rare (SR); S1 = Critically Imperiled - extreme rarity (often 5 or fewer observations) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California; S2 = Imperiled- rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or California; S3 = Vulnerable- restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation; S4 = Apparently Secure - uncommon but not rare; some cause for long-term concern due to declines or other factors.

California Native Plant Society (CNPS), etc. 1A = Plants presumed extirpated in California and either rare, or extinct elsewhere; 1B= Plant species that are rare, threatened, or endangered in California and elsewhere; 2B= Plant species that are rare, threatened, or endangered in California, but are more common elsewhere; 3= Plants about which we need more information; 4 = Plants of limited distribution; 0.1=seriously threatened in California; 0.2 = moderately threatened in California; and 0.3 = Not very threatened in California.

*Information for the habitat requirements and species range was obtained from the following sources: (CNPS, 2018), (CDFW, 2018b), (Harpel, 2010), (Jepson Herbarium, 2018), (Sawyer, et. al, 2009), (USFWS, 2007), (USFWS, 2009b), and (USFWS, 2012).

Table 3. Special-Status Wildlife with Potential to be in the BSA

Common and Scientific Names	Status		General Habitat Requirements	Habitat Present/Absent	Rational for Species Presence/Absence
	Federal USFWS	State CDFW			
Amphibians					
<i>Ambystoma californiense</i> California tiger salamander	FT	ST	The California tiger salamander is found in cismontane woodland, meadows, seeps, riparian woodland, valley and foothill grassland, vernal pools, and wetland habitats. This species requires underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Dicamptodon ensatus</i> California giant salamander	--	SSC	The California giant salamander is found in or near streams within humid coastal forests, especially in Douglas fir, redwood, red fir, and montane and valley foothill riparian habitats. The current known range of this species is from Mendocino County south to Monterey County, and east to Napa County. Aquatic adults and larvae are found in cold, clear rocky streams, and occasionally in lakes and ponds. Terrestrial adults are found under surface litter, in underground tunnels, wet forests under rocks and logs, and near streams and lakes.	HP	There is suitable riparian and aquatic habitat in the BSA; therefore, there is potential for this species to be in the BSA

<i>Rana boylei</i> Foothill yellow-legged frog	--	SCT	The foothill yellow-legged frog is found in partly shaded, shallow streams, and riffles with rocky substrate in a variety of habitats. Individuals seek cover under rocks in the streams or on shore within a few meters of water. This species is rarely encountered (even on rainy nights) far from permanent water. The foothill yellow-legged frog requires cobble-sized substrate for egg-laying and needs at least 15 weeks to attain metamorphosis.	HP	There is suitable woodland and riparian habitat in the BSA; therefore, there is potential for this species to be in the BSA. In addition, an undocumented foothill yellow-legged frog was observed in 2011 within Dry Creek approximately 0.5 mile downstream of the project (personal communications with County environmental specialist Jeremy Sarrow.)
<i>Rana draytonii</i> California red-legged frog	FT	SSC	The California red-legged frog is found in lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation. Suitable habitat includes freshwater ponds or streams with calm stable water, and good water quality. Seasonal water is required for up to five months to allow for egg laying, hatching and metamorphosis.	HP	There is suitable aquatic, riparian, and forest habitat in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Taricha rivularis</i> Red-bellied newt	--	SSC	The red-bellied newt is found in moist terrestrial habitats, including broadleaved upland forests, north coast coniferous forests, redwoods, riparian forests, and riparian woodlands. Juveniles are generally found underground and adults at the surface. Typically, this species will breed in permanent streams with rapid flow and clean, rocky substrate. This species is often found in coastal drainages from Humboldt County south to Sonoma County, and inland to Lake County. There is an isolated population of uncertain origin in Santa Clara County. This species will migrate over 0.5 mile to breed.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Taricha torosa</i> Coast Range newt	--	SSC	The Coast Range newt is found in coastal drainages from Mendocino County to San Diego County. This species is found primarily in valley foothill hardwood, valley foothill hardwood-conifer, coastal scrub, and mixed chaparral, but can also be found in annual grassland and mixed conifer habitats. The elevation range for	HP	There is suitable woodland and aquatic habitat in the BSA; therefore, there is potential for this species to be in the BSA.

			this species extends from near sea level to 6,000 feet. Breeding and egg-laying take place in intermittent streams, rivers, permanent and semi-permanent ponds, lakes, and large reservoirs. Adults live in terrestrial habitats and typically travel within 3,300 feet to breeding sites. Some few individuals may migrate over 0.5 mile to breed.		
Birds					
<i>Accipiter cooperii</i> Cooper's hawk	--	WL	The Cooper's hawk is found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest. This species nests mainly in riparian growths of deciduous trees, often in canyon bottoms on river flood-plains, and will also nest in live oaks.	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Accipiter striatus</i> Sharp-shinned hawk	--	WL	The sharp-shinned hawk is found in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. This species prefers riparian areas with north-facing slopes, containing plucking perches as critical requirements. Nests are usually within 275 feet of water.	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Agelaius tricolor</i> Tricolored blackbird	--	SCT	The tricolored blackbird is a highly colonial species that is found in freshwater marshes dominated by cattails and bulrushes. This species is most numerous in the Central Valley and vicinity where it forages in fields and farms. This species breeds in large freshwater marshes, in dense strands of cattails or bulrushes. Largely endemic to California, the tricolored blackbird requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Ammodramus savannarum</i> Grasshopper	--	SSC	The grasshopper sparrow is found in dense grasslands on rolling hills, lowland plains, in valleys, and on hillsides on lower mountain	A (Nesting) A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.

sparrow			slopes. This species favors native grasslands with a mix of grasses, forbs, and scattered shrubs.	(Foraging) A	
<i>Aquila chrysaetos</i> Golden eagle	--	FP	The golden eagle is found in broadleaved upland forests, cismontane woodlands, coastal prairies, Great Basin grasslands, Great Basin scrub, lower montane coniferous forest, pinyon and juniper woodlands, upper montane coniferous forests, and valley and foothill grasslands. Cliff-walled canyons provide nesting habitat in most parts of the range and on large trees in open areas. This species often forages over grasslands, marshes, and along rivers.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Ardea alba</i> Great egret	--	S4	The great egret is found in brackish marsh, estuary, freshwater marsh, riparian forests, and wetlands. This species nests colonially in large trees. The rookery sites are located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. The great egret feeds mainly on small fish, but will also eat amphibians, reptiles, small mammals, and invertebrates.	A (Nesting) HP (Foraging)	The nesting habitat preferred by this species is absent but there is suitable foraging habitat within the BSA. Therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.
<i>Ardea herodias</i> Great blue heron	--	S4	The great blue heron nests colonially in tall trees, cliff sides, and sequestered spots on marshes. This species forages in marshes, lake margins, tide flats, rivers, streams, and wet meadows. The rookery sites are in close proximity to foraging areas. Colonies need to be protected from human disturbances, which often cause nest desertion.	A (Nesting) HP (Foraging)	The nesting habitat preferred by this species is absent but there is suitable foraging habitat within the BSA. Therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.
<i>Athene cunicularia</i> Burrowing owl	--	SSC	The burrowing owl is found in open, dry, annual, or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. This species is a subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel. The burrowing owl is also common in disturbed areas, including roadsides, and may develop	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.

			burrows in debris piles. Burrowing owls are opportunistic feeders and prey upon insects, scorpions, small mammals, birds, amphibians, and reptiles.		
<i>Baeolophus inornatus</i> Oak titmouse	--	S4	The oak titmouse is found in oak woodland and pinyon-juniper habitat. This species nests in natural tree cavities or woodpecker holes.	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Buteo regalis</i> Ferruginous hawk	--	WL	The ferruginous hawk is found in grasslands, sagebrush country, saltbrush-greasewood shrublands, and edges of pinyon-juniper forests at low to moderate elevations. This species avoids areas of intensive agriculture, urban, and suburban development and nests on cliffs, outcrops, and in tree groves. When nesting in trees, the nest tree is often isolated, or in a transition zone to an adjacent community. The ferruginous hawk eats mostly lagomorphs (hare-shaped), ground squirrels, and mice.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Buteo swainsoni</i> Swainson's hawk	--	ST	The Swainson's hawk breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. This species requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations. The current distribution of Swainson's hawks is in the Central Valley and northeastern California from Butte Valley east to Nevada, south-central Modoc County, and eastern Lassen County. The range does not extend to the North Coast of California.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Coccyzus americanus occidentalis</i> Western yellow-billed	FT	SE	The western yellow-billed cuckoo breeds in large blocks, or contiguous areas of riparian habitat, primarily cottonwood-willow riparian woodlands. Within California, the species breeds along the Colorado River, in Sacramento	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.

cuckoo			and Owens valleys, along the South Fork of the Kern River in Kern County, along the Santa Ana River in Riverside County, along the Amargosa River in Inyo and San Bernardino Counties, and potentially along the San Luis Rey River in San Diego County. Optimum patches are greater than 200 acres in size and wider than 1,950 feet. Sites smaller than 50 to 100 acres in size and 325 to 65 feet wide are not suitable. This species forages on caterpillars and large insects, and occasionally on small lizards, frogs, eggs, and young birds. The western yellow-billed cuckoo is found in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.		
<i>Coturnicops noveboracensis</i> Yellow rail	--	SSC	The yellow rail is a rare summer California resident of freshwater marshlands in the eastern Sierra Nevada mountains in Mono County. Small numbers winter regularly in a few coastal marshes and the Suisun Marsh region, where the Central Valley merges with the San Francisco Bay estuary. The yellow rail is found in shallow marshes and wet meadows. During the winter, this species is found in drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields. During the summer, the yellow rail is found in large wet meadows or shallow marshes dominated by sedges and grasses.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Cypseloides niger</i> Black swift	--	SSC	The black swift is found in the coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino, and San Jacinto mountains. The black swift is found in cliffs behind or adjacent to waterfalls in deep canyons and on sea-bluffs above the surf. This species eats flying insects, primarily flying ants and beetles, and often forages in small groups.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Egretta thula</i>	--	S4	The snowy egret is found in marshes and	A	The nesting habitat preferred by this

Snowy egret			swamps, meadows and seeps, riparian forest, riparian woodland, and wetlands. This species is a colonial nester with nest sites situated in protected beds of dense tules or within trees or shrubs five to 10 feet up from the ground. Rookery sites are situated close to foraging areas. The snowy egret forages in shallow water for fish, insects, and crustaceans, and may also forage in open fields.	(Nesting) HP (Foraging)	species is absent but there is suitable foraging habitat within the BSA. Therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.
<i>Elanus leucurus</i> White-tailed kite	--	FP	The white-tailed kite is found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. This species favors open grasslands, meadows, or marshes for foraging, close to isolated, dense-topped trees for nesting and perching.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Eremophila alpestris actia</i> California horned lark	--	WL	The California horned lark is found in coastal regions, chiefly from Sonoma County to San Diego County. This species is also found in the main part of San Joaquin Valley and east to the foothills. The California horned lark is found in short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, and alkali flats.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Falco columbarius</i> Merlin	--	WL	The merlin is a winter migrant in California and breeds in Alaska and Canada. This species frequents open habitats at low elevation near water and tree stands. The species favors coastlines, lakeshores, and wetlands.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Falco peregrinus anatum</i> American peregrine falcon	Delisted	FP	The American peregrine falcon can be found near wetlands, lakes, rivers, or other water, on cliffs, banks, dunes, mounds, and human-made structures. Their nests consist of a scrape or a depression or ledge in an open site.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Geothlypis trichas sinuosa</i>	--	SSC	The saltmarsh common yellowthroat is found in the San Francisco Bay region, in fresh and	A (Nesting)	The BSA is outside of the known range for this species; therefore, this species

Saltmarsh common yellowthroat			saltwater marshes. This species requires thick, continuous cover down to the water surface for foraging, and tall grasses, tule patches, and willows for nesting.	A (Foraging)	is not expected to be in the BSA.
<i>Haliaeetus leucocephalus</i> Bald eagle	Delisted	SE	The bald eagle is found in old growth lower montane coniferous forests along ocean shores, lake margins, and rivers for both nesting and wintering. This species nests in large, old-growth, or dominant live trees with open branches, especially ponderosa pine. Most nests are typically within one mile of a water source with abundant fish. This species requires large bodies of water or free flowing rivers with fish and adjacent snags or other hunting perches. The bald eagle roosts communally in winter.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Icteria virens</i> Yellow-breasted chat	--	SSC	The yellow-breasted chat is found in riparian forests, riparian scrub, and riparian woodlands. The yellow-breasted chat nests in low, dense riparian thickets near water courses, consisting of willow, blackberry, and wild grape. This species forages and nests within 10 feet of the ground.	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	--	SSC	The San Pablo song sparrow is found in salt marshes along the north side of San Francisco and San Pablo bays. This bird inhabits tidal sloughs in the Salicornia marshes; and nests in Grindelia bordering slough channels.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Nycticorax nycticorax</i> Black-crowned night heron	--	S4	The black-crowned night heron is a primarily nocturnal or crepuscular species found in marshes, swamps, riparian forests, riparian woodlands, and wetlands. The rookery sites are usually located near aquatic or emergent foraging sites within dense-foliaged trees, dense emergent wetlands, dense shrubbery or vine tangles. Non-breeding roosts may be farther away from nesting sites. This species is a	A (Nesting) HP (Foraging)	The nesting habitat preferred by this species is absent but there is suitable foraging habitat within the BSA. Therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.

			colonial nester, usually in trees, and occasionally in tule patches.		
<i>Pandion haliaetus</i> Osprey	--	WL	The osprey is found near ocean shores, bays, fresh-water lakes, and larger streams. This species builds large nests in tree-tops within approximately 15 miles of a body of water where fish are abundant.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Passerculus sandwichensis alaudinus</i> Bryant's savannah sparrow	--	SSC	The Bryant's savannah sparrow is endemic to California, present only in the narrow coastal strip from Humboldt Bay in the north to the Morro Bay area in the south, with its center of abundance in the San Francisco Bay. This species is found in California coastal prairies and marshes, nesting on the ground in open-cup nests near grass bunches or under matted plants. Bryant's savannah sparrow will forage around the base of plants.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Phalacrocorax auritus</i> Double-crested cormorant	--	WL	The double-crested cormorant is found in riparian forests, riparian scrub, and riparian woodlands. This species is a colonial nester that requires undisturbed nest sites beside water on coastal cliffs, offshore islands, and along lake margins in the interior of the state. The species uses wide rock ledges, rugged slopes, and live or dead trees (preferentially tall ones) for nesting. The double-crested cormorant feeds on fish and other aquatic life near the mid to upper levels of the water.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Progne subis</i> Purple martin	--	SSC	The purple martin is a summer migrant found in broadleaved upland and lower mountain coniferous forests. The purple martin nests in tall, old, isolated trees, or snags in open forest or woodland and in proximity to a body of water. The species frequently nests in old woodpecker cavities but will also nest in human-made structures such as bridges and culverts. Foraging habitats must provide large amounts	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

			of aerial insects.		
<i>Riparia riparia</i> Bank swallow	--	ST	The bank swallow is a migratory, dense colonial nester that is found in lowland and riparian habitats west of the deserts. The majority of the extant breeding populations are found within the Sacramento and Feather river corridors in the north Central Valley. Other colonies persist along the central coast from Monterey to San Mateo counties, and northeastern California in Shasta, Siskiyou, Lassen, Plumas, and Modoc counties. There are no known nesting colonies within Napa County. This species requires near vertical banks or cliffs with fine-textured or sandy soils near streams, rivers, lakes, or the ocean to dig nesting holes. The species forages in locations with high insect biomass, typically in proximity to water, riparian scrub, riparian woodland, and grasslands.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Selasphorus rufus</i> Rufous hummingbird	--	S1S2	The rufous hummingbird is a common migrant and uncommon summer resident in California. In California, this species is known to breed in the Trinity Mountains of Trinity and Humboldt Counties. However, breeding range in the state may extend from the Transition life zone (6,000-9,000 feet) of the northwest coastal area at the Oregon border to southern Sonoma County. This species nests in old growth and north coast coniferous forest habitats in berry tangles, shrubs and conifers. This species prefers to forage in locations with a high density of nectar producing flowers.	A (Nesting) A (Foraging)	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Setophaga petechia</i> Yellow warbler	--	SSC	The yellow warbler is found in riparian plant associations in close proximity to water. This species also nests in montane shrubbery in open conifer forests in the Cascades and Sierra Nevada. The yellow warbler is frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA. In addition, this species was observed during project level surveys.

			cottonwoods (<i>Aigeiros</i> sp.), sycamores (<i>Plantanus</i> sp.), ash (<i>Fraxinus</i> sp.), and alders.		
<i>Spinus lawrencei</i> Lawrence's goldfinch	--	S3S4	The Lawrence's goldfinch is found in valley foothill hardwood and valley foothill hardwood-conifer habitats in northern California and desert riparian, palm oasis, pinon and juniper woodlands, and lower montane habitats in southern California. This species has a narrow breeding range within the woodlands of California and Baja California. This species nests in dense foliage near water in open, arid woodlands with a preference to oaks, but may nest in chaparral. Even within their normal California range, the breeding status and distribution of these goldfinches is poorly understood.	HP (Nesting) HP (Foraging)	There is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Strix occidentalis caurina</i> Northern spotted owl	FT	ST	The northern spotted owl is found in north coast coniferous forest, old-growth, and redwoods. This species is often found in high, multistory canopies dominated by big trees with cavities or broken tops, woody debris, and space under the canopy.	A (Nesting) A (Foraging)	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
Crustaceans					
<i>Caecidotea tomalensis</i> Tomales isopod	--	S2S3	The Tomales isopod is found in several localities from Sonoma to San Mateo counties. This species is found in nearly still to slow-moving, vegetated water, such as from spring-fed ponds.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Calasellus californicus</i> Freshwater isopod	--	S2	The <i>Calasellus californicus</i> is found in Lake, Napa, Marin, Santa Cruz, and Santa Clara counties. This species is found in freshwater habitats including freshwater springs and wells.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Linderiella occidentalis</i> California linderiella	--	S2S3	The California linderiella is found in seasonal pools in unplowed grasslands with old alluvial soils underlain by hardpan or in sandstone depressions. This species is found in pools with	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.

			water of very low alkalinity, conductivity, and total dissolved solids.		
<i>Syncaris pacifica</i> California freshwater shrimp	FE	SE	The California freshwater shrimp is found in select creeks and drainages of Sacramento and San Joaquin flowing waters. This species is endemic to Marin, Napa, and Sonoma counties. The known extant range of Napa County populations includes Garnett Creek, Huichica Creek and its tributaries, and Napa Creek. The species is found in low elevation (typically below 380 feet, with one population found at 580 feet), low gradient streams (less than one percent) where riparian cover is moderate to heavy. Important habitat components include undercut banks, submerged portions of streambank vegetation (overhanging vegetation, emergent vegetation, and fine roots), low water current velocity, and sandy substrate.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
Fish					
<i>Hypomesus transpacificus</i> Delta smelt	FT	SE	The delta smelt is found in the Sacramento-San Joaquin Delta. This species is found seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay. The Delta smelt is most often found at salinities less than two parts per thousand and seldom at salinities greater than 10 parts per thousand.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Hysteroecarpus traski pomo</i> Russian River tule perch	--	SSC	The Russian River tule perch is found in low elevation streams of the Russian River system. The species requires clear, flowing water with abundant submerged cover and pool habitats deeper than three feet.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Lavinia symmetricus</i> ssp. 3 Red Hills roach	--	S1	The Red Hills roach is confined to Six Bit Gulch and its tributary streams, Amber Creek, Horton Creek, Minnow Creek, and Poor Man's Gulch. This species is found in pools and perennial stream reaches fed by springs. During the summer, the species is confined to these few	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.

			localities of perennial water but during higher spring flows, will move upstream to spawn.		
<i>Oncorhynchus kisutch</i> Coho salmon - central California coast ESU	FE	SE	The extant population of the coho salmon – central California coast ESU includes naturally spawned coho salmon originating from rivers south of Punta Gorda in Humboldt County south to Aptos Creek. Historically, the species range included the San Francisco Bay and its tributaries; however, this species is extirpated from all rivers and streams flowing into San Francisco Bay, including Napa River. Coho spend approximately the first half of their life cycle rearing and feeding in streams and small freshwater tributaries. Spawning habitat includes small streams with stable gravel substrates. The remainder of the life cycle is spent foraging in estuarine and marine waters of the Pacific Ocean.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Oncorhynchus mykiss irideus</i> Steelhead - central California coast DPS	FT	S2S3	The central California coast DPS steelhead is found in the Russian River, south to Soquel Creek and to, but not including, Pajaro River. They are also found in the San Francisco and San Pablo Bay basins. Dry Creek has been designated as critical habitat for this species (September 2, 2005).	HP	There is suitable aquatic habitat in the BSA; therefore, there is potential for this species to be in the BSA. In addition, Dry Creek is a known spawning stream and the species has been observed within the BSA by local residents.
<i>Oncorhynchus</i> (=salmo) <i>mykiss</i> Steelhead - northern California DPS	FT	S2S3	The northern California DPS steelhead is inclusively found in coastal basins from Redwood Creek south to the Gualala River. This DPS does not include summer-run steelhead.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Oncorhynchus tshawytscha</i> Chinook salmon - California coastal ESU	FT	S1	The Chinook salmon is found in freshwater streams and migrates (as juveniles) downstream to the ocean to grow and mature. The California coastal Chinook salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.

			of the Klamath River to the Russian River in California.		
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	--	SSC	The Sacramento splittail is endemic to the lakes and rivers of the Central Valley (Sacramento/San Joaquin flowing waters), in slow moving river sections and dead-end sloughs; however it is now confined to the Delta, Suisun Bay and associated marshes. This species requires flooded vegetation for spawning and foraging for young.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Spirinchus thaleichthys</i> Longfin smelt	Candidate	ST	The longfin smelt is found in open waters of estuaries, mostly in the middle or bottom of the water column. This species prefers salinities of 15 to 30 parts per thousand (ppt) but can be found in completely freshwater to almost pure seawater.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
Invertebrates					
<i>Bombus caliginosus</i> Obscure bumble bee	--	S1S2	The obscure bumble bee is found in open grassy coastal prairies and coast range meadows. This species nests underground in abandoned rodent nests as well as above ground in abandoned bird nests, tufts of grass, rock piles, or cavities in dead trees. This species is classified as a medium long-tongued species, whose food plants include <i>Ceanothus</i> , <i>Cirsium</i> , <i>Clarkia</i> , <i>Keckiella</i> , <i>Lathyrus</i> , <i>Lotus</i> , <i>Lupinus</i> , <i>Rhododendron</i> , <i>Rubus</i> , <i>Trifolium</i> , and <i>Vaccinium</i> . Napa County is within the historic range of the species; however, Napa County is outside the current known range of the species. The species is believed to be possibly extinct from within a large portion of its historic range, including Napa County, and western portions of Sonoma County.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Bombus crotchii</i> Crotch bumble	--	S1S2	The Crotch bumble bee is found in open grassland and scrub habitats in coastal California east to the Sierra-Cascade crest and	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.

bee			south into Mexico. This species nests underground in abandoned rodent burrows or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. Food plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .		
<i>Bombus occidentalis</i> Western bumble bee	--	S1	The western bumble bee is a generalist forager of a wide variety of flowering plants. This species typically nests underground in abandoned rodent burrows or other cavities in open west-southwest slopes bordered by trees, but a few nests have been reported from above-ground locations such as in logs among railroad ties.	HP	There are suitable foraging habitat and nesting cavities in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	--	S2	The Ricksecker's water scavenger beetle is found in shallow water in Alameda, Marin, San Mateo, and Sonoma Counties and the San Francisco Bay; the known range does not include Napa County. Scavenger beetles are found in freshwater seeps, springs, farm ponds, slow moving streams, and large vernal pools. The adults can fly but are aquatic, as are the larvae.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
<i>Hydroporus leechi</i> Leech's skyline diving beetle	--	S1	The leech's skyline diving beetle is found in several counties in California, including San Mateo, Marin, Sonoma, Inyo, and Siskiyou; the known range does not include Napa County. The known habitat for this species is pond shores.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.
Mammals					
<i>Antrozous pallidus</i> Pallid bat	--	SSC	The pallid bat is found year around in a variety of low-elevation habitats in most parts of California, including grasslands, shrublands, woodlands, and forests. This species is thought to prefer open, dry habitats with rocky areas for roosting. The pallid bat day roosts in caves, crevices, mines, and hollow trees, buildings,	HP	There is suitable roosting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

			and bridges, and night roosts in more open sites, such as porches, open buildings and bridges. Roosts must protect bats from high temperatures, and this species will move deeper into cover if temperatures rise. The pallid bat is highly sensitive to disturbance.		
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	--	SSC	The Townsend's big-eared bat is found in a variety of habitat types throughout California, including coniferous forests, deserts, native prairies, riparian communities, agricultural areas, and coastal habitats. This species is thought to be most abundant in mesic habitats. The Townsend's big-eared bat roosts in caves and cave-like structures, such as exposed cavity-forming rock and mines. This species will also roost in human structures such as attics and barns, and has been found on occasion in bridges. Townsend's big-eared bats prefer to roost in large rooms and do not use crevices. The Townsend's big-eared bat is extremely sensitive to human disturbance.	HP	There is suitable roosting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.
<i>Erethizon dorsatum</i> North American porcupine	--	S3	The North American porcupine is found in broadleaved upland forests, cismontane woodlands, closed-cone coniferous forest, lower montane coniferous forest, north coast coniferous forest, and upper montane coniferous forests in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. This species dens in caves, crevices in rocks, cliffs, hollow logs, snags, and burrows of other animals; however, they will use dense foliage in trees if other sites are unavailable. Den sites are typically used during the cold winter months and are frequently move between a several different sites.	HP	There is suitable woodland habitat in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Lasionycteris noctivagans</i>	--	S3S4	The silver-haired bat is found in coastal and montane coniferous forests, valley foothill	HP	There is suitable valley foothill woodland habitat for roosting and

Silver-haired bat			woodlands, pinyon-juniper woodlands, and valleys. This species has been recorded throughout California, with a concentration in northern California. The silver-haired bat roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Females may form nursery colonies or may be a solitary individual in dense foliage or hollow trees. This species is thought to need roosting sites in close proximity to water.		foraging in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Lasiurus blossevillii</i> Western red bat	--	SSC	The western red bat roosts in forests and woodlands from sea level up through mixed conifer forests. This species roosts primarily in trees, sometimes shrubs; roost sites often are in edge habitats adjacent to streams, fields, or urban areas. This species forages over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands.	HP	There is suitable woodland habitat for roosting and foraging in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Myotis ciliolabrum</i> Western small-footed myotis	--	S3	The western small-footed myotis is found in a wide range of habitats and is generally found in arid woodlands and brushy upland areas near water. This species prefers open stands in forests and woodlands and seeks cover in caves, buildings, mines, and crevices.	HP	There is suitable woodland habitat for foraging and buildings for roosting in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Myotis evotis</i> Long-eared myotis	--	S3	The long-eared myotis is found in all brush, woodland, and forest habitats from sea level to about 9,000 feet. This species prefers coniferous woodlands and forests. Nursery colonies may be located in buildings, crevices, spaces under bark, and snags. Caves are used primarily as night roosts.	HP	There is suitable woodland habitat for roosting and foraging in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Myotis thysanodes</i> Fringed myotis	--	S3	The fringed myotis is found in a wide variety of habitats, but optimal habitats are pinyon-juniper, valley foothill hardwood, and hardwood-conifer. This species uses caves, mines, buildings, or crevices for maternity colonies and roosts.	HP	There is suitable woodland habitat for foraging and buildings for roosting in the BSA; therefore, there is potential for this species to be in the BSA.

<i>Myotis volans</i> Long-legged myotis	--	S3	The long-legged myotis is most common in woodland and forest habitats above 4,000 feet. Trees are important day roosts; caves and mines are used for night roosting. Nursery colonies usually are located under bark or in hollow trees, but will occasionally be in crevices or buildings.	HP	There is suitable woodland habitat for roosting and foraging in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Myotis yumanensis</i> Yuma myotis	--	S4	The Yuma myotis is common in California. Optimal habitats for this species are open forests and woodlands with sources of water over which to feed, but this species has been documented in many urban areas. This species roosts in buildings, mines, caves, or crevices. The species also has been seen roosting in abandoned swallow nests and under bridges. Separate, often more open, night roosts may be used.	HP	There is suitable woodland habitat for roosting and foraging in the BSA; therefore, there is potential for this species to be in the BSA.
<i>Taxidea taxus</i> American badger	--	SSC	The American badger is found in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. This species needs sufficient food, friable soils and open, uncultivated ground. The American badger feeds on burrowing rodents, reptiles, and insects and digs burrows.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
Mollusks					
<i>Anodonta californiensis</i> California floater	--	S2	The California floater is typically found in low elevation freshwater lakes, ponds, and slow-moving large rivers with mud or sand substrates and steady water levels; however, this species has been found in rivers and creeks with gravel substrates. This species is generally found in shallow water in Arizona, California, Idaho, Nevada, Oregon, Utah, Washington, and Wyoming. This species requires a host fish to complete reproduction and dispersal.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.

<i>Anodonta oregonensis</i> Oregon floater	--	S2	The Oregon floater is found in aquatic habitats. This species is found in Oregon, Washington, Idaho, northern California, and Alaska on low elevation ponds, lakes, creeks, reservoirs, and rivers. Species in the <i>Anodonta</i> genus prefer the softer substrates, such as sand and silt, which are characteristic of permanently flooded wetlands, lakes, and reservoirs. This species requires a host fish to complete reproduction and dispersal.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
<i>Gonidea angulata</i> Western ridged mussel	--	S1S2	The western ridged mussel is a sedentary, long lived mollusk found primarily in creeks and rivers. The species is found on the bottom of streams, rivers and lakes with substrates that vary from gravel to firm mud, and include at least some sand, silt or clay. Low shear stress (stress caused by fast flowing water over substrate), substrate stability, and flow refuges are important determinants of freshwater mussel survival. This species was originally found within most of the state but is likely now extirpated from Central and southern California. This species is often present in areas with seasonally turbid streams, but absent from areas with continuously turbid water. This species requires a host fish to complete reproduction and dispersal.	A	The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.
Reptiles					
<i>Chelonia mydas</i> Green sea turtle; East Pacific DPS	FT	S1	The green sea turtle, East Pacific DPS, is found in fairly shallow waters inside reefs, bays, and inlets. This species is attracted to lagoons and shoals where there is an adequate supply of seagrasses and algae. This species nests on open beaches with a sloping platform and minimal disturbance. The turtles have a strong nesting site fidelity and often make long distance migrations between their feeding grounds and nesting sites.	A	The BSA is outside of the known range for this species; therefore, this species is not expected to be in the BSA.

<p><i>Emys marmorata</i> Western pond turtle</p>	<p>--</p>	<p>SSC</p>	<p>The western pond turtle is a fully aquatic turtle found in slow moving rivers, streams, lakes, ponds, wetlands, reservoirs, brackish estuarine waters, and irrigation ditches. This species prefers areas that provide logs, algae, or vegetation for cover, and boulders for basking. The western pond turtle requires well vegetated upland refuge sites to escape predators or high-water levels. Nesting habitat for this species is generally along south-facing slopes within 16 to 300 feet of water. This species is generally found below 6,000 feet elevation.</p>	<p>A</p>	<p>The habitat preferred by this species is absent; therefore, this species is not expected to be in the BSA.</p>
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Table Key: Absent [A] – The plant species/vegetation community or habitat requirements were not observed in the BSA during the biological survey. Habitat Present [HP] – There is habitat present within the BSA. Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST); Federal Candidate Species (FC); State Candidate Endangered (SCE), State Candidate Threatened (SCT), Fully Protected (FP); Federally Delisted (FD); State Delisted (SD) Watch List (WL); State Species of Special Concern (SSC); State Rare (SR); S1 = Critically Imperiled - extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California; S2 = Imperiled- rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or California; S3 = Vulnerable- restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation; S4 = Apparently Secure - uncommon but not rare; some cause for long-term concern due to declines or other factors.

** Information for the habitat requirements and species range was obtained from the following sources: (CDFW, ND), (CDFW, 2017), (ICUN Red List of Threatened Species, 2017a), (ICUN Red List of Threatened Species, 2017b), (NatureServe, 2017a), (NatureServe, 2017b), (NMFS, 2013a), (NMFS, 2013b), (NMFS, 2013c), (NMFS, 2013d), (NMFS, 2016a), (NMFS, 2016b), (NMFS, 2012), (USFWS, 2011), (USFWS, 1998), (Xerces Society, 2017), and (Zeiner et. al., 1988-1990).*

Chapter 4 - Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

4.1.1 JURISDICTIONAL FEATURES

Survey Results

United States Army Corps of Engineers

The BSA was evaluated for waters under jurisdiction of the USACE by delineating the OHWM of existing waterways and determining connectivity of waterways within the BSA to navigable waters. The BSA was also evaluated for jurisdictional wetlands, which are identified by determining the presence of wetland vegetation, hydrology, and hydric soils. Dry Creek and its tributaries flow to the Napa River, and are expected to fall under USACE jurisdiction. The USACE will have final authority and discretion as to whether this area meets the “significant nexus” criteria required to establish USACE jurisdiction over these waterways.

Approximately 0.02 acre of wetlands and 0.10 acre of non-wetland waters under jurisdiction of the USACE was delineated within the BSA (see **Figure 7** and **Table 4**).

Table 4. Jurisdictional Waters in the BSA

Jurisdictional Feature	Total Jurisdiction (acres)
United States Army Corps of Engineers Wetlands	0.02
United States Army Corps of Engineers Non-Wetland Waters	0.10
Regional Water Quality Control Board Wetlands	0.02
Regional Water Quality Control Board Non-Wetland Waters	0.10
California Department of Fish and Wildlife	0.80

The USACE has final authority and discretion over the extent of wetlands and waters of the U.S. under USACE jurisdiction, final determination of total jurisdictional area affected by a project, and type of permits and conditions required. No discharge of dredged or fill material into USACE jurisdictional areas is permitted unless authorized by a Section 404 Nationwide Permit or Individual Permit issued by the USACE.

Regional Water Quality Control Board

The BSA was evaluated for waters under jurisdiction of the RWQCB by delineating the OHWM of the existing waterways. Dry Creek had surface waters at the time of the surveys; therefore, it is expected to fall under RWQCB jurisdiction (see **Figure 7** and **Table 4**). Approximately 0.02 acre of wetlands and 0.10 acre of non-wetland waters under the jurisdiction of the RWQCB was delineated in the BSA.

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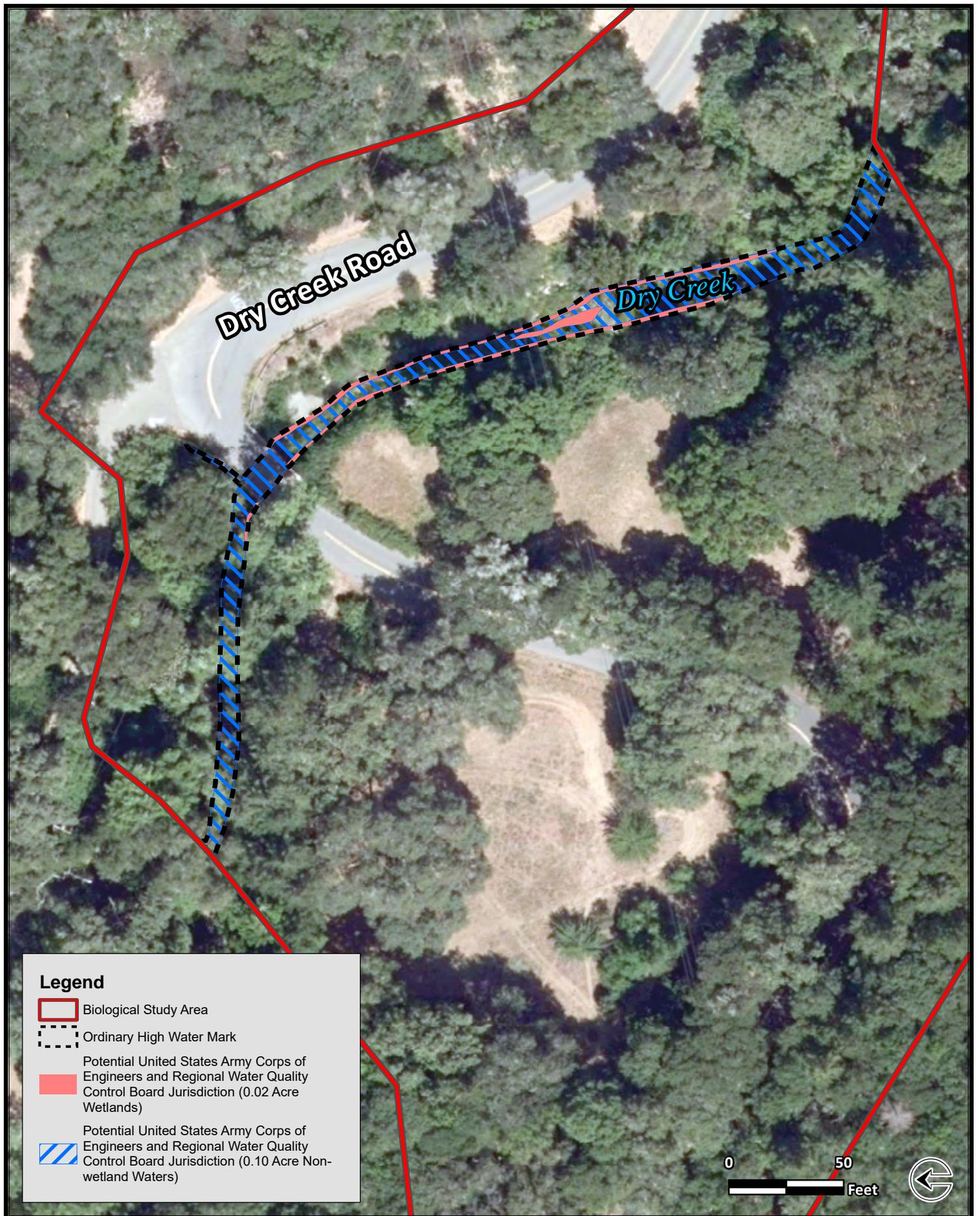


FIGURE 7. POTENTIAL UNITED STATES ARMY CORPS OF ENGINEERS AND REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION Dry Creek Bridge Replacement Project

California Department of Fish and Wildlife

The BSA was evaluated for waters under jurisdiction of the CDFW by delineating areas from the top of bank to top of bank and associated riparian vegetation. There is California Bay Forest, considered a riparian community, on the banks adjacent to Dry Creek. Within the BSA, Dry Creek has a defined bed and bank and supports vegetation; therefore, Dry Creek and the adjacent riparian vegetation are expected to fall under CDFW jurisdiction. Approximately 0.80 acre under jurisdiction of the CDFW was delineated within the BSA which includes the bed, bank, channel of Dry Creek and California Bay Forest (see **Figure 8** and **Table 4**).

Project Impacts

The project would include the construction of a new single span bridge, new roadway encroachment, and demolition of the existing bridge over Dry Creek (and associated roadway) which would result in temporary and permanent impacts on jurisdictional waters.

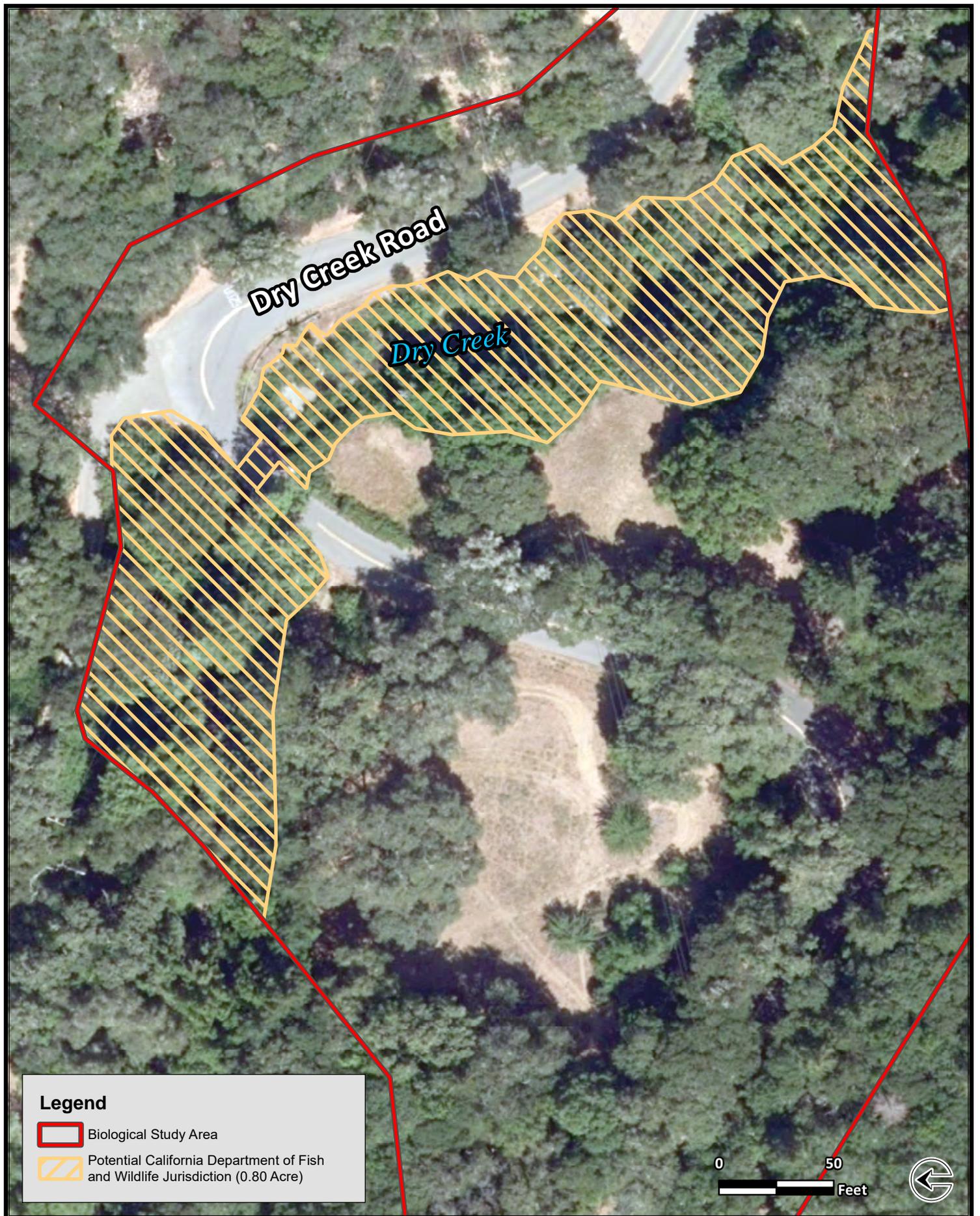
Dry Creek has year-round flow; therefore, a water diversion may be required to work inside the wetted portion of the channel for the new bridge construction, existing bridge removal, and bank and channel re-establishment. Equipment access required to place RSP along the new abutments, and construction of the new bridge, would also result in temporary impacts. During demolition of the old bridge, the bank slopes would be re-contoured and stabilized to prevent scour. Bank stabilization would be conducted using a “soil-burrito” method, a combination of rolled biodegradable fabrics with native soils, which would be planted with native cuttings to promote riparian growth. In addition, construction materials, dust, and debris could result in temporary indirect impacts on water quality if materials were to enter flowing water within the channel during vegetation removal, bridge construction, bridge removal, and bank and channel re-establishment efforts.

Construction activities, including water diversion, vegetation removal, new bridge construction, old bridge removal, slope stabilization efforts and excavation in the creek channel to support the installation of RSP, would result in temporary impacts on approximately 0.01 acre of wetlands and approximately 0.05 acre of non-wetland waters under jurisdiction of the USACE and RWQCB. In addition, the project would result in temporary impacts on approximately 0.34 acre under jurisdiction of the CDFW (see **Figure 9**, **Figure 10** and **Table 5**).

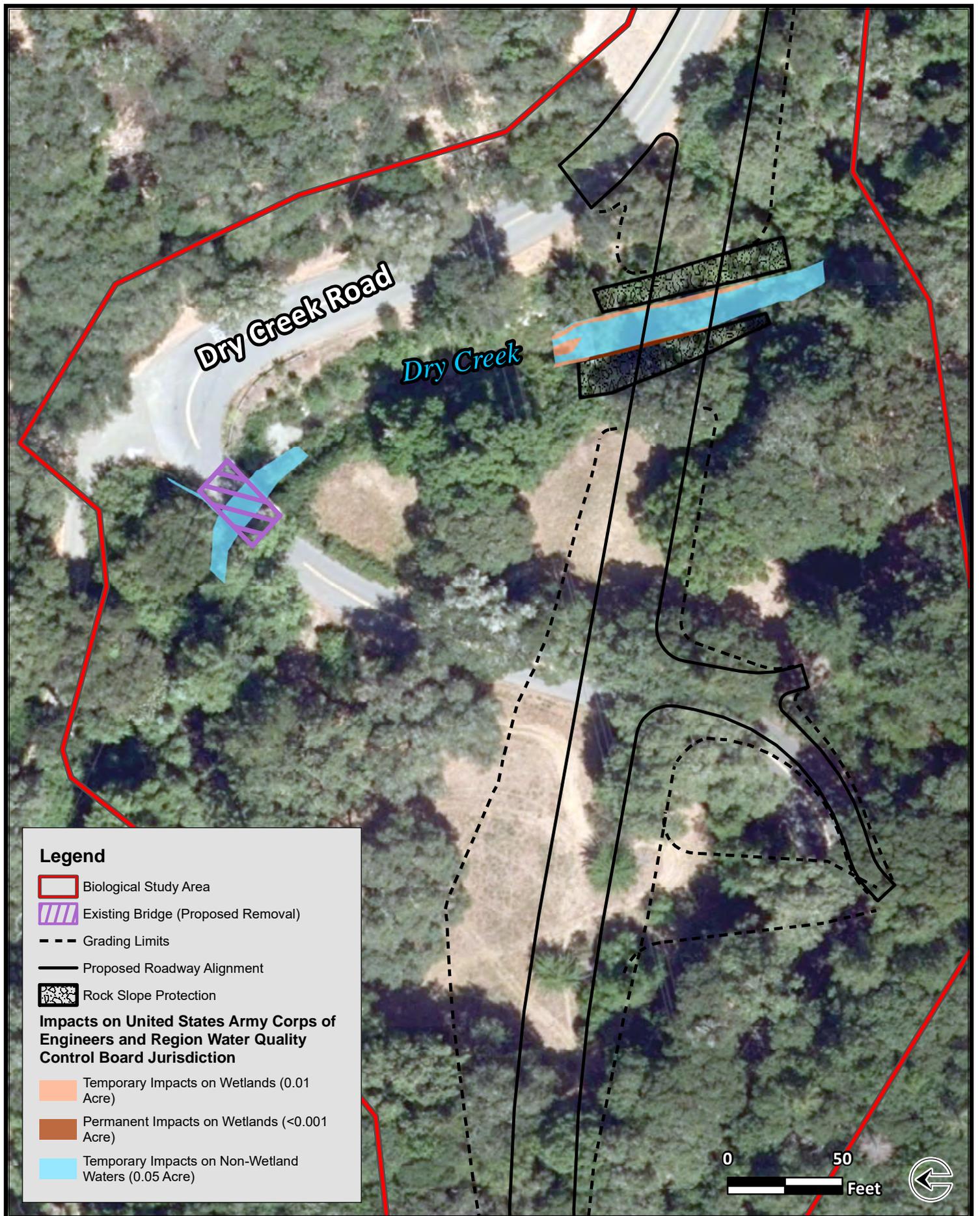
Table 5. Temporary Jurisdictional Impacts

Jurisdictional Feature	Temporary Impacts (acres)
United States Army Corps of Engineers Wetlands	0.01
United States Army Corps of Engineers Non-Wetland Waters	0.05
Regional Water Quality Control Board Wetlands	0.01
Regional Water Quality Control Board Non-Wetland Waters	0.05
California Department of Fish and Wildlife	0.34

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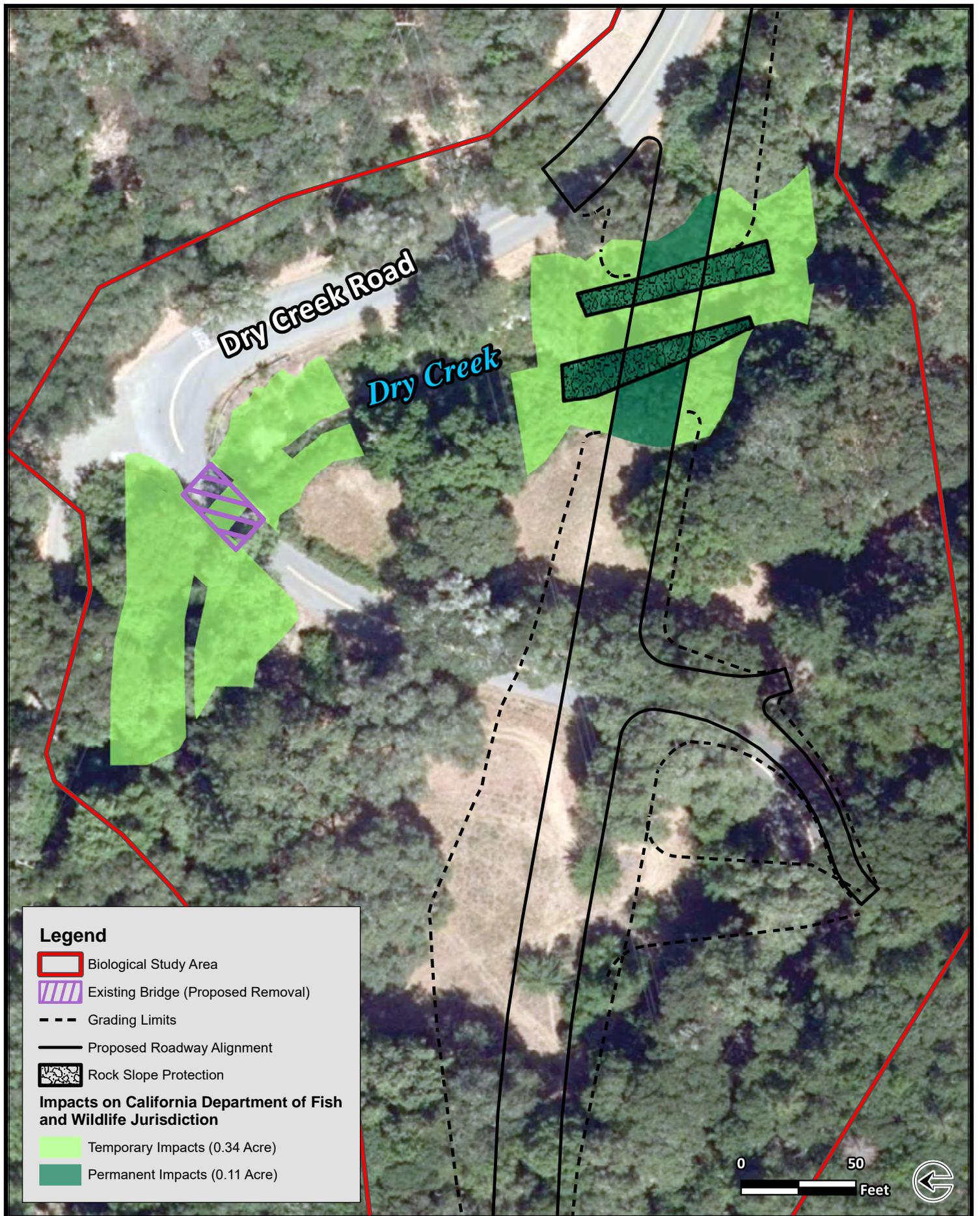


**FIGURE 8. POTENTIAL CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION
Dry Creek Bridge Replacement Project**



**FIGURE 9. IMPACTS ON UNITED STATES ARMY CORPS OF ENGINEERS AND REGIONAL WATER QUALITY CONTROL BOARD JURISDICTION
Dry Creek Bridge Replacement Project**





**FIGURE 10. IMPACTS ON CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE JURISDICTION
Dry Creek Bridge Replacement Project**



Based on current design, the RSP would be placed within the OHWM and keyed into the bank slopes. Following placement of the RSP, the slope would be re-vegetated using willow cuttings to provide additional slope stabilization. Permanent impacts within the OHWM are anticipated from the placement of RSP along the new abutments, which would result in permanent impacts of less than 0.001 acre on wetlands under the jurisdiction of the USACE and RWQCB. Construction of the new roadway approach and placement of the RSP would result in approximately 0.11 acre of permanent impacts on riparian habitat under jurisdiction of the CDFW (see **Figure 9**, **Figure 10** and **Table 6**).

Table 6. Permanent Jurisdictional Impacts

Jurisdictional Feature	Permanent Impacts (acres)
United States Army Corps of Engineers Wetlands	<0.001
United States Army Corps of Engineers Non-Wetland Waters	--
Regional Water Quality Control Board Wetlands	<0.001
Regional Water Quality Control Board Non-Wetland Waters	--
California Department of Fish and Wildlife	0.11

Although the project would result in impacts on jurisdictional features, the project would be conducted in compliance with applicable water quality and dust control regulations and regulatory permits. With the implementation of the proposed avoidance and minimization measures listed below, adverse impacts on jurisdictional features would be minimized.

Avoidance and Minimization Efforts

To avoid and/or minimize potential impacts on jurisdictional wetlands and waters, the following measures would be implemented:

- Work areas would be reduced to the maximum extent feasible.
- Equipment staging and storage areas for vehicles, equipment, material, fuels, lubricants, and solvents would be restricted to designated areas located a minimum of 100 feet away from Dry Creek and the adjacent riparian corridor.
- Best management practices (BMP), such as silt fencing, fiber rolls, straw bales, or other measures would be implemented during construction to minimize dust, dirt, and construction debris from entering the creek and drainage features, and/or leaving the construction area.
- Appropriate hazardous material BMPs would be implemented to reduce the potential for chemical spills or contaminant releases into the creek and drainage features including any non-stormwater discharge.
- Removal of riparian vegetation would be avoided to the maximum extent possible. Prior to construction, high visibility Environmentally Sensitive Area (ESA) protective fencing would be installed at the limits of construction to prevent construction staff or equipment from further encroaching on Dry Creek or the adjacent riparian community.

- All equipment refueling, and maintenance would be conducted in the staging area away from the creek and drainage features. In addition, vehicles and equipment would be checked daily for fluid and fuel leaks, and drip pans would be placed under all equipment that is parked and not in operation. Any leaking vehicle or equipment would not be operated at the project site until repaired. All workers would be informed of the importance of preventing spills and the appropriate measures to take should a spill happen.
- Stationary equipment such as motors, pumps, generators, compressors, and welders located within 100 feet of Dry Creek would be positioned over drip-pans, including when in operation.
- Any temporary erosion control implemented during construction would be completed using non-invasive species. At project completion, all temporarily disturbed areas would be re-contoured to the pre-construction condition and re-vegetated using native species.

Compensatory Mitigation

To mitigate impacts on jurisdictional features, the following measure will be implemented:

- Mitigation for permanent impacts on riparian habitat will be accomplished through the purchase of in-lieu fees, on-site mitigation, or purchase of mitigation bank credits. Mitigation will be at a minimum ratio of 2:1 for permanent impacts and 1:1 for temporary impacts; however, the final ratio will be established through consultation and coordination with regulatory agencies during the permitting process.

4.1.2 OAK WOODLANDS

Survey Results

Napa County is reported to have the highest density of oak woodlands in California, with approximately 33 percent of the county vegetated by oak woodlands (Napa County, 2013). The removal of oak woodland habitat is of concern to the County because oak trees provide slope stabilization, soil protection, species diversity, and wildlife habitat. Impacts on oak communities are also a concern in California because previous development has resulted in large-scale losses of oak woodlands. Other key threats include increased competition with weedy grasses, fires, livestock overgrazing, soil compaction, global climate change, and diseases, including sudden oak death (Audubon, 2018). Within the BSA, there is oak woodland habitat, Mixed Oak Forest, along the proposed roadway alignment and new bridge relocation site.

Project Impacts

The project would include construction of a new single span bridge, new roadway encroachment, and demolition of the existing bridge over Dry Creek (and associated roadway), which would result in temporary and permanent impacts on oak woodlands, the Mixed Oak Forest community.

The project would require vegetation removal and ground disturbance within the Mixed Oak Forest community surrounding the existing bridge and the proposed roadway alignment. Construction activities associated with the cut/fill of the roadway alignment and equipment access would result in approximately 0.74 acre of temporary impacts on the Mixed Oak Forest community (see **Figure 11**). Although project impacts on the Mixed Oak Forest community would be temporary, any removal of an established and mature oak woodland habitat would result in a long

temporal loss of function. Planting juvenile saplings within a disturbed oak woodland can take decades to restore the functions of the removed mature trees, such as the California black oak and oracle oak, which typically take 30 years to begin producing acorns (USFS, 2007).

To accommodate the new road, driveway improvements, and the 6-foot roadway maintenance buffer required by the County, would result in approximately 0.47 acre of permanent impacts on the Mixed Oak Forest community (see **Figure 11**).

With the implementation of the proposed avoidance and minimization measures, adverse impacts on oak woodlands, the Mixed Oak Forest community, would be substantially minimized.

Avoidance and Minimization Efforts

To avoid and/or minimize impacts on oak woodlands, the following measures would be implemented:

- Removal of oak woodlands would be avoided to the maximum extent possible. Prior to construction, high visibility ESA protective fencing would be installed at the limits of construction to prevent construction staff or equipment from further encroaching on oak woodlands.
- Individual oak trees would be avoided to the maximum extent possible. Prior to construction, high visibility ESA protective fencing would be preferentially installed a minimum of two feet beyond the driplines of native oak trees to be protected in place.
- Demolition and asphalt grinding of the existing road would be completed from within the footprint of the existing roadbed to avoid additional impacts on oak woodlands adjacent to the existing roadbed. This restriction excludes bridge demolition and areas within grading limits.
- Temporary disturbances on the Mixed Oak Forest community would be re-vegetated with locally native species, as feasible.

Compensatory Mitigation

Although the project would have impacts on the Mixed Oak Forest community, with implementation of avoidance and minimization measures, there would be no adverse impacts, and mitigation is not proposed.

4.2 Special-Status Plant Species

According to the CNDDDB and USFWS search, 93 special-status plant species have the potential to be in the BSA based on recorded geographical distribution. Based on research regarding habitat requirements, 19 of the special-status plant species have the potential to be in the project area (see **Table 2**).

Survey Results

Napa False Indigo

The Napa false indigo is considered a CDFW state rank S2 (imperiled- rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or California) and CNPS 1B.2 species (plant species that are rare, threatened, or endangered in California and elsewhere and moderately threatened in

California). This species is a perennial deciduous shrub found in openings of broadleaved upland forest, chaparral, and cismontane woodland. This species is typically found at elevations between 98 to 2,411 feet above msl and the typical blooming period is from April to July.

There is suitable forest and woodland habitat in the BSA for the Napa false indigo. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Bent Flowered Fiddleneck

The bent-flowered fiddleneck is considered a CDFW state rank S2S3 (imperiled- rarity due to very restricted range, very few populations [often 20 or fewer], steep declines, or other factors making it very vulnerable to extirpation from the nation or state/ vulnerable- restricted range, relatively few populations [often 80 or fewer], recent and widespread declines, or other factors making it vulnerable to extirpation) and CNPS 1B.2 species. This species is an annual herb found in cismontane woodland, valley and foothill grassland, and coastal bluff scrub. The bent-flowered fiddleneck is typically found at elevations between nine and 2,608 feet above msl and the typical blooming period is from March to June.

There is suitable woodland and non-native annual grassland habitat in the BSA for the bent-flowered fiddleneck. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Slender Silver Moss

The slender silver moss is considered a CDFW state rank S2 and CNPS 4.2 species (plants of limited distribution and moderately threatened in California). This species is a bryophyte found in broadleaved upland forest, lower montane coniferous forest, and north coast coniferous forest communities on damp rocks and soil, granitic crevices, cliff crevices, and is usually seen on road cuts. This species is typically found at elevations from 328 to 3,280 feet above msl (CNPS Rare Plant Program, 2018; Harpel, 2010).

There is suitable forest habitat in the BSA for the slender silver moss. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Big-Scale Balsamroot

The big-scale balsamroot is considered a CDFW state rank S2 and CNPS 1B.2 species. This species is a perennial herb found in chaparral, cismontane woodland, and valley and foothill grassland. This species is sometimes found in serpentine soils. The big-scale balsamroot is typically found at elevations between 114 and 4,806 feet above msl and the typical blooming period is from March to June.

There is suitable woodland and non-native annual grassland habitat in the BSA for big-scale balsamroot. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

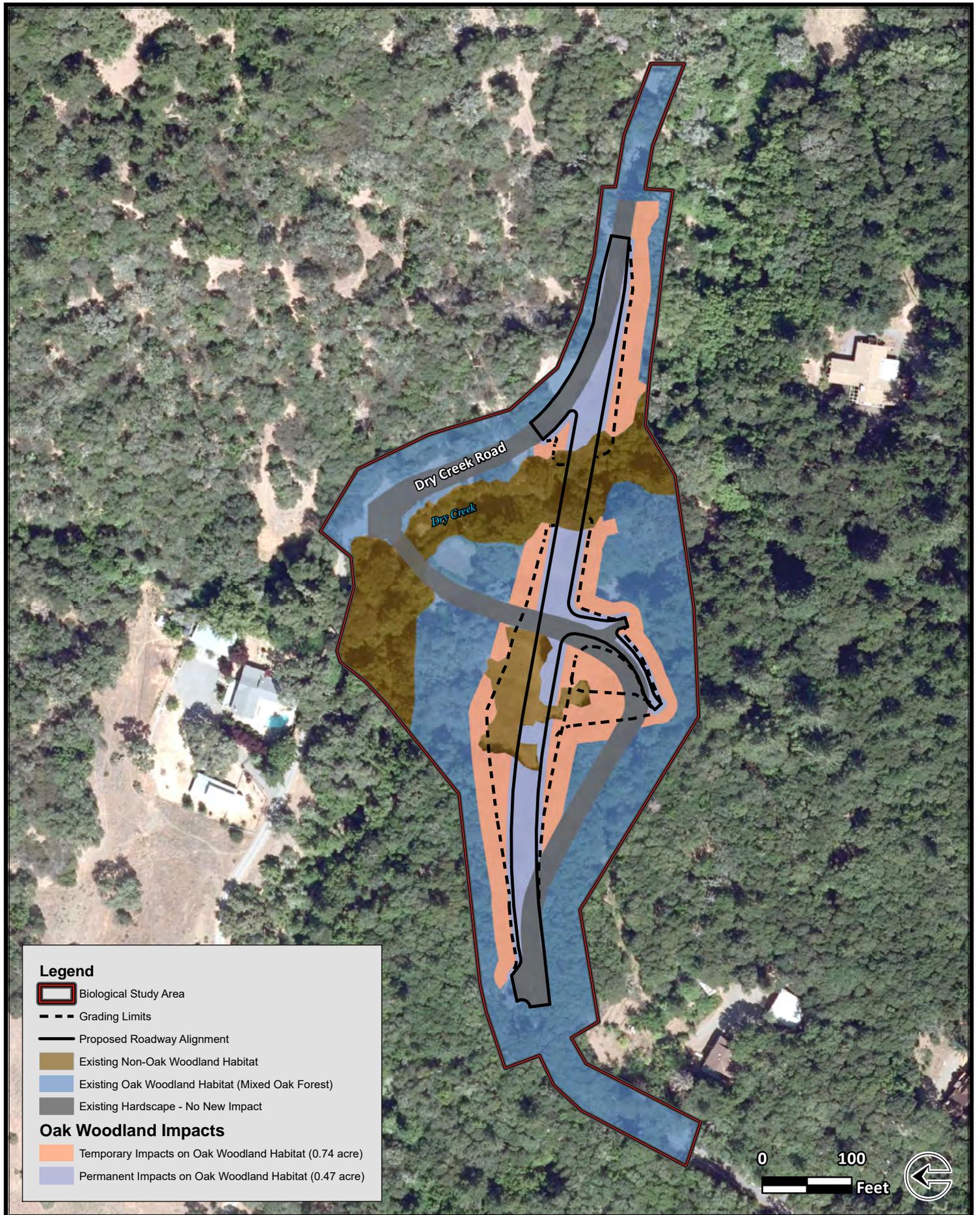


FIGURE 11. IMPACTS ON OAK WOODLAND HABITAT
Dry Creek Bridge Replacement Project



Streamside Daisy

The streamside daisy is considered a CDFW state rank S3 and CNPS 3 species (plants about which we need more information). This species is a perennial herb found in broadleaved upland forest, north coast coniferous forest, and cismontane woodland on dry slopes, rocks, and ledges along rivers. This species is typically found at elevations between 98 and 3,608 feet above msl and the typical blooming period is from June to October.

There is suitable forest and woodland habitat in the BSA for the streamside daisy. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Congested-Headed Hayfield Tarplant

The congested-headed hayfield tarplant is considered a CDFW S1S2 species (critically Imperiled - extreme rarity (often five or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California/ imperiled- rarity due to very restricted range, very few populations [often 20 or fewer], steep declines, or other factors making it very vulnerable to extirpation from the nation or state) and CNPS 1B.2 species. This species is an annual herb found in valley and foothill grassland, often along roadsides, at elevations typically between 65 and 1,837 feet above msl. The congested-headed typically blooms from April to November.

There is suitable grassland habitat in the BSA for the congested-headed hayfield tarplant. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Harlequin Lotus

The harlequin lotus is considered a CDFW state rank S3 and CNPS 4.2 species. This species is a perennial rhizomatous herb found in broadleaved upland forest, closed-cone coniferous forest, north coast coniferous forest, wetlands, cismontane woodland, coastal scrub, coastal bluff scrub, coastal prairie, marshes, meadows, seeps, swamps, and valley and foothill grassland. This species is often found along roadsides typically at elevations between zero and 2,296 feet above msl. The harlequin lotus typically blooms from March to July.

There is suitable forest, woodland, and annual grassland habitat in the BSA for the harlequin lotus. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Northern California Black Walnut

The northern California black walnut is considered a CDFW state rank S1 and CNPS 1B.1 species. This species is a perennial deciduous tree found in riparian forest and woodland, often along streams at elevations typically between zero and 1,444 feet above msl. The northern California black walnut typically blooms from April to May.

There is suitable woodland and forest habitat in the BSA for the northern California black walnut. In addition, this species was observed during the biological surveys within the BSA.

Bristly Leptosiphon

The bristly leptosiphon is considered a CDFW state rank S3 and CNPS 4.2 species. This species is an annual herb found in chaparral, cismontane woodland, coastal prairies, and valley and foothill grassland at elevations typically between 180 and 4,921 feet above msl. The bristly leptosiphon typically blooms from April to July.

There is suitable woodland and annual grassland habitat in the BSA for the bristly leptosiphon. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Redwood Lily

The redwood lily is considered a CDFW state rank S3 and CNPS 4.2 species. This species is a perennial bulbiferous herb found in broadleaved upland forest, lower and upper montane coniferous forest, north coast coniferous forest, and chaparral, and may be found on serpentine soils. The redwood lily is typically found at elevations between 98 and 6,266 feet above msl and typically blooms from April to August.

There is suitable forest habitat in the BSA for the redwood lily. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Cobb Mountain Lupine

The Cobb Mountain lupine is a CDFW state rank S2 and CNPS 1B.2 species. This species is a perennial herb found in broadleaved upland forest, lower montane coniferous forest, chaparral, and cismontane woodland. This species is often found in gravelly soils on open wooded slopes. The Cobb Mountain lupine may also be found on serpentine soils typically at elevations between 393 and 4,560 feet above msl. This species typically blooms from March to June.

There is suitable woodland and forest habitat in the BSA for Cobb Mountain lupine. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Marsh Microseris

The marsh microseris is a CDFW state rank S2 and CNPS 1B.2 species. This species is a perennial herb found in cismontane woodland, closed-cone coniferous forest, coastal scrub, and valley and foothill grassland. The marsh microseris is typically found at elevation between nine and 2,001 feet above msl and the typically blooms from April to June.

There is suitable woodland and annual grassland habitat in the BSA for marsh microseris; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.

Victor's Gooseberry

The Victor's gooseberry is a CDFW state rank S4 (apparently secure – uncommon but are not rare; some cause for long-term concern due to declines or other factors) and CNPS 4.3 (plants of limited distribution and not very threatened in California) species. This species is a perennial

deciduous shrub found in broadleaved upland forest and chaparral. The Victor's gooseberry is typically found at elevations between 328 and 2,460 feet above msl and typically blooms from March to April.

There is suitable forest habitat in the BSA for the Victor's gooseberry; therefore, although this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.

Marsh Checkerbloom

The marsh checkerbloom is a CDFW state rank S2 and CNPS 1B.2 species. This species is a perennial herb found in meadows, seeps, riparian forest, and wetlands. This species is often found on wet soils or streambanks. The marsh checkerbloom is typically found at elevations between 1,492 and 6,660 feet above msl and typically blooms from July to August.

There is suitable forest habitat in the BSA for the marsh checkerbloom. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Napa Bluecurls

The Napa bluecurls is considered a CDFW state rank S1S2 and CNPS 1B.2 species. This species is an annual herb found in chaparral, cismontane woodland, lower montane coniferous forest, vernal pools, wetlands, and valley and foothill grassland at elevations between 98 and 2,230 feet above msl. The Napa bluecurls typically blooms from June to October (CNPS, 2018; Jepson Herbarium, 2018).

There is suitable woodland and annual grassland habitat in the BSA for Napa bluecurls. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Dark-Mouthed Triteleia

The dark-mouthed triteleia is considered a CDFW state rank S4 and CNPS 4.3 species. This species is a perennial bulbiferous herb found in broadleaved upland forest, lower montane coniferous forest, chaparral, and coastal scrub at elevations typically between 328 and 3,280 feet above msl. The dark-mouthed triteleia typically blooms from April to June.

There is suitable forest habitat in the BSA for the dark-mouthed triteleia. Although this species was not observed during the biological surveys, all areas within the BSA were not accessible; therefore, this species has potential to be in the BSA.

Oval-Leaved Viburnum

The oval-leaved viburnum is considered a CDFW state rank S3 and CNPS 2B.3 (plants that are rare, threatened, or endangered in California but more common elsewhere; and not very threatened in California) species. This species is a perennial deciduous shrub found in chaparral, cismontane woodland, and lower montane coniferous forest. The oval-leaved viburnum is typically found at elevations between 705 and 4,593 feet above msl and typically blooms from May to June.

There is suitable woodland habitat in the BSA for the oval-leaved viburnum; therefore, although

this species was not observed during the biological surveys, which were conducted during the typical blooming period for this species, all areas within the BSA were not accessible, and there is potential for this species to be in the BSA.

Project Impacts

The project would include construction of a new single span bridge, new roadway encroachment, and demolition of the existing bridge over Dry Creek (and associated roadway), which could result in temporary and permanent impacts on special-status plant species, should they be in the construction area during construction.

The temporary removal or trampling of vegetation to accommodate the proposed bridge and roadway alignment could result in direct impacts on special-status plant species should they be in the construction area. In addition, earthwork and demolition activities would temporarily increase dust in the construction area, which could result in indirect impacts on special-status plant species, should they be in the construction area.

To accommodate the new road, driveway improvements, the 6-foot roadway maintenance buffer required by the County, and the placement of RSP along the new bridge abutments, permanent vegetation removal would be required, which could result in direct impacts on special-status plant species, should they be in the construction area. In addition, permanent removal of Mixed Oak Forest, California Bay Forest, and Annual Brome Grassland could result in permanent, indirect impacts on special-status plant species.

However, the project would be constructed in compliance with dust control regulations, and with the implementation of the following avoidance and minimization measures, and compensatory mitigation for vegetation communities discussed in Section 4.1.1 Jurisdictional Features and Section 4.1.2 Oak Woodlands, there would be no adverse impacts on special-status plants.

Avoidance and Minimization Efforts

To avoid and/or minimize impacts on special-status plants, the following measures would be implemented:

- Prior to construction, a qualified biologist would conduct rare plant surveys within the construction area. Surveys would be conducted during the appropriate blooming period for species with potential to be in the construction area, to the extent feasible.
- If a special-status plant species is found during pre-construction surveys, high visibility ESA protective fencing would be installed around the special-status plants to prevent construction staff or equipment from entering this area. The ESA protective fencing buffer would be species specific, with a minimum buffer radius based on the guidance from a qualified biologist.
- If surveys cannot be conducted within the appropriate blooming period, if presence for any species cannot be ruled out for any other reason, or if ESA protective fencing around an observed population is not feasible, additional avoidance measures would be implemented based on recommendations of a qualified biologist, to the extent feasible.

Compensatory Mitigation

To mitigate for impacts on special-status plants, the following measure will be implemented:

If it is determined that special-status plants will be directly impacted by the project, a species-specific mitigation plan will be prepared by a qualified biologist. The plan may include one or more of the following: plant relocation, seed collection and dispersal, on or off-site restoration, or payment into an agency-approved mitigation bank. The plan will be implemented prior to the completion of the project.

4.3 Special-Status Animal Species

According to the CNDDDB and USFWS search, 73 special-status animal species have the potential to be in the BSA based on recorded geographical distribution. Based on research regarding habitat requirements, 27 of the special-status animal species have the potential to be in the project area (see **Table 3**).

4.3.1 AMPHIBIANS

Survey Results

California Giant Salamander

The California giant salamander is considered a CDFW state rank S2S3 species and is listed as a Species of Special Concern (SSC) by the CDFW. The California giant salamander is found in or near streams within humid coastal forests, especially in Douglas fir, redwood, red fir, and montane and valley foothill riparian habitats. The species' range is known from Mendocino County south to Monterey County, and east to Napa County. Aquatic adults and larvae are found in cold, clear rocky streams, and occasionally in lakes and ponds. Terrestrial adults are found under surface litter, underground tunnels, wet forests under rocks and logs, and near streams and lakes.

No California giant salamanders were observed during biological surveys conducted for the project. However, there is suitable riparian and aquatic habitat in the BSA for the California giant salamander; therefore, there is potential for this species to be in the BSA.

Foothill Yellow-Legged Frog

The foothill yellow-legged frog is a state candidate (threatened) species under CESA. The foothill yellow-legged frog is found in partly shaded, shallow streams and riffles with rocky substrate in a variety of habitats. Individuals seek cover under rocks in streams or on shore within a few feet of water. This species is rarely encountered (even on rainy nights) far from permanent water. The foothill yellow-legged frog requires cobble-sized substrate for egg-laying and needs at least 15 weeks to attain metamorphosis.

No foothill yellow-legged frogs were observed during biological surveys conducted for the project. However, there is suitable woodland and riparian habitat in the BSA; therefore, there is potential for this species to be in the BSA. A foothill yellow-legged frog was observed in 2011 within Dry Creek approximately 0.5 mile downstream of the project (personal communications with County environmental specialist Jeremy Sarrow). For the purposes of this NES, presence of the foothill yellow-legged frog in the BSA is inferred.

California Red-Legged Frog

The California red-legged frog is federally listed as threatened under FESA and is considered a SSC by the CDFW. The California red-legged frog is found in lowlands and foothills in or near

permanent sources of deep water with dense, shrubby, or emergent vegetation, including *Typha* sp., *Scirpus* sp., and *Salix* sp. Individual range can vary from water along riparian corridors, damp thickets, and forests. Breeding typically takes place from November through April in seasonal or permanent ponds, marshes, or quiet stream pools at depths approximately 2.5 feet or greater. Eggs are often attached to emergent vegetation. This species requires 11 to 20 weeks of permanent water for larval development. Upland areas adjacent to riparian zones provide estivation and dispersal habitats. The species may estivate in rodent burrows, logs, densely vegetated areas, large cracks in the bottom of dried ponds, and sometimes man-made structures such as culverts and livestock troughs during dry periods. Aestivation sites are typically within 100 feet from water in adjacent riparian vegetation (USFWS, 2002; USFWS, 2017b).

The California red-legged frog has been observed within 10 miles of the BSA, with the closest observation approximately eight miles to the southwest. There is no known hydrological connection between these populations and Dry Creek, and there are large topographical features between these populations and the BSA. In addition, no California red-legged frogs were observed during biological surveys conducted for the project. However, there is suitable aquatic, riparian, and woodland habitat in the BSA. Within the BSA, Dry Creek contains suitable deep-water pools and shrubby emergent aquatic vegetation required for breeding. In addition, the BSA is vegetated with Mixed Oak Forest, an oak woodland habitat suitable for upland dispersal. Therefore, the potential for this species to be in the BSA cannot be ruled out, and for the purposes of this NES, presence of the California red-legged frog in the BSA is inferred. The project is outside of designated California red-legged frog critical habitat.

Coast Range Newt

The Coast Range newt is considered a SSC by the CDFW. The Coast Range newt is found in coastal drainages from Mendocino County to San Diego County. This species is primarily found in valley foothill hardwood, valley foothill hardwood-conifer, coastal scrub, and mixed chaparral, but has also been found in annual grassland and mixed conifer habitats. This species elevation range extends from near sea level to 6,000 feet. Breeding and egg-laying take place in intermittent streams, rivers, permanent and semi-permanent ponds, lakes, and large reservoirs. Adults live in terrestrial habitats and typically travel within 3,300 feet to breeding sites. Some individuals may migrate over 0.5 mile to breed.

No Coast Range newts were observed during biological surveys conducted for the project. However, there is suitable woodland and aquatic habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Project Impacts

The project would include construction of a new single-span bridge, new roadway encroachment, and demolition of the existing bridge over Dry Creek (and associated roadway), which could result in temporary and permanent impacts on special-status amphibian species, should they be in the construction area.

Construction activities, such as vegetation removal, grading, bank stabilization, and placement of RSP, could directly impact special-status amphibians should they be in the construction area and be trampled or crushed by vehicles or equipment. In addition, earthwork, vegetation removal,

installation of water diversions, and demolition activities within the Mixed Oak Forest community, California Bay Forest community, and the Dry Creek channel could result in temporary impacts on breeding, upland and dispersal habitat suitable for special-status amphibians. This temporary loss in habitat could result in an indirect impact on special-status amphibian species, should they be in the construction area.

To accommodate the new road, driveway improvements, the 6-foot roadway maintenance buffer required by the County, and the placement of RSP along the new bridge abutments, the project would require permanent impacts on the Mixed Oak Forest and California Bay Forest communities, which may provide potential breeding, upland and dispersal habitat suitable for special-status amphibians. This permanent loss in habitat could result in an indirect impact on special-status amphibian species, should they be in the construction area.

However, with the implementation of the proposed avoidance and minimization measures listed below, adverse impacts on the California giant salamander, Coast Range newt, and California red-legged frog are not expected, and impacts on the and foothill yellow-legged frog would be substantially minimized. In addition, although presence of the California red-legged frog in the BSA is inferred, there is a low potential for encountering the species during construction. With the implementation of avoidance and minimization measures, no direct take of the California red-legged frog is anticipated and any project impacts would be discountable. Therefore, the project **may affect, but is not likely to adversely affect**, the California red-legged frog. The presence of the foothill yellow-legged frog in Dry Creek is also inferred based on known observations downstream of the BSA. However, because the foothill yellow-legged frog is highly aquatic, and avoidance would be difficult, the project may result in direct take (mortality) of the foothill yellow-legged frog; therefore, adverse impacts are anticipated.

Avoidance and Minimization Measures

To avoid and/or minimize impacts on special-status amphibians, the following measures would be implemented:

- Pre-construction amphibian surveys would be conducted within 24 hours prior to start of construction by a qualified biologist.
- If a California giant salamander and/or Coast Range newt is found in the construction area, they would be relocated by a qualified biologist upstream or downstream of the construction area to a location with suitable habitat.
- If the California red-legged frog and/or foothill yellow-legged frog is found in the construction area, the encounter would be treated on a case-by-case basis in coordination with regulatory agencies, but the general procedure would be as follows: 1) work would immediately be suspended in the vicinity of the animal; 2) a qualified biologist would evaluate the animal; 3) the animal would not be disturbed if it is not in danger and would be allowed to exit the construction site on its own.
- If the foothill yellow-legged frog is found in the construction area and the animal is at risk of harm, the animal would be relocated by a qualified biologist to a secure, upstream or downstream location.

- Following completion of pre-construction surveys, wildlife exclusion fencing would be erected around the entire construction area, including on the creek banks, to prohibit wildlife from entering the active construction area. Wildlife exclusion fencing would consist of construction grade polypropylene or similar fabric. The exclusion fencing would be a minimum of three feet tall above ground and be buried a minimum of four inches underground with the base folded, so wildlife cannot burrow beneath or create entry points. The exclusion fencing would remain in place throughout the duration of construction activities and would be regularly inspected and maintained in good working order by the construction contractor. The fencing would be completely removed following construction.
- The exclusion fencing would be periodically inspected for trapped wildlife by a qualified biologist.
- Initial ground-disturbing activities would be avoided between November 1 and March 31, which is when California red-legged frogs are most likely to be moving through upland areas.
- Following completion of daily work activities, any temporary breaks in the wildlife exclusion fencing to allow for construction would be restored.
- Materials stored on-site that could provide shelter for California red-legged and foothill yellow-legged frogs, such as on-site storage of pipes, conduits and other materials, would be elevated above ground.
- Trenches or pits one foot or deeper that are left unfilled for more than 48 hours would be securely covered with boards or other similar material to prevent entrapment of California red-legged and foothill yellow-legged frogs.
- During demolition of the existing road and bridge, all grindings and asphaltic-concrete waste would be immediately removed offsite or be temporarily stored onsite. If the waste is stored onsite, the waste would be placed on construction grade plastic sheeting, geotextile fabric, or similar impervious material, and would be stored a minimum of 100 feet from Dry Creek. On or before the date of project completion, the waste would be transported to an approved disposal site.
- No construction activities would be allowed during rain events or within 24-hours following a rain event. Prior to construction activities resuming, a qualified biologist would inspect the construction area and all equipment/materials for the presence of special-status amphibians.
- Nighttime construction would only be permitted for select activities on a case-by-case basis, such as a bridge pour, in coordination with a qualified biologist.
- Take or suspected take of listed wildlife species would be reported immediately to a qualified biologist. A qualified biologist would be required to report the incident, or suspected incident, to the wildlife agencies within 24 hours.
- All project-related vehicle traffic would be restricted to established roads and construction areas, which include equipment staging, storage, parking, and stockpile areas.
- No pets would be allowed in the construction area, to avoid and minimize the potential for harassment, injury, and death of wildlife.

- Plastic monofilament netting, or similar material in any form, would not be used at the construction area.

Compensatory Mitigation

With the implementation of avoidance and minimization measures, adverse impacts on special-status amphibians would be substantially minimized. In addition, the compensatory mitigation discussed in Section 4.1.1 Jurisdictional Features is anticipated to be adequate to mitigate for temporary and permanent project impacts on suitable California red-legged frog and foothill yellow-legged frog aquatic habitat and no additional compensatory mitigation is proposed. No compensatory mitigation is currently proposed for temporary and permanent project impacts on suitable California red-legged frog and foothill yellow-legged frog upland habitat. However, compensatory requirements will be finalized following consultation with USFWS and coordination with CDFW.

4.3.2 BIRDS

Survey Results

Cooper's Hawk

The Cooper's hawk is considered a Watch List (WL) species by the CDFW. The Cooper's hawk is found in cismontane woodland, riparian forest, riparian woodland, and upper montane coniferous forest. This species nests mainly in riparian growths of deciduous trees, often in canyon bottoms on river flood-plains, and will also nest in live oaks.

No Cooper's hawks or trees with old raptor nests were observed during biological surveys conducted for the project. However, there is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Sharp Shinned Hawk

The sharp-shinned hawk is considered a WL species by the CDFW. This species is found in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine (*Pinus jeffreyi*) habitats. This species prefers riparian areas along north-facing slopes. Plucking perches are critical requirements. Nests are usually within 275 feet of water.

No sharp-shinned hawk or trees with old raptor nests were observed during biological surveys conducted for the project. However, there is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Great Egret

The great egret is considered a CDFW state rank S4 species. The great egret is found in brackish marsh, estuary, freshwater marsh, riparian forests, and wetlands. This species nests colonially in large trees. The rookery sites are located near marshes, tide-flats, irrigated pastures, and margins of rivers and lakes. The great egret feeds mainly on small fish, but will also eat amphibians, reptiles, small mammals, and invertebrates.

No great egrets, signs of a rookery, or roost site were observed during the biological surveys conducted for the project and there is no suitable nesting habitat in the BSA. However, there is suitable foraging habitat within the BSA; therefore, there is potential for this species to forage in

the BSA, but it is not expected to nest in the BSA.

Great Blue Heron

The great blue heron is considered a CDFW state rank S4 species. This species nests colonially in tall trees, cliff sides, and sequestered spots on marshes. The great blue heron forages in marshes, lake margins, tidal flats, rivers, streams, and wet meadows. The rookery sites are in close proximity to foraging areas.

No great blue herons, signs of a rookery, or roost site were observed during biological surveys conducted for the project. However, there is suitable foraging habitat within the BSA; therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.

Snowy Egret

The snowy egret is considered a CDFW state rank S4 species. The snowy egret is found in marshes and swamps, meadows and seeps, riparian forest, riparian woodland, and wetlands. This species is a colonial nester with nest sites situated in protected beds of dense tules or within trees or shrubs five to 10 feet above the ground. Rookery sites are situated close to foraging areas. The snowy egret forages in shallow water for fish, insects, and crustaceans, and may also forage in open fields.

No snowy egrets, signs of a rookery, or roost site were observed during biological surveys conducted for the project. However, there is suitable foraging habitat within the BSA; therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.

Yellow-Breasted Chat

The yellow-breasted chat is considered a SSC by the CDFW. The yellow-breasted chat is found in riparian forests, riparian scrub, and riparian woodlands. The yellow-breasted chat nests in low, dense riparian thickets near water courses, consisting of willow, blackberry, and wild grape. The species forages and nests within 10 feet of the ground.

No yellow-breasted chats were observed during biological surveys conducted for the project. However, there is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Black-Crowned Night Heron

The black-crowned night heron is considered a CDFW state rank S4 species. This species is primarily nocturnal or crepuscular and is found in marshes, swamps, riparian forests, riparian woodlands, and wetlands. The rookery sites are usually located near aquatic or emergent foraging sites within dense-foliaged trees, dense emergent wetlands, dense shrubbery, or vine tangles. Non-breeding roosts may be farther away from nesting sites. This species is a colonial nester, usually in trees, and occasionally in tule patches.

No black-crowned night herons, signs of a rookery, or roost site were observed during biological surveys conducted for the project. However, there is suitable foraging habitat within the BSA; therefore, there is potential for this species to forage in the BSA, but it is not expected to nest in the BSA.

Purple Martin

The purple martin is considered a SSC by the CDFW. This species is a summer migrant found in valley foothill and montane hardwood/hardwood-conifer, coniferous, and riparian habitats. The purple martin nests in tall, old, isolated trees or snags in open forest or woodland and in close proximity to a body of water. This species frequently nests in old woodpecker cavities but has also been found nesting in human-made structures such as bridges and culverts. Foraging habitats must provide large amounts of aerial insects.

No purple martins were observed during biological surveys conducted for the project. However, there is suitable nesting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Yellow Warbler

The yellow warbler is considered a SSC by the CDFW. This species is found in riparian habitats near water. The yellow warbler also nests in montane shrubbery in open conifer forests in the Cascades and Sierra Nevada. The yellow warbler is frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods (*Aigeiros* sp.), sycamores (*Plantanus* sp.), ash (*Fraxinus* sp.), and alders (*Alnus* sp.).

There is suitable nesting and foraging habitat within the BSA and potential for this species to be in the BSA. In addition, an adult yellow warbler was observed foraging during the April 27, 2017 biological survey conducted for the project.

Project Impacts

Construction would require vegetation removal and work on the bridge structure, including structure demolition, that could directly impact migratory birds and raptors if these activities are conducted while birds are nesting within or adjacent to the affected areas. Temporary noise generating activities, bridge demolition, and road creation, could also result in temporary indirect impacts on nesting birds and raptors if loud enough to result in disturbance. In addition, construction activities could temporarily disrupt foraging in the construction area.

The new road, driveway improvements, and the 6-foot roadway maintenance buffer required by the County, would result in minimal permanent losses of the Mixed Oak Forest, California Bay Forest and Annual Brome Grassland communities, which may provide potential breeding and foraging habitat to special-status bird species. This permanent loss in habitat could result in an indirect impact on special-status bird species, should they be present in the construction area.

However, with the implementation of avoidance and minimization measures discussed below, no take or adverse impacts on special-status bird species or nesting migratory birds are anticipated.

Avoidance and Minimization Measures

To avoid and minimize impacts on nesting birds and raptors, the following measures would be implemented:

- Trimming and removal of vegetation and trees would be minimized and performed outside of the nesting season (February 1 to September 30), to the extent feasible.
- In the event that trimming or removal of vegetation and trees must be conducted during the

nesting season, nesting bird surveys would be completed within 500 feet of the construction area by a qualified biologist no more than 48 hours prior to trimming or clearing activities to determine if nesting birds are within the affected vegetation. Nesting bird surveys would be repeated if trimming or removal activities are suspended for five days or more.

- If nesting birds are found within 500 feet of the construction area, appropriate buffers consisting of orange flagging/fencing or similar (typically 300 feet for birds and 500 feet for raptors) would be installed and maintained until nesting activity has ended, as determined in coordination with the project biologist and regulatory agencies, as appropriate.

Compensatory Mitigation

With the implementation of avoidance and minimization measures, adverse impacts on, or take of, special-status birds are not anticipated; therefore, no mitigation is proposed.

4.3.3 FISH

Survey Results

Steelhead – Central California Coast DPS

Steelhead is listed as threatened under FESA and is considered a state rank S2S3 species by the CDFW. Steelhead are found in the Russian River, south to Soquel Creek and to, but not including, the Pajaro River. They are also present in San Francisco and San Pablo Bay basins. Steelhead are anadromous fish that spend part of their life cycle in freshwater and part in salt water. This species spawns in small, freshwater streams where the young remain from one to several years before migrating to the ocean to feed and mature. Adults return to their natal streams to spawn and complete their life cycle (NMFS, 2016a).

Dry Creek is a known spawning and rearing stream for steelhead. Both the mature adults and young of the year are regularly observed within the BSA by local residents. In addition, Dry Creek was designated as critical habitat for this species in September 2005 (USFWS, 2005). Dry Creek in the BSA is considered steelhead critical habitat. Creek conditions favorable to steelhead within the BSA include suitable water quality and adequate natural cover such as shade, aquatic vegetation, and large rocks. Based on other steelhead populations in adjacent Sonoma County, steelhead spawning typically begins in January and continues through mid-April. While the exact timing of steelhead within the Napa River Watershed is unknown, adult migrating steelhead would be expected to enter the Dry Creek Subwatershed within this time range. Juvenile steelhead remain in cool, shady perennial streams for one or more years before migrating out to the ocean (Napa County WICC, 2018a).

Project Impacts

Steelhead

Demolition of the existing bridge abutments and the installation and removal of a water diversion structure, should a diversion structure be used, could result in direct impacts on migrating adult steelhead or juvenile steelhead, which could be present year-round. Because steelhead could be present in Dry Creek at any time of the year, avoidance of direct impacts would only be possible if project activities completely avoided the wetted channel. Construction materials, dust, and

debris from bridge removal, construction activities, and bank re-establishment could fall into Dry Creek and result in temporary indirect effects on steelhead by disrupting water quality. Removal of vegetation and trees along the banks could also have indirect effects on this species by removing shade and potentially increasing the risk for erosion and sediments entering the stream, which could alter water temperature and quality for steelhead within the BSA.

Construction of the project may result in permanent, direct impacts on individual steelhead should an individual be killed during in-water work. In addition, the project would have minor permanent indirect impacts on steelhead because the project has been designed to minimize permanent impacts on steelhead streambed habitat. The project includes placement of RSP, which would require temporary excavation disturbance within the OHWM. Based on current design, the RSP would be placed within the OHWM and keyed into the Dry Creek bank slopes. Following placement of the RSP, the slope would be re-vegetated using willow cuttings within the spaces to provide additional slope stabilization.

With the implementation of avoidance and minimization measures discussed below and in Section 4.1.1, impacts on steelhead would be substantially minimized. In addition, because in-water work is anticipated, the project may result in take (harm, harass or mortality) of steelhead; therefore, the project **may affect, and is likely to adversely affect**, steelhead.

Steelhead Critical Habitat

Construction materials, dust, and debris could result in temporary direct impacts on steelhead critical habitat waters if materials were to enter flowing water within the channel during bridge construction, bridge removal, and bank and channel re-establishment efforts. In addition, installation of a temporary water diversion to the streambed, should a diversion be used, and removal of the existing bridge abutments, could result in direct impacts to the streambed. The project would also have minor permanent direct impacts on steelhead critical habitat with the placement of less than 0.001 acre of RSP within the OHWM. However, the RSP would be vegetated with willow cuttings to minimize impacts on steelhead critical habitat to the greatest extent feasible. After construction, the Dry Creek channel would be restored to previous contours, to the extent feasible. In addition, as a benefit to the Dry Creek channel, construction would also include widening the existing, artificially narrow, channel bottleneck created at the existing bridge abutments to a more natural contour profile. Temporary indirect impacts on steelhead critical habitat include the removal of overhanging vegetation along the banks of Dry Creek.

Removal of the existing bridge would result in permanent indirect impacts on steelhead critical habitat because the bank slopes would be re-contoured and stabilized to prevent scour. A “soil-burrito” method is proposed for the bank stabilization, which is a combination of rolled biodegradable fabrics with native soils, which would be planted with native cuttings to promote riparian growth.

With the implementation of avoidance and minimization measures discussed below and in Section 4.1.1, impacts on steelhead critical habitat would be substantially minimized; therefore, the project **may affect, but is not likely to adversely modify** steelhead critical habitat.

Avoidance and Minimization Measures

To avoid and minimize impacts on steelhead and their designated critical habitat, the previous

measures discussed in Section 4.1.1 Jurisdictional Features and the following measures would be implemented:

- Construction within the channel would be limited to between June 15 and October 15.
- The Dry Creek banks would be restored using a “soil burrito” (a combination of native soil, biodegradable fabric, and planting), root wad system, or similar method to re-establish the natural channel vegetation. Willow cuttings would be planted in the bank slopes.
- Willow cuttings would be planted within the newly constructed RSP along the Dry Creek banks.

Compensatory Mitigation

With the implementation of avoidance and minimization measures, impacts on steelhead and steelhead critical habitat would be minimized. The compensatory mitigation discussed in Section 4.1.1 Jurisdictional Features is anticipated to be adequate to mitigate for project impacts on steelhead and steelhead critical habitat, and no additional compensatory mitigation is proposed. However, compensatory requirements will be finalized following consultation with NMFS.

4.3.4 INVERTEBRATES

Survey Results

Western Bumble Bee

The western bumble bee is considered a CDFW state rank S1 (critically imperiled – extreme rarity [often five or fewer occurrences] or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from California) species. This species is a generalist forager of a wide variety of flowering plants and typically nests underground in abandoned rodent burrows or other cavities, such as old squirrel or other animal nests, and in open west-southwest slopes bordered by trees. However, a few nests have been reported from above-ground locations such as in logs among railroad ties.

No western bumble bees or western bumble bee nesting cavities were observed during biological surveys conducted for the project. However, there are suitable foraging habitat and nesting cavities in the BSA; therefore, there is potential for this species to be in the BSA.

Project Impacts

Construction would require vegetation removal and ground disturbance that could result in direct impacts on the western bumble bee, should this species be in the construction area. Direct impacts on this species could result from nesting cavities being trampled by vegetation removal and/or excavation.

The new road, driveway improvements, and the 6-foot roadway maintenance buffer required by the County, would result in permanent loss of the Mixed Oak Forest, California Bay Forest and Annual Brome Grassland communities, which could result in an indirect impact on the western bumble bee, should the species be in the construction area.

However, with the implementation of avoidance and minimization measures discussed below, adverse impacts on the western bumble bee are not anticipated.

Avoidance and Minimization Measures

To avoid and minimize impacts on the western bumble bee, the following measures would be implemented:

- Vegetation removal and excavation would be reduced to the extent feasible.
- Pesticides/insecticides would not be used as part of the project.
- Pre-construction surveys for western bumble bee nests would be conducted within 72 hours prior to start of construction by a qualified biologist. If a western bumble bee nest is found during pre-construction surveys, high visibility ESA protective fencing, would be installed around the nest to prevent construction staff or equipment from entering this area, to the extent feasible.
- Areas temporarily impacted during construction would be restored using native, regionally appropriate plant species. The native species palette would include, at a minimum, four annual and four perennial species.

Compensatory Mitigation

With the implementation of avoidance and minimization measures, adverse impacts on the western bumble bee are not anticipated; therefore, no compensatory mitigation is proposed.

4.3.5 MAMMALS

Survey Results

North American Porcupine

The North American porcupine is considered a state rank S3 species. This largely nocturnal species is found in broadleaved upland forests, cismontane woodlands, closed-cone coniferous forest, lower montane coniferous forest, north coast coniferous forest, and upper montane coniferous forests. Geographically, the North American porcupine's range includes suitable forested habitats in the Sierra Nevada, Cascade, and Coast ranges, with scattered observations from forested areas in the Transverse Ranges. This species dens in caves, crevices in rocks, cliffs, hollow logs, snags, and burrows of other animals; however, they will use dense foliage in trees if other sites are unavailable (Zeiner et al., 1980-1990). Den sites are typically used during the cold winter months and North American porcupines frequently move between several different sites (CDFW, 1995).

No North American porcupines or den sites were observed during biological surveys conducted for the project. However, there is suitable woodland habitat in the BSA; therefore, there is potential for this species to be in the BSA

Bats

All bats are protected under the California Fish and Game Code, and bat species, including the pallid bat, Townsend's big-eared bat, silver-haired bat, western red bat, western small-footed myotis, long-eared myotis, fringed myotis, long-legged myotis, and Yuma myotis have the potential to be in the BSA. Biological surveys conducted for the project determined that the bridge structure does not provide suitable habitat for bats to day roost. However, the surrounding trees

may provide habitat for bats to day or night roost.

Pallid Bat

The pallid bat is considered a SSC by the CDFW. The pallid bat is found year-round in a variety of low-elevation habitats in most parts of California, including grasslands, shrublands, woodlands, and forests. This species is thought to prefer open, dry habitats with rocky areas for roosting. The pallid bat day roosts in caves, crevices, mines, and hollow trees, buildings, and bridges, and night roosts in more open sites, such as porches, open buildings, and bridges. Roosts must protect bats from high temperatures, and this species will move deeper into cover if temperatures rise. The pallid bat is highly sensitive to disturbance.

No pallid bats were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Townsend's Big-Eared Bat

The Townsend's big-eared bat is considered a SSC by the CDFW. The Townsend's big-eared bat is found in diverse habitat types throughout California, including coniferous forests, deserts, native prairies, riparian communities, agricultural areas, and coastal habitats. This species is thought to be most abundant in mesic habitats. The Townsend's big-eared bat roosts in caves and cave-like structures, such as exposed cavity-forming rock and mines. This species will also roost in human structures such as attics and barns and on occasion has been found in bridges. Townsend's big-eared bats prefer to roost in large rooms and do not use crevices. The Townsend's big-eared bat is extremely sensitive to human disturbance.

No Townsend's big-eared bats were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat within the BSA; therefore, there is potential for this species to be in the BSA.

Silver-Haired Bat

The silver-haired bat is considered a state rank S3S4 species. The silver-haired bat is found in coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valleys. This species has been recorded throughout California, with a concentration in northern California. The silver-haired bat roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Females may form nursery colonies or may be a solitary individual in dense foliage or hollow trees. This species is thought to need roosting sites in close proximity to water.

No silver-haired bats were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Western Red Bat

The western red bat is considered a SSC by the CDFW. The western red bat roosts in forests and woodlands from sea level up through mixed conifer forests. This species roosts primarily in trees, sometimes shrubs; roost sites often are in edge habitats adjacent to streams, fields, or

urban areas. This species forages over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands.

No western red bats were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Western Small-Footed Myotis

The western small-footed myotis is considered a state rank S3 species. This species is found in a wide range of habitats and is generally found in arid woodlands and brushy upland areas near water. This species prefers open stands in forests and woodlands, and roosts in caves, buildings, mines, and crevices.

No western small-footed myotis were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Long-Eared Myotis

The long-eared myotis is considered a state rank S3 species. This species is found in brush, woodland, and forest habitats from sea level to about 9,000 feet. The long-eared myotis species prefers coniferous woodlands and forests. Nursery colonies may be in buildings, crevices, spaces under bark, and snags, while caves are used primarily as night roosts.

No long-eared myotis were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Fringed Myotis

The fringed myotis is considered a state rank S3 species. This species is found in a wide variety of habitats, but optimal habitats include pinyon-juniper, valley foothill hardwood and hardwood-conifer communities. The fringed myotis uses caves, mines, buildings, or crevices for maternity colonies and roosts.

No fringed myotis were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Long-Legged Myotis

The long-legged myotis is considered a state rank S3 species. This species is most common in woodland and forest habitats above 4,000 feet elevation. Trees are important day roosts while caves and mines are used for night roosts. Nursery colonies usually are located under tree bark or in hollow trees but will occasionally be in crevices or buildings.

No long-legged myotis were observed during biological surveys conducted for the project and no

potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Yuma Myotis

The Yuma myotis is considered a state rank S4 species. The Yuma myotis is common in California. Optimal habitats for this species are open forests and woodlands with sources of water over which to feed, but this species has been documented in many urban areas. The Yuma myotis roosts in buildings, mines, caves, or crevices. The species also has been seen roosting in abandoned swallow nests and under bridges. Separate, often more open, night roosts may be used.

No Yuma myotis were observed during biological surveys conducted for the project and no potential day roosts are present in the existing bridge structure. However, there is suitable roosting and foraging habitat in the BSA; therefore, there is potential for this species to be in the BSA.

Project Impacts

Construction activities could directly impact North American porcupines and/or their dens if they were to be trampled or crushed by vehicles or equipment during vegetation removal, or by vehicle strikes during nighttime work. Noise and habitat disturbance resulting from construction activities could indirectly impact any North American porcupines in the construction area during construction. Bats could be directly impacted if they were to be roosting in vegetation removed during construction. Construction could also indirectly impact bats through noise and vibration disturbance if bats were to be roosting in trees immediately adjacent to construction activities.

The new road, driveway improvements, and the 6-foot roadway maintenance buffer required by the County, would result in a permanent loss of the Mixed Oak Forest, California Bay Forest and Annual Brome Grassland communities, which may provide potential denning and foraging habitat for the North American porcupine. The removal of trees could also result in a permanent loss of roosting and foraging habitat for bats. Permanent loss of habitat could result in an indirect impact on the North American porcupine and bats, should these species be in the construction area. However, there is no bat roosting habitat in the existing structure, so there would be no permanent loss of a known roosting site. The new bridge would be a precast-prestressed “I” girder bridge with CIP concrete deck and would not provide new roosting habitat for bats.

However, with implementation of the proposed avoidance and minimization measures listed below, adverse impacts on the North American porcupine and bats are not anticipated.

Avoidance and Minimization Measures

The following measures would be implemented to avoid and/or minimize impacts on the North American porcupine:

- Pre-construction surveys would be conducted for North American porcupine dens within 72 hours prior to start of construction by a qualified biologist. If a den is found during pre-construction surveys, high visibility ESA protective fencing, would be installed around the den to prevent construction staff or equipment from entering this area, to the extent feasible. If

ESA protective fencing around an observed den is not feasible, additional avoidance measures would be implemented based on recommendations of a qualified biologist.

- All construction equipment and project-related vehicles would observe a maximum speed limit of 20 mph throughout the construction area.
- To prevent attracting wildlife to the construction area, all food trash would be kept in wildlife-proof containers and any non-natural food sources would not be left unattended.
- No rodenticides would be applied within the construction area throughout construction.

To avoid and minimize impacts on bats, the following avoidance and minimization measures would be implemented:

- Where feasible, tree removal would be conducted outside of the maternal and non-active seasons for bats (October).
- At least 30 days prior to construction, a thorough bat roosting habitat assessment would be conducted of all trees and structures to be removed or otherwise impacted during construction. Visual and acoustic surveys would be conducted for at least two nights at all identified roosting habitat to assess the presence of roosting bats. If presence is detected, a count and species analysis would be completed to help assess the type of colony and usage.
- No less than two weeks prior to construction, and during the non-breeding and active season (typically October), bats would be safely evicted from roosts impacted by the project under the direction of a qualified biologist. Once bats have been safely evicted, exclusionary devices would be installed to prevent bats from returning and roosting in these areas prior to removal. Roosts that would not be impacted by the project would be left undisturbed.
- If the presence or absence of bats cannot be confirmed in potential roosting habitat, a qualified biologist would be onsite during removal or disturbance of this area. If the biologist determines that bats are being disturbed during this work, work would be suspended until bats have left the vicinity on their own or can be safely excluded under direction of the biologist. Work would resume only once all bats have left the site and/or approval to resume work is given by a qualified biologist.
- After completion of the bat roosting habitat assessment, and prior to tree removal, all trees with potential day roosting habitat, would be removed using a two-step process. The tree removal would be conducted over two consecutive days under the supervision of a qualified biologist.

For step one, all non-habitat trees adjacent to and/or surrounding potential habitat trees, as identified by the qualified biologist, would be removed (or trimmed, if full removal can be avoided) on the first of the two days. In addition, limited trimming of the potential bat roosting habitat trees (branches and small limbs with no potential roosting features) would be completed on the first day. During Step one, construction crews would only use hand tools (i.e. chainsaws or similar).

Step two would be completed on the calendar day immediately following step one. Step two would remove all of the potential habitat trees that were previously trimmed and/or avoided

during step one.

- In the event that a maternal colony of bats is found, no work would be conducted within 100 feet of the maternal roosting site until the maternal season is finished or the bats have left the site, or as otherwise directed by a qualified biologist. The site would be designated as a sensitive area and protected as such until the bats have left the site. No activities would be authorized adjacent to the roosting site. Combustion equipment, such as generators, pumps, and vehicles, would not be parked or operated under or adjacent to the roosting site. Construction personnel would not be authorized to enter areas beneath the colony, especially during the evening exodus (typically between 15 minutes prior to sunset and one hour following sunset).

Compensatory Mitigation

With the implementation of avoidance and minimization measures, adverse impacts are not anticipated; therefore, no mitigation is proposed.

4.4 Cumulative Impacts

For the purposes of this analysis, the cumulative setting for jurisdictional features and special-status aquatic plant and wildlife species is considered suitable habitat within the Napa River Watershed. The cumulative setting for special-status terrestrial plant and wildlife species is considered suitable habitat within the Coast Ranges of California. Existing and continuing development, as well as flood control measures and structures, contribute to cumulative impacts on jurisdictional features. Habitat removal from current and future development in the area is the biggest threat to plant and wildlife species. Wildlife is also impacted by collisions with human structures and equipment, poisoning by pesticides and contaminants, predation by domestic animals, and disease. Bat roosts and hibernation areas can be damaged or destroyed by vandalism and demolition.

The project would include replacing an existing structurally deficient bridge along a new approach alignment for improved vehicular line of sight. Although the project would increase the footprint of human disturbance locally, the project would not contribute to new commercial or residential development in the project vicinity.

Construction of the project would have no impacts on special-status natural communities identified by the CNDDDB, but would result in temporary and permanent impacts on jurisdictional features (wetlands, riverine and riparian) and oak woodlands that are otherwise considered special-status communities. However, given the small size and scale of the project within the region, with implementation of avoidance, minimization, and mitigation measures the project would have a minimal contribution to cumulative impacts on jurisdictional features and oak woodlands. The project would result in temporary and permanent impacts on plant and wildlife species; however, with implementation of avoidance, minimization, and mitigation measures to prevent and/or minimize adverse impacts, the project would have a minimal contribution to cumulative impacts on plant and wildlife species. In addition, any additional measures required by regulatory permits, NMFS, and USFWS would be implemented during construction.

There are no other known planned projects in the vicinity of the BSA; however, other planned projects would be expected to include similar measures. Therefore, the project would not be

expected to result in cumulatively considerable impacts on biological resources.

Chapter 5 - Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

For the purposes of this NES, the presence of the federally threatened steelhead and federally threatened California red-legged frog is inferred. In addition, Dry Creek is designated as critical habitat for steelhead; however, there is no critical habitat for California red-legged frog within or adjacent to the BSA. Based on the analysis provided in this NES, the project **may affect, and is likely to adversely affect** steelhead and **may affect, but is not likely to adversely modify**, steelhead critical habitat. In addition, the project **may affect, but is not likely to adversely affect**, the California red-legged frog and **no effect** on California red-legged frog critical habitat. Therefore, consultation with NMFS to discuss potential effects on steelhead and steelhead critical habitat and the USFWS for potential effects on California red-legged frog is anticipated.

The **Table 7** below summarizes the listed and proposed species and/or designated critical habitats that were identified on the federal species list and displays determinations of effect for each species.

Table 7: FESA Species Summary Table

Scientific Name	Common Name	Federal Status	Critical Habitat	Determination
Plants				
<i>Alopecurus aequalis</i> var. <i>sonomensis</i>	Sonoma alopecurus	Endangered	None	No effect
<i>Astragalus claranus</i>	Clara Hunt's milk-vetch	Endangered	None	No effect
<i>Blennosperma bakeri</i>	Sonoma sunshine	Endangered	None	No effect
<i>Eryngium constancei</i>	Loch Lomond button-celery	Endangered	None	No effect
<i>Lasthenia burkei</i>	Burke's goldfields	Endangered	None	No effect
<i>Lasthenia conjugens</i>	Contra Costa goldfields	Endangered	None	No effect
<i>Limnanthes vinculans</i>	Sebastopol meadowfoam	Endangered	None	No effect
<i>Navarretia leucocephala</i> ssp. <i>pauciflora</i>	Few-flowered navarretia	Endangered	None	No effect
<i>Plagiobothrys strictus</i>	Calistoga popcornflower	Endangered	None	No effect
<i>Poa napensis</i>	Napa blue grass	Endangered	None	No effect
<i>Sidalcea oregana</i> ssp. <i>valida</i>	Kenwood marsh checkerbloom	Endangered	None	No effect

Scientific Name	Common Name	Federal Status	Critical Habitat	Determination
<i>Trifolium amoenum</i>	Two-forked clover or showy Indian clover	Endangered	None	No effect
Amphibians				
<i>Ambystoma californiense</i>	California tiger salamander	Threatened	None	No effect
<i>Rana draytonii</i>	California red-legged frog	Threatened	None	May Affect, Not Likely to Adversely Affect
Birds				
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	Threatened	None	No effect
<i>Strix occidentalis caurina</i>	Northern spotted owl	Threatened	None	No effect
Crustaceans				
<i>Syncaris pacifica</i>	California freshwater shrimp	Endangered	None	No effect
Fish				
<i>Hypomesus transpacificus</i>	Delta smelt	Threatened	None	No effect
<i>Oncorhynchus kisutch</i>	Coho salmon - central California coast ESU	Endangered	None	No effect
<i>Oncorhynchus mykiss irideus</i>	Steelhead - central California coast DPS	Threatened	May Affect, Not Likely to Adversely Modify	May Affect, Likely to Adversely Affect
<i>Oncorhynchus (=salmo) mykiss</i>	Steelhead - northern California DPS	Threatened	None	No effect
<i>Oncorhynchus tshawytscha</i>	Chinook salmon - California coastal ESU	Threatened	None	No effect
<i>Spirinchus thaleichthys</i>	Longfin smelt	Candidate	None	No effect
Reptiles				
<i>Chelonia mydas</i>	Green sea turtle; East Pacific DPS	Threatened	None	No effect

5.2 Essential Fish Habitat Consultation Summary

The BSA is outside of the known range for Coho and Chinook salmon; therefore, there is no Pacific Salmon EFH in the BSA. In addition, Coho salmon have been extinct in the Napa River since 1960 (Leidy, 2007).

5.3 California Endangered Species Act Consultation Summary

For the purposes of this NES, presence of the state candidate threatened foothill yellow-legged frog is inferred. Based on the project analysis provided in this NES, the project has potential to result in impacts on the foothill yellow-legged frog, including potential for take (mortality); therefore, an Incidental Take Permit from the CDFW is anticipated.

5.4 Wetlands and Other Waters Coordination Summary

5.4.1 FEDERAL CLEAN WATER ACT

The project would result in temporary and permanent impacts on wetlands and non-wetland waters under jurisdiction of the USACE and RWQCB; therefore, a CWA Section 404 Nationwide 14 Permit and a CWA Section 401 Water Quality Certification would be required under the CWA.

5.4.2 CALIFORNIA FISH AND GAME CODE

The project would result in temporary and permanent impacts on waters under jurisdiction of the CDFW; therefore, a California Fish and Game Code Section 1602 SAA would be required. A Streambed Alteration Notification would be submitted prior to construction to obtain the SAA.

5.5 Invasive Species

There are several species growing in the BSA that are listed by the California Invasive Plant Council (Cal-IPC) as invasive to California, including bigleaf periwinkle (*Vinca major*), Italian thistle (*Carduus pynoccephalus*), scotch broom (*Cytisus scoparius*), Himalayan blackberry, tree tobacco (*Nicotiana glauca*), and a number of invasive grasses including slender oat (*Avena barbata*) and soft brome (*Bromus hordeaceus*). A complete list of native, non-native, and invasive plant species observed in the BSA is included in **Appendix B**. Invasive species are often found in disturbed areas, and project activities would have the potential to spread invasive species through further disturbance of the BSA. These species could also be spread through the improper disposal of the graded and excavated soils on site or off site, or through landscaping with invasive species. However, the following standard measures would be implemented to prevent the spread of invasive species:

- Vegetation removed from the BSA would be treated and disposed of in a manner that would prevent the spread of invasive species onsite or offsite.
- Any new landscaping materials, including erosion control seed mixes and other plantings, would be composed of non-invasive species and would be weed free. All erosion control and landscape plantings would be conducted in a manner that would not result in the spread of invasive species.
- Plants listed on the California Department of Food and Agriculture's (CDFA) California State-listed Noxious Weeds list (CDFA, 2016) or the Cal-IPC inventory (Cal-IPC, 2018) would not

be used as part of the project.

With implementation of these measures, the project would be in compliance with Executive Order 13112.

5.6 Migratory Birds

Based on project analysis, there is the potential for migratory birds to nest within the trees and vegetation in the BSA during construction. In addition, there is potential for various migratory birds to forage within the BSA. Nesting birds could be directly impacted by construction activities if they were to be nesting in structures or vegetation within the construction area. In addition, these species could be indirectly impacted by loss of habitat resulting from vegetation or structure removal. However, with implementation of measures included in Section 4.3.2, the project would be in compliance with the MBTA and California Fish and Game Code.

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**Appendix A. United States Fish and Wildlife Service, California Natural
Diversity Database, and National Marine Fisheries Service
Lists**



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:
Consultation Code: 08ESMF00-2019-SLI-0693
Event Code: 08ESMF00-2019-E-02095
Project Name: Dry Creek Bridge Replacement

January 29, 2019

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

To Whom It May Concern:

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

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

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

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

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-0693

Event Code: 08ESMF00-2019-E-02095

Project Name: Dry Creek Bridge Replacement

Project Type: TRANSPORTATION

Project Description: The existing Dry Creek Bridge (Bridge No. 21C0056) is located along Dry Creek Road in Napa County, 0.8-miles west of Mount Veeder Road, and near the intersection with Dry Creek Fork Road. The proposed project includes replacing the existing structurally deficient bridge and realigning the existing roadway. Construction is anticipated in the year of 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.410761379206164N122.45205630119469W>



Counties: Napa, CA

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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

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

Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Crustaceans

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7903	Endangered

Flowering Plants

NAME	STATUS
Clara Hunt's Milk-vetch <i>Astragalus clarianus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3300	Endangered

Critical habitats

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

Angela Scudiere

From: NMFSWCRCA Specieslist - NOAA Service Account
<nmfswcrca.specieslist+canned.response@noaa.gov>
Sent: Thursday, February 8, 2018 4:34 PM
To: Angela Scudiere
Subject: Re: Caltrans District 4- Dry Creek Bridge Replacement Project BRLS 5921(061)

Receipt of this message confirms that NMFS has received your email to nmfswcrca.specieslist@noaa.gov. If you are a federal agency (or representative) and have followed the steps outlined on the California Species List Tools web page (http://www.westcoast.fisheries.noaa.gov/maps_data/california_species_list_tools.html), you have generated an official Endangered Species Act species list.

Messages sent to this email address are not responded to directly. For project specific questions, please contact your local NMFS office.

Northern California/Klamath (Arcata) 707-822-7201

North-Central Coast (Santa Rosa) 707-387-0737

Southern California (Long Beach) 562-980-4000

California Central Valley (Sacramento) 916-930-3600

Angela Scudiere

From: Angela Scudiere
Sent: Thursday, February 8, 2018 4:33 PM
To: 'nmfswcrca.specieslist@noaa.gov'
Subject: Caltrans District 4- Dry Creek Bridge Replacement Project BRLS 5921(061)

Federal Agency Name and Address:

Caltrans District 4
111 Grand Avenue
Oakland, CA 94612

Non-federal Agency Name and Address

Napa County Department of Public Works
1195 Third Street, Suite 101
Napa, CA 94559

Point-of-contact Name and Contact Information

GPA Consulting
Attn: Angela Scudiere
2600 Capitol Ave, Suite 100
Sacramento, CA 95816
angela@gpaconsulting-us.com
(310) 792-2690

Search results:

Quad Name **Rutherford**
Quad Number **38122-D4**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) -
CC Chinook Salmon ESU (T) -
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) -
CCC Steelhead DPS (T) - **X**
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat -
CCC Steelhead Critical Habitat - X
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

- Coho EFH - 
- Chinook Salmon EFH - 
- Groundfish EFH -
- Coastal Pelagics EFH -
- Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

- MMPA Cetaceans -
- MMPA Pinnipeds -



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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Calistoga (3812255) OR Chiles Valley (3812253) OR Glen Ellen (3812235) OR Kenwood (3812245) OR Napa (3812233) OR Rutherford (3812244) OR Sonoma (3812234) OR St. Helena (3812254) OR Yountville (3812243))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter striatus</i> sharp-shinned hawk	ABNKC12020	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	PMLIL021R1	None	None	G5T2	S2	1B.2
<i>Alopecurus aequalis var. sonomensis</i> Sonoma alopecurus	PMPOA07012	Endangered	None	G5T1	S1	1B.1
<i>Ambystoma californiense</i> California tiger salamander	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Amorpha californica var. napensis</i> Napa false indigo	PDFAB08012	None	None	G4T2	S2	1B.2
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	PDBOR01070	None	None	G3	S3	1B.2
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Aquila chrysaetos</i> golden eagle	ABNKC22010	None	None	G5	S3	FP
<i>Arctostaphylos stanfordiana ssp. decumbens</i> Rincon Ridge manzanita	PDERI041G4	None	None	G3T1	S1	1B.1
<i>Ardea alba</i> great egret	ABNGA04040	None	None	G5	S4	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Astragalus claranus</i> Clara Hunt's milk-vetch	PDFAB0F240	Endangered	Threatened	G1	S1	1B.1
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
<i>Blennosperma bakeri</i> Sonoma sunshine	PDAST1A010	Endangered	Endangered	G1	S1	1B.1
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	



Selected Elements by Scientific Name
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<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Brodiaea leptandra</i> narrow-anthered brodiaea	PMLIL0C022	None	None	G3?	S3?	1B.2
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Caecidotea tomalensis</i> Tomales isopod	ICMAL01220	None	None	G2	S2S3	
<i>Calasellus californicus</i> An isopod	ICMAL34010	None	None	G2	S2	
<i>Castilleja ambigua var. meadii</i> Mead's owls-clover	PDSCR0D404	None	None	G4T1	S1	1B.1
<i>Ceanothus confusus</i> Rincon Ridge ceanothus	PDRHA04220	None	None	G1	S1	1B.1
<i>Ceanothus divergens</i> Calistoga ceanothus	PDRHA04240	None	None	G2	S2	1B.2
<i>Ceanothus purpureus</i> holly-leaved ceanothus	PDRHA04160	None	None	G2	S2	1B.2
<i>Ceanothus sonomensis</i> Sonoma ceanothus	PDRHA04420	None	None	G2	S2	1B.2
<i>Centromadia parryi ssp. parryi</i> pappose tarplant	PDAST4R0P2	None	None	G3T2	S2	1B.2
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S2	SSC
<i>Dicamptodon ensatus</i> California giant salamander	AAAAH01020	None	None	G3	S2S3	SSC
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL
<i>Erethizon dorsatum</i> North American porcupine	AMAFJ01010	None	None	G5	S3	
<i>Erigeron greenei</i> Greene's narrow-leaved daisy	PDAST3M5G0	None	None	G3	S3	1B.2
<i>Eryngium constancei</i> Loch Lomond button-celery	PDAPI0Z0W0	Endangered	Endangered	G1	S1	1B.1
<i>Eryngium jepsonii</i> Jepson's coyote-thistle	PDAPI0Z130	None	None	G2	S2	1B.2
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	ABPBX1201A	None	None	G5T3	S3	SSC
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
<i>Hemizonia congesta ssp. congesta</i> congested-headed hayfield tarplant	PDAST4R065	None	None	G5T2	S2	1B.2
<i>Hesperolinon sharsmithiae</i> Sharsmith's western flax	PDLIN010E0	None	None	G2Q	S2	1B.2
<i>Horkelia tenuiloba</i> thin-lobed horkelia	PDR0S0W0E0	None	None	G2	S2	1B.2
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Hydroporus leechi</i> Leech's skyline diving beetle	IICOL55040	None	None	G1?	S1?	
<i>Juglans hindsii</i> Northern California black walnut	PDJUG02040	None	None	G1	S1	1B.1
<i>Lasthenia burkei</i> Burke's goldfields	PDAST5L010	Endangered	Endangered	G1	S1	1B.1
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Lathyrus jepsonii var. jepsonii</i> Delta tule pea	PDFAB250D2	None	None	G5T2	S2	1B.2
<i>Layia septentrionalis</i> Colusa layia	PDAST5N0F0	None	None	G2	S2	1B.2



Selected Elements by Scientific Name
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Leptosiphon jepsonii</i> Jepson's leptosiphon	PDPLM09140	None	None	G3	S3	1B.2
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	PDAPI19030	None	Rare	G2	S2	1B.1
<i>Limnanthes vinculans</i> Sebastopol meadowfoam	PDLIM02090	Endangered	Endangered	G1	S1	1B.1
<i>Lupinus sericatus</i> Cobb Mountain lupine	PDFAB2B3J0	None	None	G2?	S2?	1B.2
<i>Melospiza melodia samuelis</i> San Pablo song sparrow	ABPBXA301W	None	None	G5T2	S2	SSC
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis thysanodes</i> fringed myotis	AMACC01090	None	None	G4	S3	
<i>Myotis volans</i> long-legged myotis	AMACC01110	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Navarretia leucocephala ssp. bakeri</i> Baker's navarretia	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<i>Navarretia leucocephala ssp. pauciflora</i> few-flowered navarretia	PDPLM0C0E4	Endangered	Threatened	G4T1	S1	1B.1
<i>Navarretia rosulata</i> Marin County navarretia	PDPLM0C0Z0	None	None	G2	S2	1B.2
<i>Northern Vernal Pool</i> Northern Vernal Pool	CTT44100CA	None	None	G2	S2.1	
<i>Nycticorax nycticorax</i> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	AFCHA0209G	Threatened	None	G5T2T3Q	S2S3	
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Penstemon newberryi var. sonomensis</i> Sonoma beardtongue	PDSCR1L483	None	None	G4T2	S2	1B.3
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Plagiobothrys strictus</i> Calistoga popcornflower	PDBOR0V120	Endangered	Threatened	G1	S1	1B.1
<i>Poa napensis</i> Napa blue grass	PMPOA4Z1R0	Endangered	Endangered	G1	S1	1B.1



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Puccinellia simplex</i> California alkali grass	PMPOA53110	None	None	G3	S2	1B.2
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Sagittaria sanfordii</i> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<i>Sidalcea hickmanii ssp. napensis</i> Napa checkerbloom	PDMAL110A6	None	None	G3T1	S1	1B.1
<i>Sidalcea oregana ssp. hydrophila</i> marsh checkerbloom	PDMAL110K2	None	None	G5T2	S2	1B.2
<i>Sidalcea oregana ssp. valida</i> Kenwood Marsh checkerbloom	PDMAL110K5	Endangered	Endangered	G5T1	S1	1B.1
<i>Spergularia macrotheca var. longistyla</i> long-styled sand-spurrey	PDCAR0W062	None	None	G5T2	S2	1B.2
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	SSC
<i>Streptanthus hesperidis</i> green jewelflower	PDBRA2G510	None	None	G2	S2	1B.2
<i>Symphotrichum lentum</i> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<i>Syncaris pacifica</i> California freshwater shrimp	ICMAL27010	Endangered	Endangered	G2	S2	
<i>Taricha rivularis</i> red-bellied newt	AAAAF02020	None	None	G4	S2	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Trichostema ruygtii</i> Napa bluecurls	PDLAM220H0	None	None	G1G2	S1S2	1B.2
<i>Trifolium amoenum</i> two-fork clover	PDFAB40040	Endangered	None	G1	S1	1B.1
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Valley Needlegrass Grassland</i> Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
<i>Viburnum ellipticum</i> oval-leaved viburnum	PDCPR07080	None	None	G4G5	S3?	2B.3

Record Count: 103

Appendix B. Species Observed During Biological Surveys

Dry Creek Bridge Replacement Project- List of Species Observed in the BSA

Scientific Name	Common Name	Native/Non-native/Invasive
Plant Species		
ANGIOSPERMS (EUDICOTS)		
ANACARDIACEAE		
<i>Toxicodendron diversilobum</i>	poison oak	native
APIACEAE		
<i>Angelica californica</i>	California angelica	native
<i>Anthriscus caucalis</i>	bur chervil	non-native
<i>Coriandrum sativum</i>	cilantro	non-native
<i>Sanicula crassicaulis</i>	gamble weed	native
APOCYNACEAE		
<i>Vinca major</i>	bigleaf periwinkle	non-native/invasive
ASTERACEAE		
<i>Artemisia douglasiana</i>	California mugwort	native
<i>Baccharis glutinosa</i>	Douglas' baccharis	native
<i>Carduus pycnocephalus</i>	Italian thistle	non-native/invasive
<i>Erigeron</i> sp.	unknown	unknown
<i>Madia elegans</i>	common madia	native
<i>Rhagadiolus stellatus</i>	endive daisy	non-native
BETULACEAE		
<i>Alnus rhombifolia</i>	white alder	native
BORAGINACEAE		
<i>Phacelia</i> sp.	phacelia	native
BRASSICACEAE		
<i>Cardamine californica</i>	California toothwort	native
<i>Cardamine oligosperma</i>	bitter cress	native
CAPRIFOLIACEAE		
<i>Sambucus nigra</i>	black elderberry	native
<i>Symphoricarpos</i> sp.	snowberry	native
CARYOPHYLLACEAE		
<i>Cerastium glomeratum</i>	mouse ear chickweed	non-native
<i>Petrorhagia</i> sp.	pink grass	non-native
<i>Stellaria media</i>	common chickweed	non-native
CONVOLVULACEAE		
<i>Convolvulus arvensis</i>	field bindweed	non-native
DATISCEAE		
<i>Datisca glomerata</i>	durango root	native
ERICACEAE		
<i>Arbutus menziesii</i>	Pacific madrone	native
<i>Arctostaphylos manzanita</i> ssp. <i>manzanita</i>	whiteleaf manzanita	native
EUPHORBIACEAE		
<i>Euphorbia</i> sp.	spurge	unknown
FABACEAE		
<i>Acmispon americanus</i>	spanish lotus	native
<i>Cytisus scoparius</i>	scotch broom	non-native/invasive
<i>Lathyrus cicera</i>	red peavine	non-native

<i>Lathyrus hirsutus</i>	rough pea	non-native
<i>Lathyrus latifolius</i>	everlasting pea	non-native
<i>Lupinus</i> sp.	lupine	native
<i>Melilotus indicus</i>	annual yellow sweetclover	non-native/invasive
<i>Rupertia physodes</i>	California tea	native
<i>Trifolium hirtum</i>	rose clover	non-native/invasive
<i>Trifolium incarnatum</i>	crimson clover	non-native
<i>Trifolium</i> sp.	clover	unknown
<i>Vicia</i> sp.	vetch	non-native/invasive
FAGACEAE		
<i>Quercus agrifolia</i>	coast live oak	native
<i>Quercus kelloggii</i>	California black oak	native
<i>Quercus wizlizeni</i>	interior live oak	native
<i>Quercus</i> × <i>morehus</i>	oracle oak	native
GERANIACEAE		
<i>Geranium dissectum</i>	cut leaved geranium	non-native/invasive
<i>Geranium purpureum</i>	herb robert	non-native
JUGLANDACEAE		
<i>Juglans hindsii</i>	northern California black walnut	native
<i>Juglans regia</i>	English walnut	non-native
LAMIACEAE		
<i>Mentha spicata</i>	spearmint	non-native
<i>Prunella</i> sp.	self heal	non-native
<i>Stachys rigida</i>	rough hedgenettle	native
LAURACEAE		
<i>Umbellularia californica</i>	California bay	native
MONTIACEAE		
<i>Claytonia</i> sp.	miner's lettuce	native
OLEACEAE		
<i>Fraxinus latifolia</i>	Oregon ash	native
ONAGRACEAE		
<i>Clarkia gracilis</i> ssp. <i>gracilis</i>	graceful clarkia	native
PLANTAGINACEAE		
<i>Plantago lanceolata</i>	English plantain	non-native
POLEMONIACEAE		
<i>Leptosiphon</i> sp.	unknown	native
POLYGONACEAE		
<i>Eriogonum nudum</i>	naked buckwheat	native
<i>Rumex</i> sp.	dock	unknown
PRIMULACEAE		
<i>Lysimachia arvensis</i>	scarlet pimpernel	non-native
<i>Primula clevelandii</i>	padre's shooting star	native
RANUNCULACEAE		
<i>Ranunculus muricatus</i>	pricklefruit buttercup	non-native
<i>Ranunculus occidentalis</i>	western buttercp	native
ROSACEAE		
<i>Drymocallis glandulosa</i>	sticky cinquefoil	native

<i>Fragaria vesca</i>	wild strawberry	native
<i>Heteromeles arbutifolia</i>	toyon	native
<i>Malus</i> sp.	apple	non-native
<i>Physocarpus capitatus</i>	Pacific ninebark	native
<i>Rosa</i> sp.	rose	unknown
<i>Rubus ursinus</i>	California blackberry	native
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native/invasive
RUBIACEAE		
<i>Galium aparine</i>	common bedstraw	native
<i>Sherardia arvensis</i>	field madder	non-native
SALICACEAE		
<i>Salix laevigata</i>	red willow	native
SAPINDACEAE		
<i>Aesculus californica</i>	California buckeye	native
SAXIFRAGACEAE		
<i>Lithophragma parviflorum</i>	pink woodland star	native
SCROPHULARIACEAE		
<i>Verbascum blattaria</i>	moth mullein	non-native
SOLANACEAE		
<i>Nicotiana acuminata</i>	manyflower tobacco	non-native
<i>Datura stramonium</i>	jimsonweed	non-native
<i>Nicotiana glauca</i>	tree tobacco	non-native/invasive
<i>Solanum americanum</i>	American black nightshade	native
URTICACEAE		
<i>Urtica urens</i>	dwarf nettle	non-native
VERBENACEAE		
<i>Verbena litoralis</i>	seashore vervain	non-native
VITACEAE		
<i>Vitis californica</i>	California wild grape	native
ZYGOPHYLLACEAE		
<i>Tribulus terrestris</i>	puncture vine	non-native
ANGIOSPERMS (MONOCOTS)		
ARACEAE		
<i>Lemna</i> sp.	duckweed	native
CYPERACEAE		
<i>Carex nudata</i>	naked sedge	native
<i>Carex</i> sp.	sedge	unknown
<i>Cyperus eragrostis</i>	tall cyperus	native
IRIDACEAE		
<i>Iris fernaldii</i>	fernald's iris	native
<i>Sisyrinchium bellum</i>	blue eyed grass	native
JUNCACEAE		
<i>Juncus</i> sp.	rush	native
LILIACEAE		
<i>Allium triquetrum</i>	three-cornered leek	non-native
<i>Chlorogalum</i> sp.	soap plant	native
<i>Dichelostemma</i> sp.	unknown	native

<i>Trillium</i> sp.	wakerobin	native
POACEAE		
<i>Avena barbata</i>	slender oat	non-native/invasive
<i>Briza minor</i>	little quaking grass	non-native
<i>Bromus carinatus</i>	California brome grass	native
<i>Bromus hordeaceus</i>	soft brome	non-native/invasive
<i>Bromus madritensis</i>	foxtail chess	non-native/invasive
<i>Bromus</i> sp.	brome	unknown
<i>Deschampsia</i> sp.	hairgrass	native
<i>Elymus caput-medusae</i>	medusa head	non-native/invasive
<i>Elymus glaucus</i>	blue wild rye	native
<i>Festuca perennis</i>	Italian rye grass	non-native/invasive
<i>Hordeum</i> sp.	barley	unknown
TYPHACEAE		
<i>Typha</i> sp.	cattail	unknown
GYMNOSPERMS		
CUPRESSACEAE		
<i>Juniperus</i> sp.	juniper	unknown
PINACEAE		
<i>Picea engelmannii</i>	Engelmann spruce	native
<i>Pseudotsuga menziesii</i>	Douglas fir	native
PTERIDOPHYTES		
PTERIDACEAE		
<i>Pellaea andromedifolia</i>	coffee fern	native

Scientific Name	Common Name	Native Status
Wildlife Species		
BIRDS		
<i>Aphelocoma californica</i>	California scrub-jay	native
<i>Baeolophus inornatus</i>	oak titmouse	native
<i>Cathartes aura</i>	turkey vulture	native
<i>Corvus brachyrhynchos</i>	American crow	native
<i>Corvus corax</i>	common raven	native
<i>Junco hyemalis</i>	dark-eyed junco	native
<i>Melanerpes formicivorus</i>	acorn woodpecker	native
<i>Melospiza crissalis</i>	California towhee	native
<i>Pheucticus melanocephalus</i>	black-headed Grosbeak	native
<i>Sayornis nigricans</i>	black phoebe	native
<i>Setophaga petechia</i>	yellow warbler	native
<i>Tachycineta bicolor</i>	tree swallow	native
<i>Trochilinae</i> sp.	hummingbird	native
<i>Turdus migratorius</i>	American robin	native
<i>Vireo cassinii</i>	Cassin's vireo	native
MAMMALS		
<i>Odocoileus virginianus</i>	white-tailed deer	native
<i>Thomomys bottae</i>	Botta's pocket gopher	native
<i>Chiroptera</i> sp.	bats	native

Appendix C. Photographs of Biological Study Area



Figure 1. Dry Creek Bridge taken from the southwest bank of Dry Creek facing northeast; February 2018



Figure 2. Dry Creek Road Bridge facing east; April 2017



Figure 3. Dry Creek Road northern approach from the southeast; April 2017



Figure 4. Dry Creek Road Bridge northern approach from the southwest; April 2017

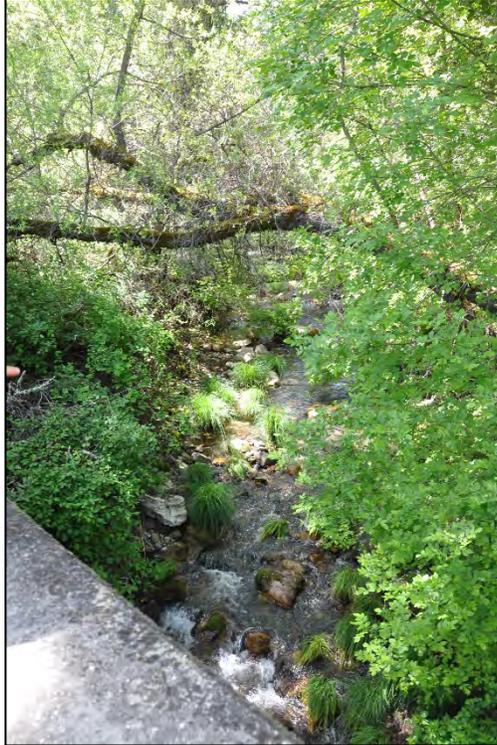


Figure 5. Dry Creek facing north taken from ontop of Dry Creek Bridge; April 2017



Figure 6. Dry Creek channel south of bridge and facing upstream; April 2017



Figure 7. Underneath Dry Creek Bridge facing east; May 2017



Figure 8. Grassland facing north of Dry Creek Road and west of Dry Creek Bridge; April 2017



Figure 9. Grassland facing east toward Dry Creek; April 2017



Figure 10. Dry Creek Bridge taken from the southeast bank of Dry Creek facing north; February 2018

