Buckman Springs Road Bridge Widening Project

DRAFT Natural Environment Study

(Minimal Impacts)

Unincorporated Community of Campo, San Diego County, California

Section 8, Township 17 South, Range 5 East

Campo, California, USGS 7.5-minute topographic map

County of San Diego

BRLS-5957 (084)

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STATE OF CALIFORNIA
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Summary

This Natural Environment Study–Minimal Impacts (NES-MI) report presents the results of a biological resources study completed by HELIX Environmental Planning, Inc. (HELIX) for the proposed Buckman Springs Road Bridge Widening (project) located in unincorporated San Diego County, California.

The proposed project is a Federal Highway Administration-funded project to widen the existing two-lane bridge with a concrete deck, rehabilitate the deck, and upgrade the substandard and deteriorating timber rails. The purpose of the project is to widen and rehabilitate Buckman Springs Road Bridge to meet the federal bridge safety requirements established by the American Association of State Highway Transportation Officials.

An approximately 19-acre Biological Study Area (BSA) was established for the biological resources study, which encompasses the proposed staging area and a 300-foot buffer around the bridge. Direct, permanent and temporary impacts would occur to seven sensitive habitat types: southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, and non-native grassland. In addition, the project would impact U.S. Army Corps of Engineers jurisdictional wetland and non-wetland waters of the U.S., Regional Water Quality Control Board jurisdictional wetland and non-wetland waters of the State, and California Department of Fish and Wildlife (CDFW) jurisdictional riparian habitat and streambed.

No direct impacts are expected to occur to federally or state listed plant species, since no listed plant species have a high potential to occur on site. One federally listed endangered and CDFW Species of Special Concern (SSC) animal species, arroyo toad (*Anaxyrus californicus*), has the potential to occur within the BSA. In addition, eight County-listed sensitive bird species and two mammal species have been observed within the BSA: Cooper's hawk (*Accipiter cooperii*; CDFW Watch List), red-shouldered hawk (*Buteo lineatus*), green heron (*Butorides virescens*), turkey vulture (*Cathartes aura*), white-tailed kite (*Elanus leucurus*; CDFW Fully Protected), mountain quail (*Oreortyx pictus*), yellow warbler (*Setophaga petechia*; U.S. Fish and Wildlife Service Birds of Conservation Concern, CDFW SSC), western bluebird (*Sialia mexicana*), pallid bat (*Antrozous pallidus*; CDFW SSC, U.S. Forest Service Sensitive), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; CDFW SSC). In addition, some of the trees and shrubs on and within 500 feet of the site provide potential nesting habitat for common (non-sensitive) bird species, including raptors, protected under the California Fish and Game Code (CFG Code). These species could potentially be impacted if grading were to occur within 300 feet of an active nest (500 feet for raptors). Avoidance measures are proposed herein to prevent potential impacts to arroyo toad, nesting birds, and raptors. With the implementation of the proposed measures, the project would be in compliance with all relevant federal, state, and local regulations pertaining to biological resources.

Chapter 1. Introduction

1.1. History

1.1.1. Project Purpose and Need

The purpose of the proposed project is to widen and rehabilitate Buckman Springs Road Bridge to meet the federal bridge safety requirements established by the American Association of State Highway Transportation Officials (AASHTO). Buckman Springs Road is a Rural Major Collector and the only north-south road from Interstate 8 to State Route 94 in the area. To meet AASHTO standards, the existing two-lane bridge with a concrete deck must be widened, the deck must be rehabilitated, and the substandard and deteriorating timber rails must be upgraded.

1.2. Project Description

Buckman Springs Road Bridge over Cottonwood Creek (Bridge No. 57C-0270) is in the unincorporated community of Campo, San Diego County, California (Figure 1). The site is shown on the U.S. Geological Survey (USGS) Morena Reservoir 7.5-minute quadrangle (northwest quarter of Section 8, Township 17 South, Range 5 East) (Figure 2). The bridge is located on Buckman Springs Road, approximately 1.5 miles southwest of Interstate 8 (Figure 3).

The Buckman Springs Road Bridge Widening Project (herein referred to as “project”) entails the rehabilitation and widening of the existing bridge crossing of Buckman Springs Road over Cottonwood Creek (Bridge No. 57C-0270). The project is proposed by the County of San Diego (County) Department of Public Works, in cooperation with the California Department of Transportation (Caltrans) District 11.

The Biological Study Area (BSA) for the project is 19.17 acres in size and includes the proposed staging area and a 300-foot buffer from the Potential Impact Area (PIA) for the bridge (Figure 4). A 300-foot buffer from the PIA is used to encompass the potential direct and indirect impact areas for the BSA. Although the staging area is part of the PIA, a buffer was not applied to the staging area because it will only be used for storage and staging, and not for activities that generate significant noise, light, or other indirect impacts.

Buckman Springs Road Bridge is an approximately 450-foot-long, two-lane bridge with a concrete bridge deck and nine piers. The existing 27-foot-wide bridge carries two lanes of traffic over Cottonwood Creek. The project would widen the bridge by up to six feet, nine inches total to create two 15-foot-wide lanes (Figure 5). The underground foundations of four of the piers would be retrofitted, and each of the nine piers would be lengthened by 1.5 feet on each end. Substandard and deteriorated timber rails and concrete overhangs would be removed and replaced with new girders, overhangs, bridge metal railings and Caltrans’ standard timber/metal Midwest guardrail system at the two bridge approaches. The bridge deck surface would be overlaid with a polyester concrete overlay and restriped.

To improve the storm water treatment of the bridge, all bridge deck drainage flows would be directed to three corners of the bridge at the approach ends. Curb inlets would allow the deck’s sheet-flow to

enter storm drain infiltration trenches located at the three corners of the bridge approaches. The storm drain would flow through the infiltration trenches and exit the bottom of the trenches through two 18-inch diameter drain pipes (one at each end of the bridge). The drain pipe would convey the flows to energy dissipater rip rap pads at the bottom of the embankment.

Grading would be required at either end of the bridge. Four oak trees and seven cottonwood trees would be removed to accommodate grading. Graded areas would be revegetated with native species after construction, and trees would be replaced with in-kind species. Two signs, a "slow to 40 mph at the curve" speed limit sign at the eastern end of the bridge and a 6.5-mile marker at the western end of the bridge, would be relocated to within five to 10 feet of their existing locations. The existing reflective striped delineator signs would be removed during construction. Utilities, including AT&T lines, would be relocated along the alignment of the new bridge

Construction of the project is expected to take approximately 12 months. During construction, a 16-foot-wide temporary road (for construction vehicles only) would be created immediately northeast of the Buckman Springs Road Bridge from Buckman Springs Road. This would enable construction vehicles to access the underside of the bridge. Construction staging would occur on a County-owned parcel one half mile away on Corral Canyon Trail, also known as Morena Stokes Valley Road. Traffic would be limited to a single 12-foot-wide travel lane through the center of the bridge as necessary during construction. The Pacific Crest Trail (PCT) would be temporarily relocated outside the project's impact area along the northeastern boundary of the project during construction. The trail relocation would be accomplished by placing signs to redirect foot traffic and would not include any grading or ground disturbance. After construction a small 10-foot section of the PCT will be re-routed slightly around the base of the new bridge abutment slope. The ground beneath the bridge would be restored to pre-project conditions and replanted with native species after construction.

Phase 1

Dewatering may be required during retrofitting of the existing bridge footings. The construction dewatering would be localized around each of the four piers that are to be retrofitted. In order to understand the dynamics of the localized groundwater, a Groundwater Dewatering Study (GWDS) will be needed prior to awarding the construction contract.

The GWDS will involve drilling three eight-inch diameter holes adjacent to the existing bridge. Two of the holes are used to monitor Groundwater levels while the center hole is used to pump out water and time the drawdown rate. This would give the Contractor who would ultimately conduct the construction of the bridge footings an estimate of the quantity of water they may need to dewater during the bridge footing retrofit and the time they have to install the retrofit for each pier.

The water that is encountered during the GWDS will be pumped out of the hole and sprayed evenly on the surface of the creek bed just downstream of the bridge. Water would be applied in a way that does not cause substantial sediment erosion.

In order to minimize impacts to the creek and to sensitive arroyo toad individuals that may be present, the following methods will be used to conduct the GWDS.

1. The GWDS will be conducted outside of the arroyo toad breeding season, which is defined as March 31-July 1.

2. Prior to the initiation of the GWDS, an arroyo toad exclusion fence will be installed in an approximately 50- by 50-foot area as shown on Figure 4.

3. An arroyo toad biologist approved by the Carlsbad United Fish and Wildlife Service (USFWS) will conduct arroyo toad surveys within this 50- by 50-foot fenced area for six consecutive nights.

4. Any arroyo toads encountered during these surveys will be relocated to suitable habitat approved by the USFWS.

5. Surveys will continue until there have been two consecutive negative surveys.

6. A drill rig will be lowered from the bridge by a crane into the fenced area and hoisted back up once the drilling is complete.

7. Once the GWDS test is concluded, the arroyo toad fence around the 50- by 50-foot area will be removed.

Chapter 2. Study Methods

In assessing the natural resources within the BSA, the following studies were completed: general biological survey, jurisdictional delineation, protocol least Bell's vireo and southwestern willow flycatcher (*Empidonax traillii extimus*) surveys (HELIX 2017a, HELIX 2017b), and spring and summer rare plant surveys. The study included an assessment of the existing biological setting; an inventory and mapping of the biological resources present, including vegetation communities, plant and animal species, and important land features; a determination of the potential for sensitive plant and animal species to occur; and a jurisdictional delineation to quantify the jurisdictional waters and wetlands within the PIA. Additionally, previous surveys were referenced for bats (Insignia Environmental 2018), arroyo toad (RECON 2011a), and least Bell's vireo and southwestern willow flycatcher (RECON 2011b). The following sections discuss the regulatory requirements relevant to the project and the specific methods used for this study.

2.1. Regulatory Requirements

Biological resources-related laws and regulations that apply to the proposed project include the National Environmental Policy Act (NEPA), Federal Endangered Species Act (FESA), Migratory Bird Treaty Act (MBTA), Clean Water Act (CWA), Executive Order (EO) 13112, California Environmental Quality Act (CEQA), Porter-Cologne Water Quality Control Act, CFG Code, California Endangered Species Act (CESA), Natural Communities Conservation Planning Act (NCCP), and Draft East County Multiple Species Conservation Program (MSCP) Subarea Plan.

2.1.1. National Environmental Policy Act

NEPA (42 U.S.C. 4321 et seq.) declares a continuing federal policy that directs "a systematic, interdisciplinary approach" to planning and decision-making, and requires environmental statements for "major Federal actions significantly affecting the quality of the human environment." Implementing regulations by the Council on Environmental Quality (40 CFR Parts 1500-1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should, therefore, be seen as an overall framework for the environmental evaluation of federal actions.

2.1.2. Federal Endangered Species Act

Administered by the USFWS, the FESA provides the legal framework for the listing and protection of species (and their habitats) that are identified as being endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the FESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' behavioral patterns.

The USFWS designates critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitats so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the FESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat. The only designated critical habitat within the BSA is arroyo toad. The entire BSA for the Buckman Springs Road Bridge occurs within designated critical habitat for arroyo toad.

Sections 7 and 10(a) of the FESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. In this case, take can be authorized via a letter of biological opinion issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between endangered species' use of a site and impacts to U.S. Army Corps of Engineers (USACE) jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a Habitat Conservation Plan (HCP) when there is no federal nexus. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits. The MSCP is a regional HCP that was developed pursuant to Section 10(a) of the ESA.

2.1.3. Migratory Bird Treaty Act

All migratory bird species that are native to the United States or its territories are protected under the federal MBTA, as amended under the Migratory Bird Treaty Reform Act of 2004 (FR Doc. 05-5127). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

2.1.4. Clean Water Act

Federal wetland regulation in non-tidal (non-marine) settings is guided by the CWA. The purpose of the CWA is to restore and maintain the chemical, physical, and biological integrity of all waters of the U.S. Permitting for projects filling waters of the U.S. is overseen by the USACE and Regional Water Quality Control Board (RWQCB) under Sections 404 and 401 of the CWA, with Water Quality Certification from the RWQCB under section 401 of the CWA. Most development projects are permitted using either an Individual Permit or Nationwide Permit from USACE and Water Quality Certification from RWQCB.

2.1.5. Executive Order 13112

EO 13112 was adopted on February 3, 1999, and seeks to prevent the introduction of alien plant and animal species that cause economic or environmental harm. EO 13112 also established the National Invasive Species Council.

2.1.6. California Environmental Quality Act

Primary environmental legislation in California is found in CEQA and its implementing guidelines (State CEQA Guidelines), which require that projects with potential adverse effects (or impacts) on the environment undergo environmental review. Adverse environmental impacts are typically mitigated as a result of the environmental review process in accordance with existing laws and regulations.

2.1.7. Porter-Cologne Water Quality Control Act

The State Water Resources Control Board and the RWQCB regulate the discharge of waste to waters of the State via the 1969 Porter-Cologne Water Quality Control Act as described in the California Water Code. The California Water Code is the State's version of the federal CWA. Waste, according to the California Water Code, includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

State waters that are not federal waters may be regulated under the Porter-Cologne Water Quality Control Act. A Report of Waste Discharge must be filed with the RWQCB for projects that result in discharge of waste into waters of the State. The RWQCB will issue Waste Discharge Requirements (WDRs) or a waiver. The WDRs are the Porter-Cologne Water Quality Control Act version of a CWA Section 401 Water Quality Certification.

2.1.8. California Fish and Game Code

The CFG Code provides specific protection and listing for several types of biological resources. It includes the CESA (Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600-1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. The CFG Code also includes the Native Plant Protection Act (Sections 1900-1913), which directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State."

The CESA prohibits take of wildlife and plants listed as threatened or endangered by the California Fish and Game Commission. Take is defined under the CFG Code as any action or attempt to "hunt, pursue, catch, capture, or kill." Therefore, take under the CESA does not include "the taking of habitat alone or the impacts of the taking." Rather, the courts have affirmed that under the CESA, "taking involves mortality."

The CESA allows exceptions to the take prohibition for take that occurs during otherwise lawful activities. The requirements of an application for incidental take under the CESA are described in Section 2081 of the California Fish and Game Code. Incidental take of State-listed species may be authorized if an applicant submits an approved plan that minimizes and "fully mitigates" the impacts of this take.

Section 1600 of CFG Code requires notification for a Streambed Alteration Agreement (SAA) from CDFW for any activity that would alter the flow, change or use any material from the bed, channel, or bank of any perennial, intermittent, or ephemeral river, stream, and/or lake. Typical activities that require notification for an SAA include excavation or fill placed within a channel, vegetation clearing, structures for diversion of water, installation of culverts and bridge supports, cofferdams for construction dewatering, and bank reinforcement.

Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Raptors and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that construction activities (particularly vegetation removal or construction near nests) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by CDFW and/or USFWS.

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time. The California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFW.

2.1.9. Natural Communities Conservation Planning Act

The NCCP program is a cooperative effort to protect habitats and species. It began under the State's NCCP Act of 1991, legislation broader in its orientation and objectives than the CESA or FESA. These laws are designed to identify and protect individual species that have already declined significantly in number. The NCCP Act of 1991 and the associated Southern California Coastal Sage Scrub NCCP Process Guidelines (1993), Southern California Coastal Sage Scrub NCCP Conservation Guidelines (1993), and NCCP General Process Guidelines (1998) have been superseded by the NCCP Act of 2003.

The primary objective of the NCCP program is to conserve natural communities at the ecosystem level while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.

This voluntary program allows the State to enter into planning agreements with landowners, local governments, and other stakeholders to prepare plans that identify the most important areas for a threatened or endangered species, and the areas that may be less important. These NCCP plans may become the basis for a State permit to take threatened and endangered species in exchange for conserving their habitat. The CDFW and USFWS worked to combine the NCCP program with the federal HCP process to provide take permits for State and federal listed species. Under the NCCP, local governments, such as the County, can take the lead in developing these NCCP plans and become the recipients of State and federal take permits.

2.1.10. East County MSCP

The NCCP Act of 1991 (Section 2835) allows the CDFW to authorize take of species covered by plans in agreement with NCCP guidelines. A Natural Communities Conservation Program initiated by the State of California focuses on conserving coastal sage scrub, and in concert with the USFWS and the federal ESA, is intended to avoid the need for future federal and state listing of coastal sage scrub dependent species.

The County is in the process of developing a habitat conservation plan for the eastern unincorporated area under County jurisdiction. The Plan will address areas authorized for take and planned for conservation. Implementation of this program will result in the issuance of a permit to the County for incidental take of threatened and endangered species. Once the County obtains take authorization, it can provide third-party beneficiary status to applicants for projects that conform to the standards of the plan.

2.2. Studies Required

2.2.1. Literature Search

Prior to conducting the survey, a thorough review of recent aerial imagery (Google 2017), topographic maps (USGS 2013), U.S. Department of Agriculture soils maps (U.S. Department of Agriculture 2017), and National Wetlands Inventory (USFWS 2017) maps of the BSA were reviewed. Database applications reviewed included California Natural Diversity Database (CNDDB) (CDFW 2018a), California Native Plant Society (CNPS) Electronic Inventory (CNPS 2018), USFWS Critical

Habitat Portal (USFWS 2018), USFWS species lists (USFWS 2015, USFWS 2011), U.S. Forest Service (USFS) species list (USFS 2018), and CDFW species lists (CDFW 2018b, 2018c, and 2018d). The database search was based on a five-mile buffer for USFWS species records and a four-quadrangle search for CNDDB and CNPS.

2.2.2. Field Reviews

Field surveys for this project consisted of a general biological survey, protocol least Bell's vireo and southwestern willow flycatcher surveys (HELIX 2017a, HELIX 2017b), spring and summer rare plant surveys, and jurisdictional delineation, as described below. Previous surveys were referenced for bats (Insignia Environmental 2018), arroyo toad (RECON 2011a), and least Bell's vireo and southwestern willow flycatcher (RECON 2011b).

2.2.3. Survey Methods

2.2.3.1. General Biological Survey

The general biological survey conducted by HELIX on July 11, 2017, included an assessment of the existing biological setting; an inventory and mapping of the biological resources present, including vegetation communities, plant and animal species, and important land features; and a determination of the potential for sensitive plant and animal species to occur. Vegetation communities were generally classified according to Holland (1986) and Oberbauer et al. (2008). Nomenclature used in this report generally comes from Baldwin et al. (2012) for plants; Center for North American Herpetology (Taggart 2015) for reptiles and amphibians; American Ornithological Society (2018) for birds; and Bradley et al. (2014) for mammals. Representative photos were taken and included as Appendix B.

2.2.3.2. Least Bell's Vireo and Southwestern Willow Flycatcher Surveys

HELIX conducted a protocol least Bell's vireo survey at the Buckman Springs Road Bridge between April 12, 2017 and June 26, 2017 (HELIX 2017a). The survey consisted of eight survey visits conducted according to the USFWS survey protocol for least Bell's vireo (USFWS 2001). RECON also conducted eight protocol least Bell's vireo survey visits between April 13, 2011 and July 8, 2011 (RECON 2011b).

HELIX conducted a protocol southwestern willow flycatcher survey at the Buckman Springs Road Bridge between May 15, 2017 and July 6, 2017 (HELIX 2017b). The survey consisted of five survey visits conducted according to the USFWS survey protocol for southwestern willow flycatcher (Sogge et al. 2010). RECON also conducted five protocol southwestern willow flycatcher survey visits between May 19, 2011 and July 8, 2011 (RECON 2011b).

2.3. Rare Plant Surveys

HELIX conducted rare plant surveys in spring (April 10, 2018) and summer (June 26, 2018), which is when most sensitive plant species can be identified.

2.3.1. Jurisdictional Delineation

The jurisdictional delineation was conducted on July 11, 2017, to identify and map any water and wetland resources potentially subject to USACE jurisdiction pursuant to Section 404 of the CWA (33

USC 1344) and streambed habitats potentially subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the CFG Code. The jurisdictional delineation study area included the impact footprint and a 100-foot buffer from the bridge. Areas generally characterized by depressions, drainage features, and riparian and wetland vegetation were evaluated.

Potential USACE/RWQCB-jurisdictional waters of the U.S./State were delineated in accordance with the Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008). Sampling points were located within representative uplands and wetlands, and mapping of drainage features was performed in the field based on the ordinary high water mark (OHWM) and surface indications of hydrology. Areas were determined to be potential wetland waters of the U.S./State if there was a dominance of hydrophytic vegetation, hydric soils, and wetland hydrology indicators. Areas were determined to be potential non-wetland waters of the U.S./State if there was evidence of regular surface flow within an OHWM, but the vegetation and/or soils criterion were not met.

Potential CDFW-jurisdictional streambed and riparian habitat were determined based on the presence of riparian vegetation or regular surface flow. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation” (Title 14, Section 1.72). Potential CDFW jurisdictional unvegetated streambed encompasses the top-of-slope to top-of-slope width for the ephemeral streams within the survey area.

2.3.2. Bat Survey

Bat surveys were not conducted for the project; however, a survey conducted for the Cleveland National Forest Power Line Replacement Project overlapped the bridge BSA (Insignia Environmental 2018). Insignia biologists conducted a database review for potential bat roost sites, daytime surveys during the breeding/pupping season (April–mid-September) for bats to inventory new roosting locations, and focused nighttime surveys for Townsend’s big-eared bat (*Corynorhinus townsendii*) and other bat species at identified roost locations as determined by the database searches or from field surveys. Field surveys included visual inspections of suitable structures, nighttime acoustic detection surveys, and roost site exit emergence counts. Calls were recorded by the acoustic detection devices and identified the species by their calls when possible. Calls were correlated with time during emergence counts to provide a relative abundance of bat species at a given roost.

2.3.3. Arroyo Toad Survey

Focused arroyo toad surveys were conducted for the Buckman Springs Road Bridge between March and May 2011 (RECON 2011a). Surveys were conducted within approximately 500 feet of the bridge span, which includes portions of both Cottonwood and La Posta Creeks, following USFWS protocol. Before dusk, surveyors walked slowly through the survey area and visually searched for arroyo toad eggs, larvae, and juveniles. After dusk, surveyors periodically stopped along the survey route and spent approximately 15 minutes listening for arroyo toad calls. Flashlights were used to search for adult arroyo toad at various places along the survey route.

2.4. Personal Survey Dates

The survey personnel, qualifications, and dates of surveys conducted by HELIX for this study are listed in Table 1, below.

Table 1: Summary of Biological Surveys

Date	Surveyor	Title	Survey	Time
4/12/17	Ben Rosenbaum	Biologist IV	Least Bell's Vireo 1/8	7:20 AM 9:20 AM
4/24/17	Ben Rosenbaum	Biologist IV	Least Bell's Vireo 2/8	7:50 AM 9:50 AM
5/5/17	Ben Rosenbaum	Biologist IV	Least Bell's Vireo 3/8	9:00 AM 10:15 AM
5/15/17	Ben Rosenbaum and Erica Harris[1]	Biologist IV, Biologist V	Least Bell's Vireo 4/8 and Southwestern Willow Flycatcher 1/5	7:00 AM 8:50 AM
5/25/17	Erica Harris And Dane van Tamelen[2]	Biologist V, Biologist I	Least Bell's Vireo 5/8	7:20 AM 9:20 AM
6/5/17	Beth Ehsan and Erica Harris[1]	Biology Project Manager, Biologist V	Least Bell's Vireo 6/8 and Southwestern Willow Flycatcher 2/5	7:30 AM 9:00 AM
6/15/17	Ben Rosenbaum and Erica Harris[1]	Biologist IV, Biologist V	Least Bell's Vireo 7/8 and Southwestern Willow Flycatcher 3/5	7:15 AM 8:35 AM
6/26/17	Ben Rosenbaum and Erica Harris[1]	Biologist IV, Biologist V	Least Bell's Vireo 8/8 and Southwestern Willow Flycatcher 4/5	7:30 AM 8:50 AM
7/6/17	Erica Harris	Biologist V	Southwestern Willow Flycatcher 5/5	7:05 AM 9:00 AM
7/11/17	Beth Ehsan and Stacy Nigro	Biology Project Manager, Principal Biologist	General Biological Survey. Vegetation Mapping. Jurisdictional Delineation	N/A
4/10/18	Beth Ehsan and Amy Mattson	Biology Project Manager, Biologist V	Spring Rare Plant Survey	N/A

Table 1: Summary of Biological Surveys (cont.)

Date	Surveyor	Title	Survey	Time
6/26/18	Amy Mattson	Biologist V	Summer Rare Plant Survey	N/A

[1] Southwestern willow flycatcher biologist, conducting Southwestern willow flycatcher survey
[2] Supervised individual

2.5. Agency Coordination and Professional Contacts

A list of federally threatened, endangered, or proposed species potentially present within the vicinity of the bridge was obtained from USFWS on November 25, 2015, and is provided in Appendix C. This updates the 2011 list provided for geotechnical testing activities (USFWS 2011). A list of federally threatened, endangered, or proposed species or USFS Sensitive Species present within the Cleveland National Forest was obtained from USFS on February 28, 2018 (USFS 2018).

2.6. Limitations That May Influence Results

There were no significant limitations affecting the results of the surveys. The general biological resources survey and jurisdictional delineation was conducted in accordance with standard protocols. Environmental conditions were typical for the time of year, and rare plant surveys were conducted in both spring and summer to cover the spring and summer blooming periods.

Chapter 3. Results: Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

3.1.1. Study Area

The BSA for the Buckman Springs Road Bridge Widening is 19.17 acres in size and includes a 300-foot buffer from the PIA (Figure 4). A 300-foot buffer is used to encompass the potential direct and indirect impact areas for the BSA.

3.1.2. Physical Conditions

The BSA is undeveloped except for Buckman Springs Road and a section of the PCT. The Buckman Springs Road Bridge spans the confluence of Cottonwood Creek and La Posta Creek. Within the BSA, Cottonwood Creek occurs as a wide, sandy, largely unvegetated channel. La Posta Creek occurs roughly parallel to the north side of Buckman Springs Road and, at the bridge, occurs as a narrow strip of herbaceous wetland east of Cottonwood Creek. Water flow beneath the bridge is seasonal.

Surrounding lands are undeveloped and consist of passive conservation land located partly within the Cleveland National Forest and partly within Lake Morena County Park. The BSA is gently sloped, except for the slopes adjacent to the developed roadway. Elevation ranges from about 3,060 feet below the bridge to about 3,090 feet in the upland areas and 3,100 feet in the staging area. Soils within the BSA include Mottsville loamy coarse sand along the creeks and in the staging area, acid igneous rock land in the northwest and southeast ends of the BSA, and La Posta rocky loamy coarse sand in the west end of the BSA (Figure 6).

3.1.3. Biological Conditions in the Study Area

The habitat types mapped within the Buckman Springs Road Bridge BSA are southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, non-native grassland, and disturbed habitat (Figure 7). Riparian vegetation (primarily willows [Salix spp.] and mule fat [Baccharis salicifolia]) occurs alongside the creeks. Developed land and disturbed habitat occurs in and adjacent to Buckman Springs Road. No vernal pools or ephemeral basins occur. A total of 137 plant species were observed during surveys, including 101 native species and 36 non-native species (Appendix F). No sensitive plant species were observed during surveys, nor are they expected to occur within the PIA. A total of 32 animal species were observed during surveys conducted for this study, including six mammals, one reptile, 16 birds, and nine insects (Appendix G). Species observed within the BSA during current project surveys include two County-listed sensitive bird species: red-shouldered hawk (*Buteo lineatus*; County Group 1) and turkey vulture (*Cathartes aura*; County Group 1). An additional six County-listed bird species and one mammal species were observed during previous surveys of the BSA: Cooper's hawk (*Accipiter cooperii*; CDFW Watch List; County Group 1), green heron (*Butorides virescens*; County Group 2), white-tailed kite (*Elanus leucurus*; CDFW Fully Protected; County Group 1), mountain quail (*Oreortyx pictus*; County Group 2), yellow warbler (*Setophaga petechia*; USFWS Birds of Conservation Concern, CDFW SSC; County Group 2), western bluebird (*Sialia mexicana*; County Group 2), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; CDFW SSC; County Group 2). Additionally, other surveys have identified pallid bat (*Antrozous pallidus*; CDFW SSC, USFS Sensitive; County Group 2) and arroyo toad (*Anaxyrus californicus*; federally listed endangered and CDFW SSC; County Group 1) in the BSA.

3.2. Habitat Connectivity

Buckman Springs Road Bridge is surrounded by undeveloped land, except for Buckman Springs Road and a section of the PCT. Cottonwood and La Posta Creeks serve as wildlife corridors beneath the bridge, although wildlife could also travel through the undeveloped native habitat on either side of the bridge by crossing Buckman Springs Road. The PCT does not serve as a barrier to wildlife movement. The proposed staging area is also surrounded by undeveloped land and is not expected to serve as a wildlife corridor.

3.3. Regional Species and Habitats and Natural Communities of Concern

3.3.1. Sensitive Habitats or Natural Communities of Concern

Eight sensitive communities occur in the BSA for Buckman Springs Road Bridge: southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, and non-native grassland.

3.3.2. Plant Species of Concern

Based on a list compiled through the CNDDB (CDFW 2018a) and other sources (CNPS 2018, USFWS 2015), 90 special-status plant species have been reported within approximately five miles and four USGS quadrangles of the Buckman Springs Road Bridge (see Appendix D). Although suitable habitat for some of the species occurs within the BSA, none of the 90 species were observed during rare plant surveys or have a high potential to occur within the PIA due to lack of suitable habitat, elevation, or soils, or the known range for the species.

3.3.3. Animal Species of Concern

Based on a list compiled through the CNDDB (CDFW 2018a),USFWS (USFWS 2015), and USFS (USFS 2018), 58 special-status animal species have been reported within approximately five miles and four quadrangles of the Buckman Springs Road Bridge or within the Cleveland National Forest (see Appendix D). Eight of these species were observed during current and past surveys of the BSA: arroyo toad, Cooper's hawk, red-shouldered hawk, turkey vulture, white-tailed kite, yellow warbler, pallid bat, and San Diego black-tailed jackrabbit. In addition, three County-listed species were observed within the BSA: green heron, mountain quail, and western bluebird. A total of 25 additional species have suitable habitat present within the BSA within the species known range.

Arroyo toad was observed within approximately 100 feet of the Buckman Springs Road Bridge during 2011 surveys, and suitable arroyo toad breeding habitat was present throughout the survey area (RECON 2011a). The entire BSA for the Buckman Springs Road Bridge occurs within designated critical habitat for the arroyo toad.

Bat surveys conducted for a different project identified a nighttime roost for pallid bats (species of special concern and County listed species) and another non-sensitive species at the Buckman Springs Road bridge, but did not identify any daytime roosts, maternity colonies, or hibernaculum (Insignia Environmental 2018).

Suitable habitat for least Bell's vireo is present within the BSA; however, no adult or juvenile least Bell's vireo were observed during the 2017 protocol survey for this species (HELIX 2017b). Previous surveys conducted for the project area resulted in detection of only a dispersing male (RECON 2011b). Thus, the BSA is considered unoccupied. Protocol surveys for the southwestern willow flycatcher in 2017 and 2011 were negative and BSA is considered unoccupied (HELIX 2017a, RECON 2011b). The nearest observation record for southwestern willow flycatcher is over 20 miles away and the species is not expected to occur on site.

3.3.4. Wildlife Corridors and Linkages

As noted above, the creeks that run under Buckman Springs Road Bridge connect to habitat areas located outside of the BSA. Common wildlife species such as raccoons (*Procyon lotor*) and coyotes (*Canis latrans*) could use the creeks to move through the BSA, and coyotes were observed by HELIX. La Posta Creek is a narrow, two- to four-foot wide creek traversing mule fat scrub and non-native grassland. Although the channel is narrow, scrub areas provide good cover for wildlife movement.

Cottonwood Creek is largely unvegetated in the BSA, with mule fat scrub, southern arroyo willow riparian forest, and big sagebrush scrub along the banks. Although cover is sparse, the floodplain of the river appears wide enough to facilitate wildlife movement. The staging area does not include a riparian corridor or other feature expected to serve as a wildlife corridor.

3.3.5. Waterways and Wetlands

A jurisdictional delineation was conducted for the Buckman Springs Road Bridge Widening and encompassed the PIA and a 100-foot buffer from the bridge (Figure 8 and Figure 9). The jurisdictional delineation study area supports 0.03 acre (292 linear feet) of wetland waters of the U.S./State and 0.29 acre (325 linear feet) of non-wetland waters of the U.S./State subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA and the regulatory jurisdiction of the RWQCB pursuant to Section 401 of the CWA; and 2.29 acres of riparian habitat (southern arroyo willow riparian forest, mule fat scrub, and herbaceous wetland) and 0.33 acre of streambed subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the CFG Code.

Chapter 4. Results: Biological Resources, Discussion of Impacts & Mitigation

Phase 1, the GWDS, will have no permanent impacts, and the temporary impacts will be contained within the temporary impact footprint for the project, as shown on Figure 10. The GWDS will incorporate the measures listed in Section 1.2 to minimize impacts to sensitive biological resources and avoid take of arroyo toad during Phase 1. Due to its small size, short duration, minimization methods, and location within the PIA, the GWDS is not expected to have significant impacts beyond those already discussed below for the project itself, and is not discussed further in this chapter except in Section 4.1.1.

4.1. Habitats and Natural Communities of Special Concern

The 19.17-acre BSA supports southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, non-native grassland, disturbed habitat, and developed land (Table 2; Figure 7). Of these habitat types, southern arroyo willow riparian forest, mule fat scrub, herbaceous wetland, non-vegetated channel, coast live oak woodland, big sagebrush scrub, southern mixed chaparral, and non-native grassland are considered sensitive. All of these sensitive habitats except southern mixed

chaparral are present in significant quantities within the PIA (Table 2; Figure 10). Permanent impacts total 0.1 acre, and temporary impacts total 1.84 acres. Note that the permanent impact footprint shown on the project plans (Figure 5) includes the bridge foundation retrofit area as a permanent impact. The expanded bridge foundations, also called pile caps, will be buried underground and the soil surface in that area will be restored to its original condition when the foundation retrofit is complete; therefore, the area of underground bridge foundation retrofit is shown and calculated as a temporary impact in this report.

Table 2: Buckman Springs Road Bridge Widening Existing Habitat and Proposed Impacts

Vegetation Community/ Habitat Type	BSA (acres)*	Permanent Impacts (acres)*	Temporary Impacts (acres)*	Total Impacts (acres)*
Southern Arroyo Willow Riparian Forest	5.24	<0.01	0.32	0.32
Mule Fat Scrub	3.03	<0.01	0.42	0.42
Herbaceous Wetland	0.06	<0.01	0.01	0.01
Non-vegetated channel	0.74	<0.01	0.09	0.09
Coast Live Oak Woodland	3.3	<0.1	0.1	0.1
Big Sagebrush Scrub	0.5	<0.1	0.1	0.1
Southern Mixed Chaparral	1.5	--	--	--
Non-native Grassland	3.5	<0.1	0.5	0.5
Disturbed Habitat	0.6	<0.1	0.2	0.2
Developed Land	0.7	0.1	0.1	0.2
TOTAL	**19.17**	**0.1**	**1.84**	**1.94**

*Upland habitats are rounded to the nearest tenth and wetland/riparian habitats are rounded to the nearest hundredth. Totals reflect rounding.

4.1.1 Effects Found not to be Significant

The project would not have a significant impact in the following issue areas:

- The project would not draw down the groundwater table to the detriment of groundwater-dependent habitat. Pumping of groundwater would occur during the GWDS and during retrofitting of existing bridge footings. Dewatering would be very localized, creating a dewatered cone approximately 40 feet wide at the hole being pumped. Only one hole would be pumped during the GWDS, and only four bridge piers would require dewatering. The water pumped up from dewatering would be sprayed on the surface of the creek bed just downstream of the bridge so that it would continue to support habitat in the area. Dewatering would be short term, lasting approximately two days for the GWDS and approximately one month for each of the four bridge piers to be retrofitted.
- The project would not construct any new permanent roads or trails that would increase human or domestic animal access to the area, introduce irrigation that would encourage pests or exotic species, or introduce new permanent sources of noise or nighttime lighting,

and would be designed to control storm water and erosion; therefore, the project would not have significant indirect impacts on sensitive habitats.

- Although present within the BSA, southern mixed chaparral would not be impacted in substantial quantities and is not discussed below. In addition, disturbed and developed habitats are not considered sensitive and are not discussed below.

4.1.2 Discussion of Southern Arroyo Willow Riparian Forest

Southern arroyo willow riparian forest is a sensitive riparian community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines. The southern arroyo willow riparian forest in the BSA was determined to be a CDFW jurisdictional riparian habitat per the jurisdictional delineation. None was determined to be waters of the U.S./State.

4.1.2.1. SURVEY RESULTS

The BSA supports 5.24 acres of southern arroyo willow riparian forest. The southern willow riparian forest on site is of moderate quality and consists of red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), Goodding's black willow (*Salix gooddingii*), and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) trees, with an understory dominated by non-native grasses.

4.1.2.2. PROJECT IMPACTS

Permanent impacts to southern arroyo willow riparian forest within the PIA total less than 0.01 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.32 acre.

4.1.2.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

The project was redesigned several times from the original design in order to reduce impacts and increase avoidance of riparian areas, sensitive habitat, and trees. Compensatory mitigation would be required for temporary impacts to southern arroyo willow riparian forest according to mitigation measure M-BIO-1 below.

M-BIO-1: Upon completion of construction activities, temporary impact areas, including 0.32 acre of southern arroyo willow riparian forest, 0.42 acre of mule fat scrub, 0.01 acre of herbaceous wetland, 0.09 acre of non-vegetated channel, 0.1 acre of coast live oak woodland, 0.1 acre of big sagebrush scrub, and 0.5 acre of non-native grassland, will be restored in place, providing on-site, in-kind mitigation at a 1:1 ratio. The impact area shall be restored to its original pre-construction conditions, with respect to contours and vegetation composition, to the extent feasible. Restoration will include planting at least 14 cottonwood trees to replace the seven cottonwood trees to be removed by the project and at least eight coast live oak trees to replace the four coast live oak trees to be removed by the project, resulting in a 2:1 ratio. Restoration will follow a restoration plan to be prepared for County approval by a County-approved revegetation planner. The restoration plan will specify maintenance and monitoring requirements and success criteria.

4.1.3. Discussion of Mule Fat Scrub

Mule fat scrub is a sensitive riparian community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines. The mule fat scrub in the BSA was determined

to be a CDFW jurisdictional riparian habitat per the jurisdictional delineation. None was determined to be waters of the U.S./State.

4.1.3.1. SURVEY RESULTS

The BSA supports 3.03 acres of mule fat scrub. The mule fat scrub on site is of low quality, consisting of sparsely scattered mule fat (*Baccharis salicifolia*) with an understory including ragweed (*Ambrosia* spp.), yerba mansa (*Anemopsis californica*), tarragon (*Artemisia dracunculus*), saltgrass (*Distichlis spicata*), salt heliotrope (*Heliotropium curassavicum* var. *occulatum*), and stinging nettle (*Urtica dioica* ssp. *holosericea*).

4.1.3.2. PROJECT IMPACTS

Permanent impacts to mule fat scrub within the PIA total less than 0.01 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.42 acre.

4.1.3.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to mule fat scrub. Temporary impact areas (0.42 acre) will be restored in place per mitigation measure M-BIO-1.

4.1.4. Discussion of Herbaceous Wetland

Herbaceous wetland is a sensitive riparian community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines. The herbaceous wetland in the BSA was determined to be a CDFW jurisdictional riparian habitat and wetland waters of the U.S./State per the jurisdictional delineation.

4.1.4.1. SURVEY RESULTS

The BSA supports 0.06 acre of herbaceous wetland. The herbaceous wetland on site consists of a variety of native and non-native herbs, including common monkey-flower (*Mimulus guttatus*), annual beardgrass (*Polypogon monspeliensis*), willow herb (*Epilobium ciliatum* ssp. *ciliatum*), toad rush (*Juncus bufonius*), willow dock (*Rumex salicifolius* var. *salicifolius*), and stinging nettle.

4.1.4.2. PROJECT IMPACTS

Permanent impacts to herbaceous wetland within the PIA total less than 0.01 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.01 acre.

4.1.4.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to herbaceous wetland. Temporary impact areas (0.01 acre) will be restored in place per mitigation measure M-BIO-1.

4.1.5. Discussion of Non-vegetated Channel

Non-vegetated channel is a sensitive community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines. The non-vegetated channel in the BSA is also non-wetland waters of the U.S./State and CDFW streambed, as determined by the jurisdictional delineation.

4.1.5.1. SURVEY RESULTS

The BSA supports 0.74 acre of non-vegetated channel. The non-vegetated channel on site is largely bare but contains a diverse mix of largely herbaceous plants. The most common plant in this vegetation community is buckwheat (*Eriogonum* sp.), which occurs in patches.

4.1.5.2. PROJECT IMPACTS

Permanent impacts to non-vegetated channel within the PIA total less than 0.01 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.09 acre.

4.1.5.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to non-vegetated channel. Temporary impact areas (0.09 acre) will be restored in place per mitigation measure M-BIO-1.

4.1.6. Discussion of Coast Live Oak Woodland

Coast live oak woodland is a sensitive upland community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines.

4.1.6.1. SURVEY RESULTS

The BSA supports 3.3 acres of coast live oak woodland. The coast live oak woodland on site is dominated by coast live oak (*Quercus agrifolia* var. *agrifolia*), with an understory of non-native grass and native shrubs.

4.1.6.2. PROJECT IMPACTS

Permanent impacts to coast live oak woodland within the PIA total less than 0.1 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.1 acre. A 50-foot Oak Root Zone was mapped surrounding the coast live oak woodland on site to determine whether the project would impact roots extending outward from the avoided areas of coast live oak woodland. In this case, based on the location of the impacts relative to the oak root zone, additional impacts to avoided coast live oak woodland are not anticipated. Most impacts within the Oak Root Zone consist of temporary construction staging and areas of fill that will be removed or replanted after project construction and will not cut into oak roots. Therefore, impacts to the Oak Root Zone were not added to the coast live oak woodland impact.

4.1.6.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to coast live oak woodland. Temporary impact areas (0.1 acre) should be restored in place, including planting at least eight coast live oak trees to replace the four coast live oak trees to be removed by the project, per mitigation measure M-BIO-1.

4.1.7. Discussion of Big Sagebrush Scrub

Big sagebrush scrub is a sensitive upland community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines.

4.1.7.1. SURVEY RESULTS

The BSA supports 0.5 acre of big sagebrush scrub. The big sagebrush scrub on site is dominated by Great Basin sagebrush (*Artemisia tridentata*). Other species in this community include chamise (*Adenostoma fasciculatum*), western ragweed, tarragon, and buckwheat.

4.1.7.2. PROJECT IMPACTS

Permanent impacts to big sagebrush scrub within the PIA total less than 0.1 acre and, thus, are not considered significant. Temporary impacts for bridge construction total 0.1 acre.

4.1.7.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to big sagebrush scrub. Temporary impact areas (0.1 acre) will be restored in place per mitigation measure M-BIO-1.

4.1.8. Discussion of Non-native Grassland

Non-native grassland is a sensitive upland community requiring compensatory mitigation for unavoidable impacts in accordance with the County's guidelines.

4.1.8.1. SURVEY RESULTS

The BSA supports 3.5 acres of non-native grassland. The non-native grassland on site includes grass species including common ripgut grass (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), cheatgrass (*Bromus tectorum*), saltgrass, and deergrass (*Muhlenbergia rigens*) as well as non-native and native forbs such as bull thistle (*Cirsium vulgare*), horseweed (*Erigeron canadensis*), and short-pod mustard (*Hirschfeldia incana*). Saltgrass and deergrass are native grasses.

4.1.8.2. PROJECT IMPACTS

Permanent impacts to non-native grassland within the PIA total less than 0.1 acre and, thus, are not considered significant. Temporary impacts for bridge construction and staging total 0.5 acre.

4.1.8.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

Compensatory mitigation would be required for temporary impacts to non-native grassland. Temporary impact areas (0.5 acre) will be restored in place per mitigation measure M-BIO-1.

4.2. Discussion of Jurisdictional Waters

The BSA supports wetland and non-wetland waters of the U.S. subject to the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA, wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the RWQCB pursuant to Section 401 of the CWA, and riparian habitat and unvegetated streambed subject to CDFW jurisdiction pursuant to Sections 1600 et seq. of the CFG Code, as shown on Figures 8 and 9. Jurisdictional areas within the jurisdictional delineation area are detailed in Table 3. Jurisdictional delineation data sheets are included as Appendix E.

Table 3: Buckman Springs Road Bridge Jurisdictional Areas

Jurisdictional Area	Jurisdictional Delineation Study Area		PIA					
			Permanent		Temporary		Total	
	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
USACE/RWQCB Jurisdictional Areas								
Wetland Waters of the U.S./State (Herbaceous Wetland)	0.03	290	<0.01	1.5	0.01	80	0.01	81.5
Non-wetland Waters of the U.S./State (Non-vegetated Channel)	0.29	325	<0.01	1.5	0.09	251	0.09	252.5
TOTAL	**0.32**	**615**	**<0.01**	**3**	**0.10**	**331**	**0.10**	**334**
CDFW Jurisdictional Areas								
Southern Arroyo Willow Riparian Forest	1.33	131	<0.01	18	0.32	60	0.32	78
Mule Fat Scrub	0.89	199	<0.01	10	0.42	85	0.42	95
Herbaceous Wetland	0.04	292	<0.01	1.5	0.01	70	0.01	71.5
Streambed	0.31	540	<0.01	1.5	0.09	90	0.09	91.5
TOTAL	**2.57**	**1162**	**<0.01**	**31**	**0.86**	**305**	**0.84**	**336**

4.2.1. Survey Results

The Buckman Springs Road Bridge Widening jurisdictional delineation study area contains a total of 0.29 acre of USACE/RWQCB jurisdictional non-wetland waters of the U.S./State and 0.03 acre of wetland waters of the U.S./State, composed of herbaceous wetland (Table 3 and Figure 8). The jurisdictional delineation study area contains 0.31 acre of CDFW jurisdictional streambed and 2.26 acres of CDFW riparian habitat, composed of 1.33 acres of southern arroyo willow riparian forest, 0.89 acre of mule fat scrub, and 0.04 acre of herbaceous wetland (Table 3 and Figure 9).

Five sampling points were assessed: SP1 in a representative area of the herbaceous wetland within the Cottonwood Creek channel, SP2 in the adjacent southern arroyo willow riparian forest above the creek bank, SP3 in herbaceous wetland where La Posta Creek passes under the bridge, and SP4 and SP5 in riparian habitat west of Cottonwood Creek, as shown on Figure 8. The data sheets are included as Appendix E. The two sampling points within herbaceous wetland met all three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology indicators, which indicates the presence of USACE-jurisdictional wetland waters of the U.S./State. The two sampling points in southern arroyo willow riparian forest (SP2 and SP4) lacked all three wetland indicators. The last sampling point within mule fat scrub (SP5) was determined to be dominated by hydrophytic vegetation but did not have indicators of wetland hydrology or hydric soils, meaning wetland was not

present at that location. Areas within the OHWM of Cottonwood Creek and La Posta Creek that lacked wetland indicators were mapped as non-wetland waters of the U.S./State.

The entirety of Cottonwood Creek and most of La Posta Creek within the PIA, from top-of-slope to top-of-slope, was mapped as CDFW jurisdictional streambed (Figure 9). Areas within the canopy of southern arroyo willow riparian forest and mule fat scrub, and areas mapped as herbaceous wetland, were mapped as CDFW riparian habitat.

4.2.2. Project Impacts

The project would permanently impact less than 0.01 acre (1.5 linear feet) of wetland waters of the U.S./State, less than 0.01 acre (1.5 linear feet) of non-wetland waters of the U.S./State, less than 0.01 acre (29.5 linear feet) of CDFW riparian habitat, and less than 0.01 acre (1.5 linear feet) of CDFW streambed (Table 3; Figures 11 and 12). Temporary impacts would occur to 0.01 acre (80 linear feet) of wetland waters of the U.S./State, 0.10 acre (251 linear feet) of non-wetland waters of the U.S./State, 0.75 acre (215 linear feet) of CDFW riparian habitat, and 0.09 acre (90 linear feet) of CDFW streambed (Table 3; Figures 11 and 12).

4.2.3 Avoidance and Minimization Efforts/Compensatory Mitigation

Temporary impacts to CDFW-jurisdictional habitat will be mitigated by restoration of temporary impact areas per mitigation measure M-BIO-1. No additional mitigation is proposed, unless otherwise required by the USACE, RWQCB, and/or CDFW during the regulatory permitting process.

4.3. Special Status Plant Species

None of the regional plant species of concern have a high potential to occur within the PIA, as summarized above and detailed in Appendix D; therefore, none are likely to be impacted, including federally or state-listed endangered or threatened species or County-listed sensitive species, and no mitigation is required for impacts to special status plant species.

4.4. Special Status Animal Species Occurrences

Eleven sensitive species have been observed within the BSA: arroyo toad, Cooper's hawk, red-shouldered hawk, turkey vulture, green heron, white-tailed kite, mountain quail, yellow warbler, western bluebird, pallid bat, and San Diego black-tailed jackrabbit.

4.4.1. Effects Found not to be Significant

The project would not have a significant impact in the following issue areas:

- The project would not impact the viability of a core wildlife area because impacts will be temporary, with replacement of habitat.
- Eight sensitive bird species (Cooper's hawk, red-shouldered hawk, turkey vulture, green heron, white-tailed kite, mountain quail, yellow warbler, and western bluebird) have been observed within the Buckman Springs Road Bridge BSA and six of them (Cooper's hawk, red-shouldered hawk, green heron, white-tailed kite, yellow warbler, and western bluebird) could possibly nest in the trees within the PIA. As discussed above, the least Bell's vireo was

not observed breeding within the BSA during surveys in 2011 and 2017, but has moderate potential to occur. Only five percent of the southern arroyo willow riparian forest and coast live oak woodland within the BSA would be impacted, and those impacts would be temporary. There are many other trees within the BSA and surrounding area that could be used for foraging, perching, and nesting, such that the removal of a few trees within the PIA would not have a substantial adverse effect on the local long-term survival of these birds. Potential nesting season impacts are discussed under CFG Code consistency below.

- The project would not cause a significant loss of functional foraging habitat for raptors. Areas around the bridge and the staging area support large areas of native habitat that would remain available for raptor foraging during construction, and most of the impacts would be temporary. Therefore, the project would not have a substantial adverse effect on the local long-term survival of any raptor species.
- The San Diego black-tailed jackrabbit and Dulzura pocket mouse (*Chaetodipus californicus femoralis*), both species of special concern and County Group 2 species, have suitable habitat within the BSA and could forage or breed within the PIA. As discussed above for sensitive birds, there is other habitat within the BSA and surrounding area that could be used by these species for foraging and breeding, such that the proposed project would not impact the local long-term survival of this species.
- Coast horned lizard (*Phrynosoma blainvillii*) and two-striped gartersnake (*Thamnophis hammondii*) are evaluated as having suitable habitat and are recorded near the BSA. Coast horned lizard, a species of special concern and County Group 2 species, has high potential to occur. Two-striped gartersnake, a species of special concern, County Group 1, and USFS listed species, has moderate potential to occur. As discussed above for sensitive birds, there is other habitat within the BSA and surrounding area that could be used by these species for foraging and breeding, such that the proposed project would not impact the local long-term survival of this species.
- Eight species are identified as having low potential to occur, in that although suitable habitat is present, they have not been recorded near the BSA and were not observed during recent surveys: California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), red diamond rattlesnake (*Crotalus ruber*), large-blotched salamander (*Ensatina klauberi*), Cope's leopard lizard (*Gambelia copeii*), coastal rosy boa (*Lichanura trivirgata roseofusca*), southwestern willow flycatcher, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*). Thus, the project is not expected to impact these species.
- The project would not impact golden eagle (*Aquila chrysaetos*) habitat because suitable nesting habitat for this species does not occur within the BSA. There are no CNDDB records for golden eagle within 3.5 miles of the BSA. The golden eagle may forage in the BSA; however, the temporary nature of most of the impacts and the less than significant size of permanent impacts means that the project's impacts to foraging habitat would not impact this wide-ranging species.
- Aside from the pallid bat, no sensitive bat species have been observed within the BSA, and these species are presumed not to be roosting within the BSA.
- Project activities would not impact the remaining sensitive species identified in the vicinity of the project because these species are not expected to occur within the BSA based on the

lack of suitable habitat and/or location outside of the species' known range, as detailed in Appendix D. The project will also conduct pre-activity surveys as detailed under CFG Code consistency below.

- The project has the potential for indirect impacts because it would temporarily increase human presence and noise within the BSA during project implementation. Potential indirect impacts will be controlled by project design: project access and staging will be limited to within the defined PIA; tarps would be laid down under the bridge to catch construction dust and debris; and noise impacts to nesting birds will be avoided as discussed under CFG Code. Upon project completion, the level of human and animal access, noise, and drainage patterns at the bridge would return to pre-project conditions. Therefore, the project would not cause significant indirect impacts to animals.
- Construction would start in August and last 12 months, such that construction would only span one rainy season. During construction, two 36-inch pipes would be installed in the work area to capture water flows in Cottonwood and La Posta Creeks and route them through the PIA. The diversion pipes would be buried under temporary fill to allow construction equipment to drive over them, and a mat would be placed between the temporary fill and the native soil to keep them separate and keep the native soil in place when the temporary fill is removed. The mat would then be removed.

4.4.2. Discussion of Arroyo Toad

4.4.2.1. Survey Results

Arroyo toad was observed within approximately 100 feet of the Buckman Springs Road Bridge during 2011 surveys, and suitable arroyo toad breeding habitat was present throughout the survey area (RECON 2011a).

4.4.2.2. Project Impacts

Arroyo toads have the potential to be present within the BSA year-round, either using the Cottonwood Creek channel or occupying upland burrows adjacent to the creek. Arroyo toads are not expected to use the staging area because the staging area is located more than one kilometer from the creek, separated by rocky, sloping terrain. If work occurs at Buckman Springs Road Bridge during the arroyo toad breeding season (March 15 to July 1), arroyo toads could be crushed by equipment working in the streambed. Installing water diversion pipes during the breeding season after eggs have been laid could potentially affect the hydrology of pools with eggs and cause die-off. Compaction of the streambed, siltation downstream, and head cutting upstream can be an issue; however, these impacts will be minimized by placing the water diversion pipes along the natural thalweg of the stream and covering them with temporary fill. Work outside of the breeding season could potentially crush adult toads that are burrowed underground within the upland portion of the PIA. Noise and visual disturbance from work outside of the breeding season would not impact arroyo toads outside of the PIA, since they would be burrowed underground.

4.4.2.3. Avoidance and Minimization Efforts/Compensatory Mitigation

Avoidance and minimization measures for the arroyo toad include restricting construction to daylight hours, prohibiting lighting during construction and as part of the final road design, implementation of

biological monitoring and arroyo toad exclusionary fencing during project construction, and implementation of a contractor education program. Arroyo toad measures are provided below.

M-BIO-2: The following arroyo toad conservation measures apply at the project site, not including the staging area on Morena Stokes Valley Road:

- Construction activities will only occur during daytime hours. No night lighting is permitted for use during construction of the project. No lighting will be installed on the new roadway as part of this project.
- Arroyo toad exclusionary fencing shall be installed around the PIA by the contractor prior to starting work. This fence will exclude arroyo toads from the PIA, including the access road. Project activities shall be confined within the fenced area. The arroyo toad exclusion fence should consist of filter fabric at least two feet high, staked firmly to the ground with the lower one foot of material stretching outward along the ground and secured with a continuous line of sandbags (i.e., there should be no space between the sandbags). No digging or vegetation removal should be associated with the installation of the fence and all materials will be removed when the project is complete.
- The County will be responsible for hiring a Carlsbad Fish and Wildlife Office-approved biologist experienced in handling arroyo toad to work as the project biological monitor and toad expert. The qualified biologist shall monitor the installation of the toad exclusion fencing.
- Once the fence is installed, a qualified biologist would conduct a six-day/six-night arroyo toad survey of the entire area inside the fence to ensure no toads remain in the PIA. If pre-activity conditions are dry, the area inside the exclusionary fencing will be sprayed with water during the arroyo toad survey to simulate a precipitation event. Water spraying will occur at least one hour after sunset when the air temperature is greater than 50 degrees Fahrenheit. If no toads are encountered within the exclusion fencing area, then project activities shall be allowed to commence under the supervision of a biological monitor.
- In the event that arroyo toads are confirmed inside of the exclusionary fencing area, any individuals encountered within the exclusion fencing area will be relocated to suitable habitat outside the PIA by a qualified biologist approved by the USFWS to handle the species. Surveys shall continue until there have been two consecutive nights without toads inside the fence. The final survey shall be conducted within one week prior to the start of project activities.
- The USFWS-authorized biologist should coordinate with appropriate property owners and with the USFWS to determine a specific translocation site prior to moving any arroyo toads. In addition, any arroyo toads captured should be checked for a Passive Integrated Transponder (PIT) tag and be scanned with a PIT-tag reader if a PIT-tag is present. The date, time of capture, specific location of capture (using Global Positioning System [GPS]), PIT-tag code, approximate size, age, and health of the individual should be recorded and provided to the USFWS, within two weeks of the translocation, in both hard copy and digital format.
- Once project activities begin, a biological monitor authorized to handle arroyo toads will be on site weekly or as necessary to ensure the integrity of the exclusionary fencing.
- If any toads are identified by construction personnel, then the resident engineer (RE) should be notified immediately. The RE will then notify the authorized biologist who shall be solely

responsible for the translocation of toads outside of the PIA. No one other than the approved biologist is permitted to handle or bother the toads in any way.

- The USFWS-authorized biologist shall maintain a complete record of all arroyo toads encountered and moved from harm's way during the project activities. Information shall include: location, date and time of observation, details of the observed behavior, relocation site, estimated number of toads seen or heard, and photographs (when possible).
- If the arroyo toad exclusion fencing is found damaged during construction, the contractor is responsible for repairing the fence within 24 hours and notifying the RE. If the exclusion fencing is found damaged in such a way thereby allowing arroyo toads access to the PIA, arroyo toad exclusion surveys will be repeated by the approved biologist for a minimum of three consecutive nights prior to any additional construction activities occurring in the area.
- Prior to the onset of project activities, employees that would work on the project (including temporary workers, contractors, and subcontractors) would be educated and instructed on the arroyo toad conservation measures including the following by the qualified biologist and County staff: limiting activities to within the fenced arroyo toad exclusion area, keeping vehicles and equipment on the bridge and road, and the location of approved staging area and access path. At a minimum, the program will include the following topics: occurrence of the listed and sensitive species in the area (including photographs), their general ecology, sensitivity of the species to human activities, legal protection afforded these species, penalties for violations of Federal and State laws, reporting requirements, and project features designed to reduce the impacts to these species and promote continued successful occupation of the area. It is the contractor's responsibility to inform all workers and subcontractors of the environmental requirements of the project.
- Project work during rain events will be avoided to the greatest extend feasible as arroyo toads may become active during rain events and the movement of personnel and equipment through wet soils may result in sedimentation into breeding habitat. To ensure that work is completed as rapidly as possible such that the temporal disturbance of the habitat is limited, work may continue during a light or intermittent rain, if the USFWS-authorized biologist, using his/her best judgment, determines that increased impacts to arroyo toads are unlikely.
- All trash must be removed from work sites or completely secured in a wildlife proof container at the end of each workday.
- Pets of project personnel are not allowed in the PIA.
- Movement of construction personnel, vehicles, and equipment shall be confined to existing roads and areas within arroyo toad exclusionary fencing. Vehicle ingress/egress will only be allowed from the one location for each enclosed area. The ingress/egress locations will be resealed at the conclusion of each workday (prior to dusk) to ensure the exclusionary fencing is complete and fully functional.
- Siltation and erosion in and around the impact area shall be controlled during construction activities with best management practices (BMPs).
- Equipment storage, repair, and fueling shall only take place in the designated staging and/or work areas and will avoid potential contamination of the waterway. Erodible material shall be stockpiled only within the PIA and in compliance with all wetland and water quality permitting.

4.4.3. Discussion of Pallid Bat

4.4.3.1. SURVEY RESULTS

Pallid bat and another non-sensitive bat species were observed using the Buckman Springs Road bridge as a nighttime roost during 2018 surveys (Insignia Environmental 2018). No daytime roosts, maternity colonies, or hibernacula were identified.

4.4.3.2. PROJECT IMPACTS

No construction will occur at night; therefore, construction activities should not affect the bats that are using the bridge as a nighttime roost. The concrete bridge abutments used by the bats are not expected to be impacted by the project. The project also includes tree removal, which could impact bats if they were roosting in the trees at the time of construction.

4.4.3.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

M-BIO-3: Construction activities will only occur during daytime hours and will stop no later than one hour before sunset. No night lighting is permitted for use during construction of the project. No lighting will be installed on the new roadway as part of this project.

Pre-construction nighttime surveys of potential roosts within the PIA are recommended during the maternity season for bats (April 1 to September 15). A survey of trees that are slated for removal and the bridge will be conducted within 14 days of project initiation. A visual survey of the PIA will be conducted to determine potential roosting sites. Exit counts will be conducted at any potential roosting sites. An acoustical detector will be utilized to help determine bat species present. If active roosts are detected a qualified bat biologist will make recommendations to avoid roosting bats observed during the survey. Recommendations could include placing a surrogate roosting structure at or near the bridge to provide comparable night roost if it is determined that roosts will be impacted. If a maternity colony is found, work will be suspended until the end of the maternity season.

4.4.4. Discussion of Least Bell's Vireo

4.4.4.1. SURVEY RESULTS

As discussed above, a 2017 protocol survey was negative for least Bell's vireo, indicating that the BSA is not occupied at this time. The 2011 protocol survey detected one dispersing male but was negative for breeding least Bell's vireo. Mature willow riparian forest occurs along Cottonwood Creek within the BSA, although the creek lacks the year-round water supply typical of higher quality vireo habitat. Adjacent to the willow riparian forest is mule fat scrub, coast live oak woodland, big sagebrush scrub, and southern mixed chaparral, which can provide upland foraging. While no critical habitat is designated in this area, this area supports potential suitable breeding, foraging, and dispersal habitat for least Bell's vireo.

4.4.4.2. PROJECT IMPACTS

As discussed above, although protocol surveys were negative, there is a chance that least Bell's vireo could nest near the bridge, and a small chance that removal of riparian vegetation could directly affect least Bell's vireo by removing an active nest. Removal of riparian vegetation could indirectly impact least Bell's vireo by removing potential breeding and foraging habitat; however, the

removal of trees and vegetation around the bridge will be conducted prior to work, and temporary impact areas will be revegetated per mitigation measure M-BIO-1. Permanent habitat impacts are less than significant. Noise could also expose least Bell's vireos to an indirect stressor and affect breeding if work occurs during the breeding season.

The bridge is located along a continuous riparian corridor, such that if least Bell's vireos are exposed to noise or precluded from nesting within the action area, they could move upstream or downstream and find suitable nesting and foraging habitat unaffected by noise from the action.

4.4.4.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

M-BIO-4: At Buckman Springs Road Bridge, the following least Bell's vireo conservation measures apply:

- If work is proposed to start during the least Bell's vireo breeding season (March 15 to September 15), a pre-activity nesting bird survey will be conducted within seven days prior to starting work to identify any nesting vireos or other riparian birds within 500 feet of the PIA. If work stops for more than seven days, the pre-activity survey will be repeated before re-starting work during the breeding season.
- If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, vegetation trimming and other project activities shall be allowed to proceed.
- If nesting birds are found, the biologist shall flag the active nests and project activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged. Project-related maintenance activities that could generate noise in excess of 60 dBA within 300 feet of a nest (500 feet for raptors) shall either: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient. Buffer distances may be adjusted as recommended by the qualified biologist depending on the sensitivity of the species.

4.5. Other Biological Resources Issues

4.5.1. Wildlife Corridors and Nursery Sites

4.5.1.1. EFFECTS FOUND NOT TO BE SIGNIFICANT

The project would not have a significant impact in the following issue areas:

- As noted above, Cottonwood Creek and La Posta Creek serve as wildlife corridors. Common wildlife species such as raccoons, coyotes, and birds could use the creeks to move through the BSA, although they could also move through undeveloped land near the creeks. During construction, two 36-inch pipes would be installed in the work area and buried under temporary fill, one along Cottonwood Creek and one along La Posta Creek, to keep water flows separate from construction activities. Arroyo toad exclusion fencing would tie into the edges of the pipes, and scaffolding would be placed on the temporary fill to allow workers to reach the bridge. These 36-inch pipes would allow for movement of aquatic species and smaller terrestrial species. Larger species like raccoons would likely move through

undeveloped land nearby, while birds could fly over the construction area. The water diversion pipes, temporary fill, and scaffolding would be removed following construction, and the openings under the bridge would be just as wide and tall after construction as they are today. The slight increase in length of the bridge piers and width of the bridge deck would not significantly affect wildlife. Therefore, the project would not block or substantially interfere with a local or regional wildlife corridor or linkage or impede wildlife access to foraging habitat, breeding habitat, or other areas necessary for their reproduction.

- The majority of impacts for the project are temporary, and the permanent impacts are located at the ends of the bridge rather than within the creek channel where most wildlife movement will occur; therefore, the project is not expected to substantially interfere with connectivity between blocks of habitat.
- The project would not create artificial wildlife corridors that do not follow natural movement patterns, because the most likely movement path through the BSA is through the creek, and this would not change with the proposed project.
- There would be some noise during the work period; however, the project would not install any permanent noise sources or increase existing noise in a wildlife corridor or linkage. Nighttime lighting is prohibited by avoidance and minimization measures M-BIO-2 and M-BIO-3. In addition, wildlife could continue to move around the side of the Buckman Springs Road Bridge crossing of Cottonwood Creek and La Posta Creek in undeveloped native habitat surrounding the river if noise or lighting temporarily discouraged movement through the PIA.
- The project would not reduce the width of the Cottonwood Creek and La Posta Creek riparian corridors and, thus, would not constrain the width of an existing corridor.
- The project would not block visual continuity within a wildlife corridor or linkage. The temporary fill and scaffolding would partially obstruct the view underneath the bridge during the work period, but this obstruction would only be temporary, and would not completely block views under the bridge. Visual clearance under the Buckman Springs Road Bridge in the post-project condition would be the same as the existing condition.

4.5.2. Local Policies, Ordinances, and Adopted Plans

4.5.2.1. EFFECTS FOUND NOT TO BE SIGNIFICANT

The project would not have a significant impact in the following issue areas:

- There is no coastal sage scrub in the BSA for Buckman Springs Road Bridge. Therefore, the project would not impact coastal sage scrub vegetation in excess of the County's five percent habitat loss threshold.
- The project would not preclude or prevent the preparation of the subregional Natural Communities Conservation Planning Process (NCCP) because it would not impact areas that have been identified by the County or resource agencies as critical to future habitat preserves. Buckman Springs Road Bridge is located within existing open space and other public/semi-public lands and, thus, is not part of the East County Plan area, nor would it impact connectivity between future preserve areas, for the reasons discussed above under Wildlife Corridors and Nursery Sites.

- The project is not subject to the Resource Protection Ordinance (RPO) and its protections for RPO sensitive habitat lands.
- The project is not subject to Section 4.3 of the NCCP Guidelines because no coastal sage scrub occurs within the BSA.
- The project is not subject to any HCP or other regional planning effort.
- The BSA is not located within the adopted MSCP; therefore, the project is not subject to the Biological Mitigation Ordinance regulations regarding Biological Resource Core Areas, existing movement corridors and wildlife linkages, or MSCP narrow endemic species.
- The project is not located near high quality coastal sage scrub and, therefore, would not preclude connectivity between areas of high habitat value as defined by the NCCP Guidelines.
- The project would not result in the take of eagles, eagle eggs, or any part of an eagle because eagles are not known or expected to nest within the BSA.

Consistency with the CFG Code is discussed below.

4.5.3. Discussion of California Fish and Game Code

CFG Code Section 3503 protects the nests and eggs of birds.

4.5.3.1. SURVEY RESULTS

Numerous bird species were observed within the BSA (Appendix G). There is a potential for birds to nest in the vegetation within the BSA, and cliff swallows (*Petrochelidon pyrrhonota*) are known to nest in the structure of the bridge.

4.5.3.2. PROJECT IMPACTS

The eight sensitive bird species observed in the BSA or other birds could potentially nest within or in the vicinity of the impact area, and vegetation removal or noise during the nesting season could have a significant impact if project activities were to occur within 300 feet of an active passerine nest or 500 feet of an active raptor nest. Bridge construction activities could impact cliff swallows if swallow nests were removed during the cliff swallow breeding season (March 15 to July 31).

4.5.3.3. AVOIDANCE AND MINIMIZATION EFFORTS/COMPENSATORY MITIGATION

M-BIO-5: Work should start on or after August 1 to avoid impacts to cliff swallows that nest on the bridge between March 15 and July 31. If work is proposed to start during the migratory bird and tree-nesting raptor breeding season (January 15 to August 31), a pre-activity nesting bird survey will be conducted within seven days prior to starting work to identify any nesting birds within 500 feet of the PIA. If work stops for more than seven days, the pre-activity survey will be repeated before re-starting work. If there are no nesting birds (includes nest building or other breeding/nesting behavior) within this area, vegetation removal and other project activities shall be allowed to proceed. If nesting birds are found, the biologist shall flag the active nests and project activities shall avoid active nests until nesting behavior has ceased, nests have failed, or young have fledged. Project-related maintenance activities that could generate noise in excess of 60 dBA within 300 feet of a nest (500 feet for raptors) shall either: (1) be postponed until a qualified biologist determines the nest(s) is no longer active or until after the respective breeding season; or (2) not occur until a temporary noise barrier

or berm is constructed at the edge of the development footprint and/or around the piece of equipment to ensure that noise levels are reduced to below 60 dBA or ambient. Buffer distances may be adjusted as recommended by the qualified biologist depending on the sensitivity of the species.

Chapter 5. Conclusions & Regulatory Determination

5.1. Federal Endangered Species Act Consultation Summary

A list of federally threatened, endangered, or proposed species potentially present within the project vicinity was obtained from USFWS on November 25, 2015 and is provided in Appendix C (USFWS 2015). The following species and designated critical habitat were identified and considered during this analysis: arroyo toad, arroyo toad critical habitat, least Bell's vireo, southwestern willow flycatcher, and Quino checkerspot butterfly. An effect determination for each species is included in Table 4, below.

Table 4: Official Species List for Buckman Springs Road Bridge

Common Name	Scientific Name	Status	Determination
Arroyo (=arroyo Southwestern) Toad	*Anaxyrus californicus*	E	May Affect, Likely to Adversely Affect
Arroyo (=arroyo Southwestern) Toad Critical Habitat	*Anaxyrus californicus*		May Affect, Not Likely to Adversely Affect
Least Bell's Vireo	*Vireo bellii pusillus*	E	May Affect, Not Likely to Adversely Affect
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E	No effect.
Quino Checkerspot Butterfly	*Euphydryas editha quino*	E	No effect.

Arroyo toad was observed within approximately 100 feet of the Buckman Springs Road Bridge during 2011 surveys, and suitable arroyo toad breeding habitat was present throughout the survey area (RECON 2011a). The proposed avoidance measures may not completely avoid take; therefore, the work may adversely affect the arroyo toad. However, this low level of take is not expected to jeopardize the continued existence of the species.

5.2. Essential Fish Habitat Consultation Summary

No Essential Fish Habitat occurs on site and the project would have no effect on Essential Fish Habitat.

5.3. Wetlands and Other Waters Coordination Summary

No coordination with USACE, CDFW, and RWQCB has occurred to date. Coordination will be conducted by the County.

5.4. Invasive Species

EO 13112 was adopted on February 3, 1999, and seeks to prevent the introduction of alien plant and animal species that cause economic or environmental harm. The following measures would be implemented to prevent the further spread or infestation of invasive species:

- A qualified biologist shall review the project landscape/erosion control plans to ensure that no invasive species are included.
- Any revegetation conducted within areas of temporary disturbance shall use native species or non-invasive ornamental landscaping, as appropriate.

As such, the proposed project would be implemented consistent with EO 13112 requirements.

Chapter 6.0. References

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Appendix

Figures 1 through 12 are included as Appendix A.

Representative photographs are included as Appendix B.

Official species list provided by the USFWS is included as Appendix C.

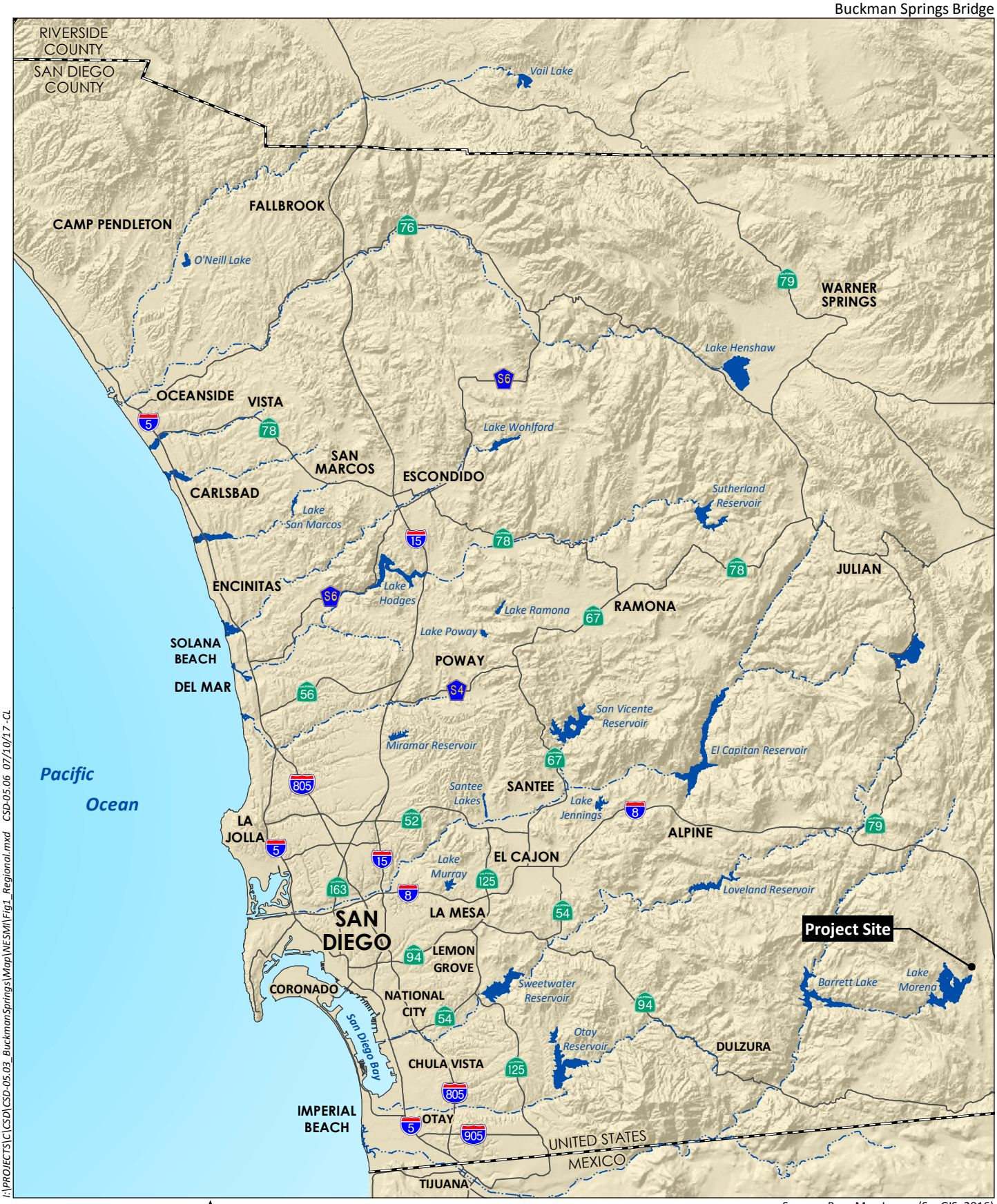
A list of species reported to the CNDDB and CNPS at locations within four quadrangles of the BSA, reported to the USFWS database within five miles of the BSA, and listed by the USFS as occurring within Cleveland National Forest is included as Appendix D.

The jurisdictional delineation data forms are included as Appendix E.

A list of plant species observed within the BSA is included as Appendix F.

A list of animal species observed within the BSA is included as Appendix G.

Appendix A *Figures*



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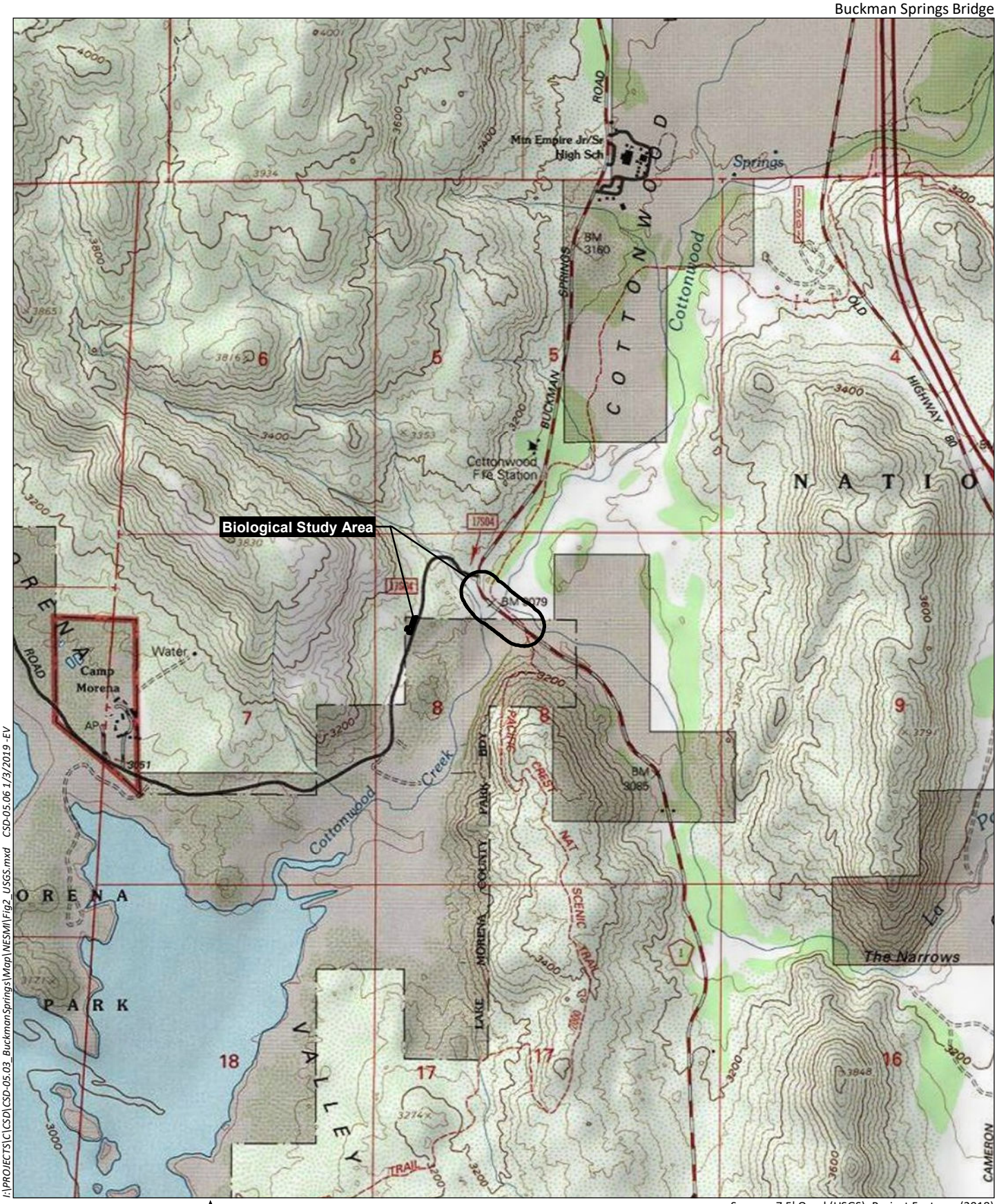
0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

HELIX Environmental Planning

Regional Location

Figure 1



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Source: 7.5' Quad (USGS); Project Features (2018)

HELIX Environmental Planning

USGS Topography

Figure 2

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Source: Aerial (SanGIS 2014); Project Features (2018)

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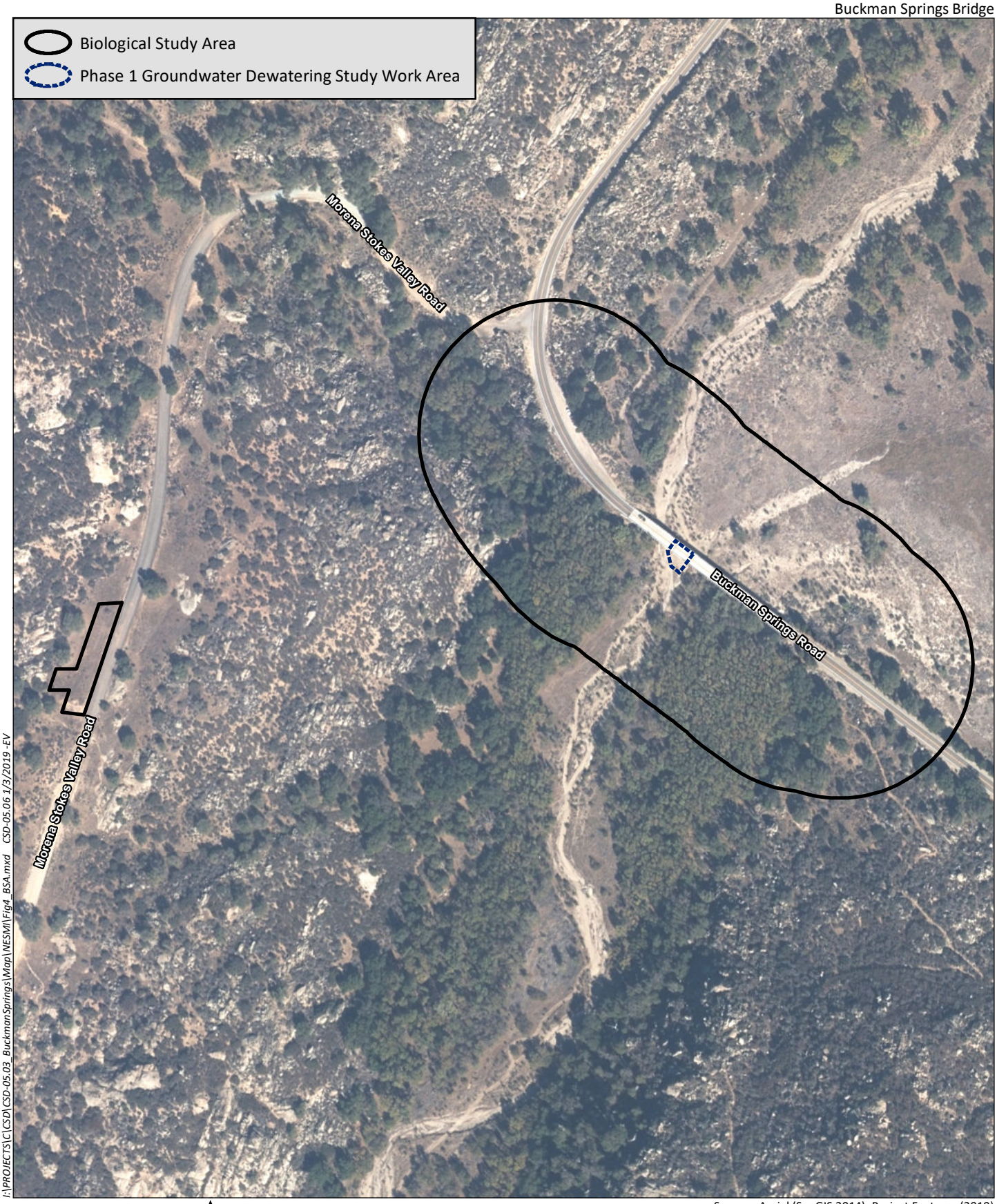
Aerial Vicinity

Figure 3



Source: Aerial (SanGIS 2014); Project Features (2019)

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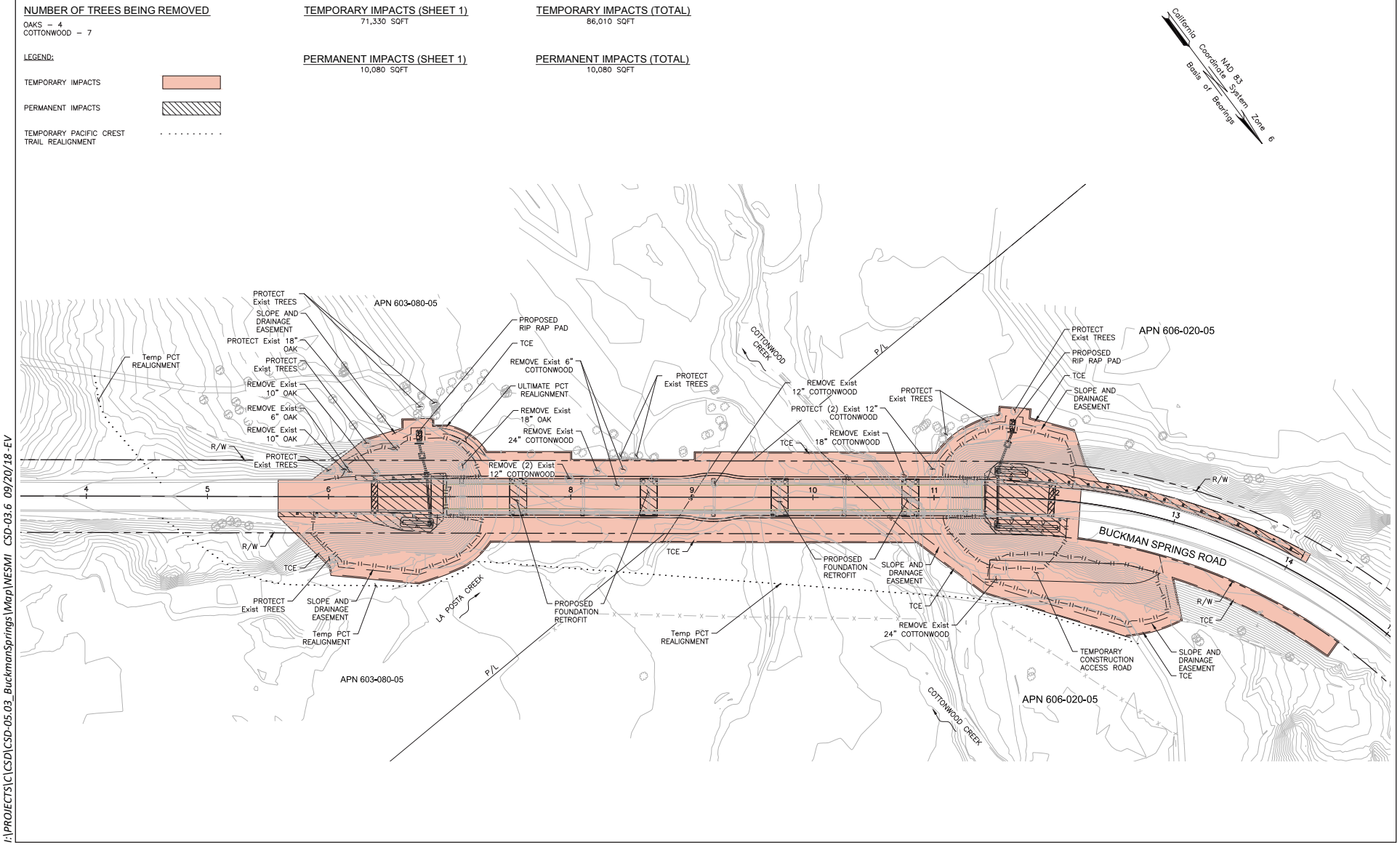
Biological Study Area

Figure 4



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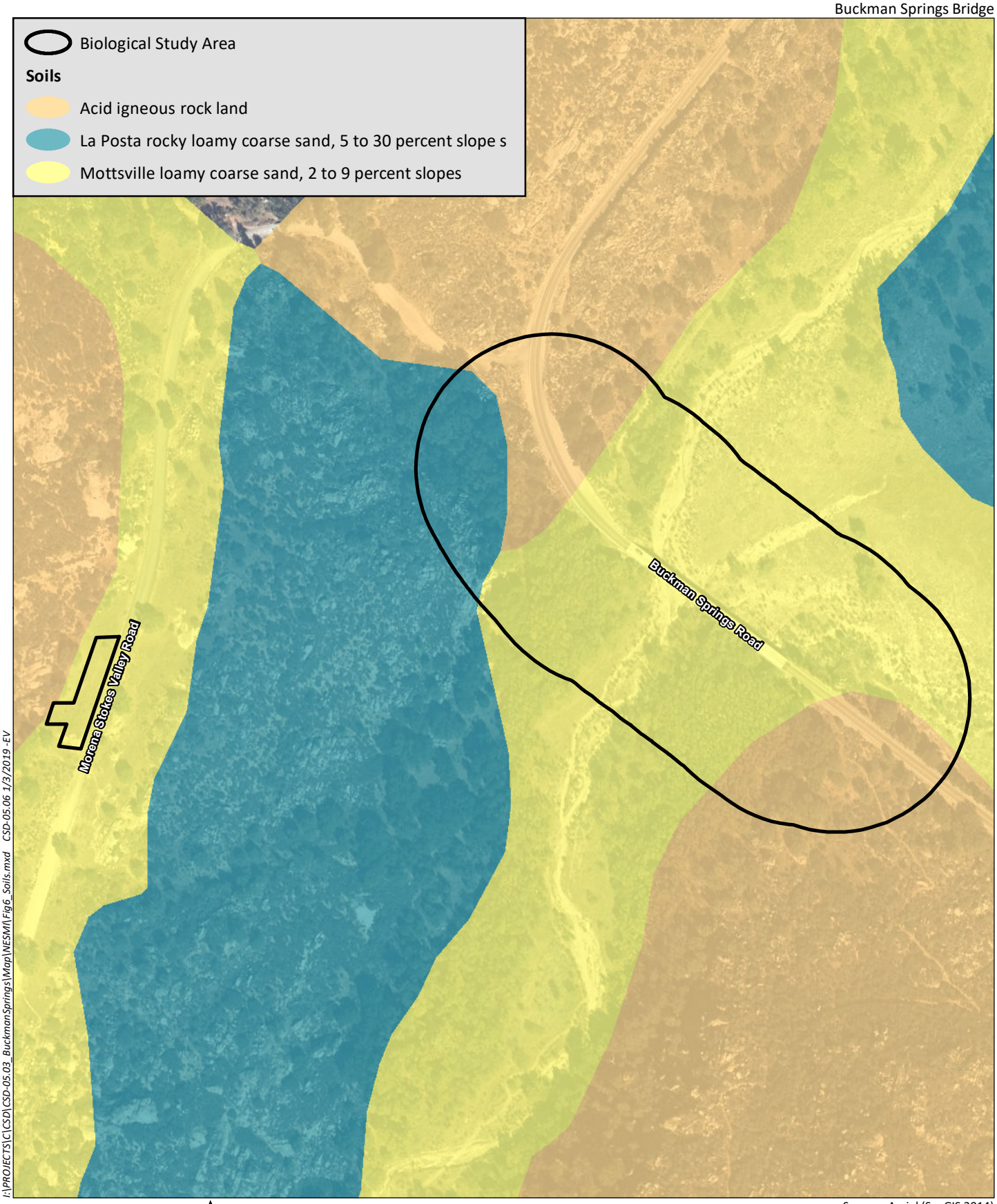
Source: Rick Engineering Company 2018



I:\PROJECTS\C\CSD\CSD-05.03_BuckmanSprings\Map\NESM\Fig6_Soils.mxd CSD-05.06 1/3/2019 -EV

Source: Aerial (SanGIS 2014)

HELIX Environmental Planning

Soils

Figure 6

Buckman Springs Bridge

- Biological Study Area
- Existing Bridge Pier

Vegetation

- Big Sagebrush Scrub
- Coast Live Oak Woodland
- Disturbed Habitat
- Herbaceous Wetland
- Mule Fat Scrub
- Non-native Grassland
- Southern Arroyo Willow Riparian Forest
- Southern Mixed Chaparral
- Unvegetated Channel
- Urban/Developed

Cottonwood Creek

La Posta Creek

Buckman Springs Road

Morena Stokes Valley Road

0 150 Feet

N

Source: Aerial (SanGIS 2017)

I:\PROJECTS\C\CSD\CSD-05-03_BuckmanSprings\Map\NES#\Fig7_Vegetation.mxd CSD-05 06 1/3/2019 -EV

HELIX Environmental Planning

Vegetation Communities

Figure 7

Buckman Springs Bridge

Jurisdictional Delineation Study Area
Existing Bridge Pier
Sample Point

USACE & RWQCB Waters of the U.S./State Jurisdictional Areas

Wetland Waters
Non-wetland Waters
Non-wetland Waters

Buckman Springs Road
Cottonwood Creek
La Posta Creek
SP 1
SP 2
SP 3
SP 4
SP 5
3'
2'

I:\PROJECTS\C\CSD\CSD-05.03_BuckmanSprings\Map\WESM\Fig8_JD.mxd CSD-05.06 1/31/2019 -EV

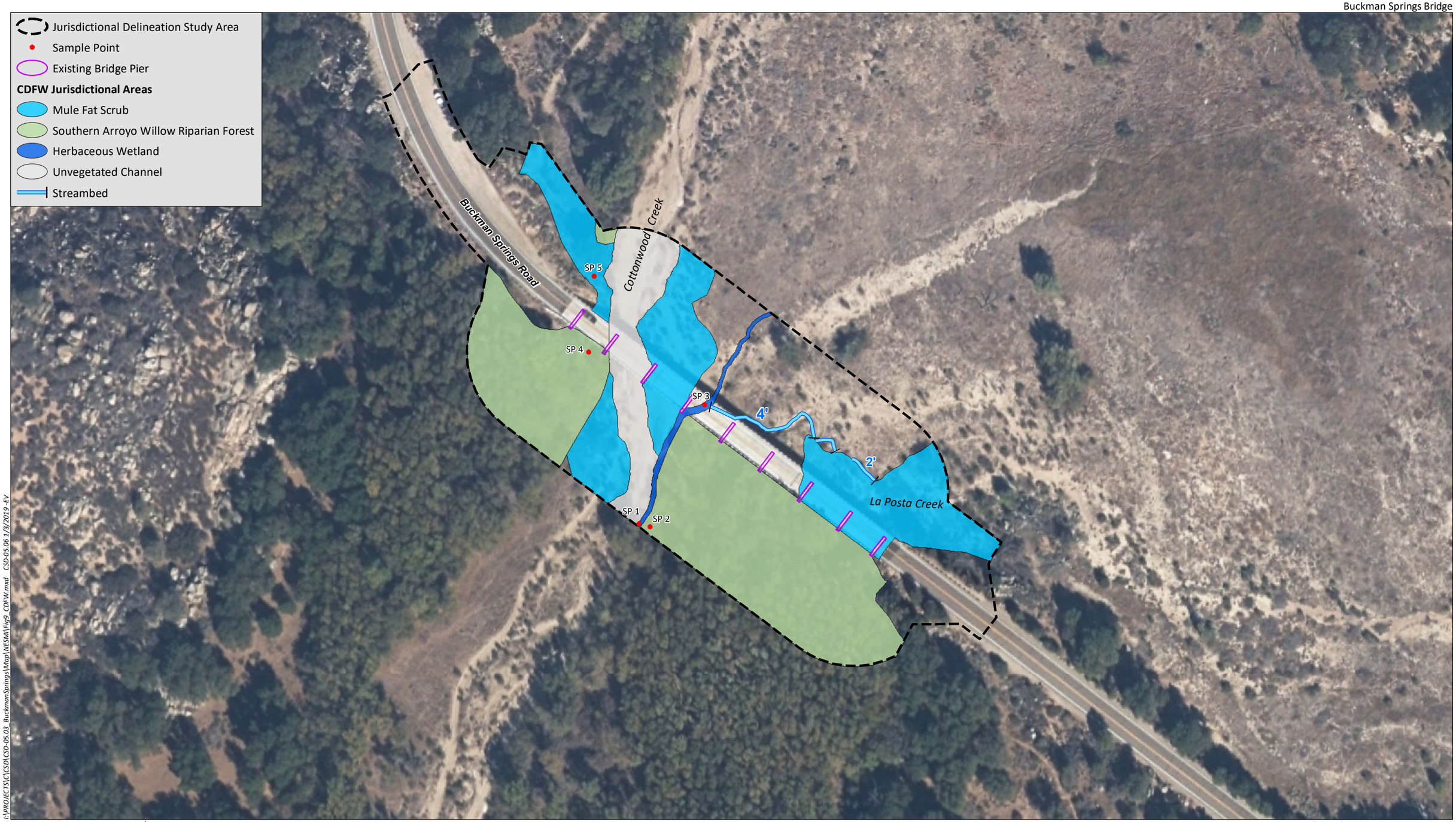
0 100 Feet

Source: 7.5' Quad (USGS); Project Features (2018)

HELIX Environmental Planning

USACE & RWQCB Waters of the U.S./State

Figure 8



I:\PROJECTS\C\CSD\CSD-05-03_BuckmanSprings\Map\NESM\Fig9_CDFW.mxd CSD-05.06 1/3/2019 EV

0 100 Feet

Source: 7.5' Quad (USGS); Project Features (2018)

HELIX Environmental Planning

CDFW Jurisdictional Limits

Figure 9

- Action Area
- Permanent Impact
- Temporary Impact
- Phase 1 Groundwater Dewatering Study Work Area
- Existing Bridge Pier
- Oak Root Zone (50 Feet)

Vegetation

- Big Sagebrush Scrub
- Coast Live Oak Woodland
- Disturbed Habitat
- Herbaceous Wetland
- Mule Fat Scrub
- Non-native Grassland
- Southern Arroyo Willow Riparian Forest
- Southern Mixed Chaparral
- Unvegetated Channel
- Urban/Developed

Cottonwood Creek

La Posta Creek

Buckman Springs Road

Morena Stokes Valley Road

I:\PROJECTS\C\CSD\CSD-05.03_BuckmanSprings\Map\NESM\Fig10_VegImpts.mxd CSD-05.06 1/3/2019 -EV

0 150 Feet

Source: 7.5' Quad (USGS); Project Features (2019)

HELIX Environmental Planning

Vegetation Communities/Impacts

Figure 10

I:\PROJECTS\CLCS0\CSD-05.03_BuckmanSprings\Map\WESM\Fig11_JD_Impts.mxd CSD-05.06 1/3/2019 -EV

0 100 Feet

Source: 7.5' Quad (USGS); Project Features (2019)

HELIX Environmental Planning

USACE & RWQCB Waters of the U.S./State/Impacts

Figure 11

Buckman Springs Bridge

Jurisdictional Delineation Study Area
Existing Bridge Pier

Project Impacts

Permanent
Temporary
Phase 1 Groundwater Dewatering Study Work Area

CDFW Jurisdictional Areas

Mule Fat Scrub
Southern Arroyo Willow Riparian Forest
Herbaceous Wetland
Unvegetated Channel
Streambed

Buckman Springs Road
Cottonwood Creek
La Posta Creek
4'
2'

I:\PROJECTS\C\CSD\CSD-05.03_BuckmanSprings\Mxd\NESM\Fig12_CDFW_Impts.mxd CSD-05.06 1/3/2019 -ev

0 100 Feet

Source: 7.5' Quad (USGS); Project Features (2019)

HELIX Environmental Planning

CDFW Jurisdictional Limits/Impacts

Figure 12

Appendix B *Representative Site Photos*

Photo 1. View of the north side of the Buckman Springs Road Bridge, looking south.

Photo 2. View of non-native grassland on the north side of the Buckman Springs Road Bridge, looking southwest.

Photo 3. View of Cottonwood Creek on the north side of the bridge, looking north. Dried algal mats show the low flow channel.

Photo 4. View of the south side of the Buckman Springs Road Bridge, looking north.

Photo 5. View of sample point 1 in herbaceous wetland along the eastern edge of Cottonwood Creek, south of the bridge. Sample point was determined to support wetland waters of the U.S./State and CDFW jurisdictional riparian habitat.

Photo 6. View of sample point 2 in southern arroyo willow riparian forest on a terrace above the eastern edge of Cottonwood Creek, south of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 7. View of sample point 3 in herbaceous wetland along La Posta Creek, underneath the bridge. Sample point was determined to support wetland waters of the U.S./State and CDFW jurisdictional riparian habitat.

Photo 8. View of sample point 4 in southern arroyo willow riparian forest on a terrace above the western edge of Cottonwood Creek, south of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 9. View of sample point 5 in mule fat scrub on a terrace above the western edge of Cottonwood Creek, north of the bridge. Sample point was determined to support CDFW jurisdictional riparian habitat.

Photo 10. View of the staging area, looking northeast. The staging area extends from Corral Canyon Trail on the right to the edge of the coast live oak tree on the left.

Appendix C *Species List*

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
PHONE: (760)431-9440 FAX: (760)431-5901
URL: www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0123 November 25, 2015
Event Code: 08ECAR00-2016-E-00213
Project Name: Buckman Springs Road Bridge Retrofit

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, and proposed species, designated critical habitat, and candidate species 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 U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

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

United States Department of Interior
Fish and Wildlife Service

Project name: Buckman Springs Road Bridge Retrofit

Official Species List

Provided by:

Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
(760) 431-9440
http://www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2016-SLI-0123
Event Code: 08ECAR00-2016-E-00213

Project Type: TRANSPORTATION

Project Name: Buckman Springs Road Bridge Retrofit
Project Description: The County of San Diego Department of Public Works, in cooperation with Caltrans District 11, proposes to retrofit this structure. The project would be federally funded through the Local Assistance Program. The effort includes widening both sides of the bridge deck, as well as foundation work on the existing piers in the creek, including footing extension and widening of the pier that starts below the creek bed.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-116.49988174438477 32.71568882281545, -116.49962425231932 32.71603184221921, -116.49762868881226 32.71475453959189, -116.49813294410704 32.714122651670934, -116.50011777877809 32.71538190959915, -116.49988174438477 32.71568882281545)))

Project Counties: San Diego, CA

Endangered Species Act Species List

There are a total of 4 threatened or endangered species on your 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. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Amphibians	**Status**	**Has Critical Habitat**	**Condition(s)**
arroyo toad *(Anaxyrus californicus)* Population: Entire	Endangered	Final designated	
Birds			
Least Bell's vireo *(Vireo bellii pusillus)* Population: Entire	Endangered	Final designated	
Southwestern Willow flycatcher *(Empidonax traillii extimus)* Population: Entire	Endangered	Final designated	
Insects			
Quino Checkerspot butterfly *(Euphydryas editha quino (=e. e. wrighti))* Population: Entire	Endangered	Final designated	

Critical habitats that lie within your project area

The following critical habitats lie fully or partially within your project area.

Amphibians	Critical Habitat Type
arroyo toad *(Anaxyrus californicus)* Population: Entire	Final designated

Appendix D *Sensitive Species Potential to Occur*

Appendix D
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS					
Abronia villosa v. *aurita*	sand verbena	--/-- CRPR 1B.1 County List A USFS	Low-growing annual herb. Occurs in grassy, open areas where it is generally associated with short grasses and other herbs. Although often found near vernal pools, can also occur in relatively dry, stony areas. Elevation below 5,249 ft. Flowering period Jan-Sept.	A	No vernal pools occur within the BSA and grasslands on site are dominated by taller non-native grasses. Not observed during rare plant surveys. Nearest CNDDB record is approximately 20 miles away.
Acanthomintha ilicifolia	San Diego thornmint	FT/SE CRPR 1B.1 County List A	Annual herb. Found in grassy openings in chaparral or sage scrub, or near vernal pools, with friable or broken clay soils. Elevation below 3,281 ft. Flowering period Apr–Jun.	A	No clay soils occur within the BSA.
Allium munzii	Munz's onion	FE/ST CRPR 1B.1	Perennial bulbiferous herb. Occurs in mesic clay soils in chaparral, cismontane woodland, coastal sage scrub, pine-juniper woodland, and valley and foothill grasslands. Elevation range 974-3,510 ft. Flowering period Mar-May.	A	No clay soils occur within the BSA.
Ambrosia monogyra	singlewhorl burrobrush	--/-- CRPR 2B.2	Shrub. Occurs in washes and dry riverbeds. Elevation below 1,640 ft. Flowering period Aug–Nov.	A	The BSA is located above this species' elevation range.
Ambrosia pumila	San Diego ambrosia	FE/-- CRPR 1B.1 County List A	Small perennial herb. Occurs on loam or clay soils. Found in valley bottoms, seasonally dry drainages, stream floodplain terraces, and vernal pool margins. Also can occur on slopes, disturbed places, and in native grassland, coastal sage scrub or chaparral. It is likely a function of soil and moisture rather than a specific habitat that determine the species' territory. Elevation range 65–1,360 ft. Flowering period Apr–Oct.	A	The BSA is located above this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Androsace elongata ssp. *acuta*	California androsace	--/-- CRPR 4.2 County List D	Annual herb. Occurs in chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland, meadows and seeps, pinyon and juniper woodland. Elevation range 492-4281 ft. Flowering period Mar-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Arctostaphylos otayensis	Otay manzanita	--/-- CRPR 1B.2 County List A	Shrub. Occurs on volcanic rock outcrops and metavolcanic peaks in chaparral. Elevation range 919-5,577 ft. Flowering period Jan-Apr.	A	The BSA is located about 20 miles from this species' primary population. Conspicuous species was not observed during rare plant surveys and is presumed absent.
Arctostaphylos rainbowensis	Rainbow manzanita	--/-- CRPR 1B.1 County List A USFS	Shrub. Occurs in southern mixed chaparral with a relatively dense canopy from 6 to 8 feet. Elevation range 672-2,198 ft. Flowering period Dec-Mar.	A	The BSA is located outside of this species' known range.
Asplenium vespertinum	Western spleenwort	--/-- CRPR 4.2 County List D	Perennial rhizomatous herb. This cryptic fern is sometimes found at the shaded base of overhanging boulders. Preferred habitats are chaparral, woodland, coastal sage scrub, and rocky areas with semi-shaded but seasonally arid conditions. Elevation range 590-3280 ft. Flowering period Feb-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Astragalus brauntonii	Braunton's milkvetch	FE/--	Perennial herb. Occurs in recent burns or disturbed areas, usually sandstone with carbonate layers, in chaparral, coastal scrub, valley and foothill grassland. Elevation range 13-2,100 ft. Flowering period Jan-Aug.	A	The BSA is located above this species' elevation range.
Astragalus deanei	Dean's milk-vetch	--/-- CRPR 1B.1 County List A USFS	Perennial herb. Occurs on dry hillsides in open coastal sage scrub, chaparral, or southern oak woodland. Elevation range 820-2,625 ft. Flowering period Feb-May.	A	The BSA is located above this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Astragalus douglasii var. *perstrictus*	Jacumba milk-vetch	--/-- CRPR 1B County List A USFS	Perennial herb. Occurs in open chaparral, often in a transmontane desert phase. Mild soil disturbance may encourage growth of species in relatively exposed, xeric locales. Elevation range 2,789-3,937 ft. Flowering period Apr-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Astragalus oocarpus	San Diego milk-vetch	--/-- CRPR 1B.2 County List A USFS	Perennial herb. Typically occurs in cismontane chaparral edges at the periphery of meadows. Associated with open areas and mild soil disturbances in chaparral or open southern oak woodland on dry, brushy slopes. Elevation range 1,312-5,577 ft. Flowering period May-Aug.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Astragalus pachypus v. *jaegeri*	Jaeger's bush milk-vetch	--/-- CRPR 1B.1 County List A USFS	Perennial herb. Occurs among desert shrubs in sand and gravel, in Creosote Bush Scrub, Joshua Tree Woodland. Elevation range 2,953-3,937 ft. Flowering period Apr-Jun.	A	No suitable habitat occurs within the BSA.
Atriplex parishii	Parish's brittlescale	--/-- CRPR 1B.1 County List A USFS	Annual herb. Occurs in chenopod scrub, vernal pools, and playas. Alkaline flats on the periphery of salt pannes. Elevation range 82-6,233 ft. Flowering period Jun-Oct.	A	No suitable habitat occurs within the BSA.
Ayenia compacta	California ayenia	--/-- CRPR 2B.3 County List B	Perennial herb or shrub. Occurs in rocky canyons and desert arroyos of the Mojavean and Sonoran deserts. Elevation range 328-3,806 ft. Flowering period Mar-Apr.	A	No suitable habitat occurs within the BSA
Baccharis vanessae	Encinitas baccharis	FT/SE CRPR 1B.1 County List A	Shrub. Mature but relatively low-growing chaparral is primary habitat; also found in southern maritime and southern mixed chaparrals. Elevation range 197-984 ft. Flowering period Aug-Nov.	A	No suitable habitat occurs within the BSA. The BSA is located above this species' elevation range.
Berberis nevinii	Nevin's barberry	FE/SE CRPR 1B.1 County List A	Shrub. Occurs in sandy and gravelly places in coastal sage scrub or chaparral, and chaparral with strong desert affinities. Elevation below 2,133 ft. Flowering period Mar-Jun.	A	The BSA is located above this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Brodiaea filifolia	Thread-leaved brodiaea	FT/SE CRPR 1B.1 County List A	Perennial herb (bulb). Occurs in clay lenses in coastal sage scrub, cismontane woodlands, vernally moist grassland, and around vernal pools. Elevation range 82-2,822 ft. Flowering period Mar to Jun.	A	Clay soils and vernal pools do not occur within the BSA. The BSA is located above this species' elevation range.
Brodiaea orcuttii	Orcutt's brodiaea	--/-- CRPR 1B.1 County List A USFS	Perennial bulbiferous herb. Occurs on mesic clay soils in closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, native grassland, and vernal pools. Elevation range 95–5,550 ft. Flowering period May–Jul.	A	No suitable habitat occurs within the BSA.
Brodiaea santarosae	Santa Rosa Basalt brodiaea	--/-- USFS	Perennial bulbiferous herb. Occurs in basaltic valley and foothill grassland. Elevation range 1,853-3,428 ft. Flowering period May-Jun.	A	No suitable habitat occurs within the BSA.
Calochortus dunnii	Dunn's mariposa-lily	--/Rare CRPR 1B.2 County List A USFS	Perennial bulbiferous herb. Occurs on dry, stony ridges and fire breaks in chaparral or grassland/chaparral ecotone. Appears to be restricted to gabbroic and metavolcanic soils. Elevation range 4,921-5,577 ft. Flowering period Apr-Jun.	A	The BSA is located below this species' elevation range.
Calochortus weedii v. *intermedius*	intermediate mariposa lily	--/-- CRPR 1B.2 USFS	Perennial herb (bulb). Occurs in dry, rocky, open slopes in chaparral, valley grassland, and coastal sage scrub. Elevation below 2,231 ft. Flowering period May-Jul.	A	The BSA is located above this species' elevation range.
Castilleja lasiorhyncha	San Bernardino Mountains owls' clover	--/-- CRPR 1B.2 USFS	Annual herb. Occurs in upper montane coniferous forest, meadows, and pebble pavement plain. Reported at the moist edges of springs and seeps on clay soil in the San Bernardino Mountains. Elevation range 4,265-7,841	A	The BSA is located below this species' elevation range.
Caulanthus simulans	Payson's jewelflower	--/-- CRPR 4.2 County List D USFS	Annual herb. Generally associated with chaparral or pinyon-juniper woodland. Elevation range 1,312-7,218 ft. Flowering period Mar-May.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Ceanothus cyaneus	Lakeside ceanothus	--/-- CRPR 1B.2 County List A USFS	Perennial shrub. Occurs in inland mixed chaparral, specifically in the region from Crest to the Lakeside foothills. Elevation range 148–3,445 ft. Flowering period Apr–Jun.	A	The BSA is located near the upper end of this species' elevation range and southeast of its known geographic range.
Ceanothus ophiochilus	Vail Lake ceanothus	FT/SE CRPR 1B.1	Shrub. Occurs on rocky slopes, ridges of pyroxenite-rich substrate, and chaparral. Elevation range 1,968-3,609 ft. Flowering period Feb-Mar.	A	The BSA is located outside of this species' known range.
Chaenactis parishii	Parish's chaenactis	--/-- CRPR 1B.3 County List A	Perennial herb. Occurs in low-growing chaparral on higher mountain ridges overlooking the desert. Elevation range 4,265-8,202 ft. Flowering period May-Jul.	A	The BSA is located below this species' elevation range.
Chamaebatia australis	Southern mountain misery	--/-- CRPR 4.2 County List D	Shrub. Occurs in chaparral with gabbro and metavolcanic soils. Elevation range 984-3,346 ft. Flowering period Nov-May.	A	No suitable habitat occurs within the BSA.
Chorizanthe leptotheca	Peninsular spineflower	--/-- CRPR 4.2 County List D	Annual herb. Occurs in chaparral, coastal scrub, and lower montane coniferous forest. Elevation range 300–980 ft. Flowering period May–Aug.	A	The BSA is located above this species' elevation range.
Chorizanthe parryi var. *parryi*	Parry's spineflower	--/-- CRPR 1B.1 USFS	Annual herb. Occurs on sandy soil on flats and foothills in mixed grassland, coastal sage scrub, and chaparral communities. Elevation range 295-2,625 ft. Flowering period Apr-Jun.	A	The BSA is located above this species' elevation range.
Chorizanthe polygonoides var. *longispina*	Long-spined spineflower	--/-- CRPR 1B.2 County List A	Annual herb. Occurs in chaparral, coastal scrub, meadows and seeps, native grassland, and vernal pools, often in clay soils. Elevation range 95–5,020 ft. Flowering period Apr–Jul.	A	No suitable habitat occurs within the BSA.
Clarkia delicata	Delicate clarkia	--/-- CRPR 1B.2 County List A	Annual herb. Occurs in shaded areas or the periphery of oak woodlands and cismontane chaparral. Elevation range 770-3280 ft. Flowering period Apr-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Deinandra floribunda	Tecate tarplant	--/-- CRPR 1B.2 County List A USFS	Annual herb. Occurs in sandy washes or seeps on dry slopes or in the high desert. Elevation range 230-3,937 ft. Flowering period Aug-Oct.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Deinandra mohavensis	Mohave tarplant	--/SE CRPR 1B.3 County List A USFS	Annual herb. Grows along drainages at mid-elevations in relatively arid locations of montane chaparral. Elevation range 1,509-5,249 ft. Flowering period Jun-Oct.	A	The BSA is located outside of this species' known range.
Delphinium hesperium ssp. *cuyamacae*	Cuyamaca larkspur	--/Rare CRPR 1B.2 County List A USFS	Perennial herb. Occurs in relatively dense montane meadows and lower coniferous forests. Elevation range 4,002-5,351 ft. Flowering period May - Jul.	A	The BSA is located below this species' elevation range.
Delphinium parishii ssp. *subglobosum*	Colorado Desert larkspur	--/-- CRPR 4.3 County List D	Perennial herb. Occurs in dry, stony fans and slopes associated with creosote bush scrub, chaparral, or pinyon-juniper woodland in open Sonoran desert scrub. Elevation range 1,968-5,905 ft. Flowering period Mar-Jun.	A	No suitable habitat occurs within the BSA.
Dieteria asteroides var. *lagunensis*	Mt. Laguna aster	--/-- CRPR 2B.1 County List B USFS	Perennial herb. Occurs in meadows and openings in forest on Mt. Laguna. Elevation approximately 4,921 ft. Flowering period May-Jul.	A	The BSA is located below this species' elevation range.
Diplacus clevelandii	Cleveland's bush monkeyflower	--/-- CRPR 4.2 County List D	Perennial herb. Occurs on gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest. Often occurs in disturbed areas, openings, and on rocky soils. Elevation range 1,475–6,560 ft. Flowering period Apr–Jul.	A	No suitable habitat occurs within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Dodecahema leptoceras	Slender-horned spineflower	FE/SE CRPR 1B.1	Annual herb. Occurs on alluvial fans, floodplains, stream terraces, washes, and associated benches. Grows in riverbed alluvium high in silt and low in nutrients and organic matter in silt-filled, shallow depressions on relatively flat surfaces surrounded by scattered, river-rounded, cobble-sized rocks. Elevation range 656- 2,297 ft. Flowering period Apr-Jun.	A	The BSA is located above this species' elevation range.
Dudleya cymosa ssp. *ovatifolia*	Santa Monica Mountains dudleya	FT/-- CRPR 1B.1	Perennial herb. Occurs in volcanic or sedimentary, rocky chaparral and coastal scrub. Elevation range 492-5,495 ft. Flowering period Mar-Jun.	A	The BSA is located outside of this species' known range.
Dudleya multicaulis	many-stemmed dudleya	--/-- CRPR 1B.2 County List A USFS	Perennial herb. Occurs in dry, stony places associated with coastal sage scrub and valley grasslands. Elevation below 1,968 ft. Flowering period Apr-Jul.	A	The BSA is located above this species' elevation range.
Dudleya viscida	Sticky dudleya	--/-- CRPR 1B.2 County List A USFS	Perennial herb. Occurs in dry, stony places associated with coastal sage scrub and valley grasslands. Grows primarily on very steep north-facing slopes within coastal bluff scrub, chaparral, and rocky coastal scrub. Elevation below 1,968 ft. Flowering period Apr-Jul.	A	The BSA is located above this species' elevation range.
Ericameria cuneata var. *macrocephala*	Laguna Mountains goldenbush	--/-- CRPR 1B.3 County List A	Shrub. Occurs in rocky knolls in Montane chaparral in the Laguna Mountains. Elevation range 3,937-6,004 ft. Flowering period Sep-Dec.	A	The BSA is located below this species' elevation range.
Eriogonum evanidum	Vanishing wild buckwheat	--/-- CRPR 1B.1 USFS	Annual herb. Occurs on sandy soils in chaparral, yellow pine forest, and pinyon-juniper woodland. Elevation range 3,609-6,890 ft. Flowering period Jul-Oct.	A	The BSA is located below this species' elevation range.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE CRPR 1B.1 County List A	Annual/perennial herb. Occurs in mesic areas on coastal scrub, native grassland, and vernal pools. Elevation range 65–2,035 ft. Flowering period Apr–Jun.	A	The BSA is located above this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Erythranthe diffusa	Palomar monkeyflower	--/-- CRPR 4.3 County List D	Annual herb. Occurs in lower montane coniferous forest and chaparral understory. It has been found in xeric openings in the chamise chaparral and beneath conifers near very mesic meadows. Elevation range 4,000-6,000 ft. Flowering period Apr-Jun.	A	The BSA is located below this species' elevation range.
Galium angustifolium ssp. *jacintum*	San Jacinto Mountains bedstraw	--/-- CRPR 1B.3 County List A USFS	Perennial herb. Occurs on edge of montane meadows in Volcan and Palomar mountains. Elevation range 4,429-6,890 ft. Flowering period Jun-Aug.	A	The BSA is located below this species' elevation range.
Geraea viscida	Sticky geraea	--/-- CRPR 2B.2 County List B	Short-lived perennial herb. Occurs in high desert chaparral openings. Sandy, xeric locales are frequently utilized, and fires appear to stimulate the spread of this species. Chamise is the most common constituent of the chaparral in the eastern San Diego County region where this species occurs. Elevation range 1,476-5,577 ft. Flowering period May-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	--/-- CRPR 3.1 County List C USFS	Annual herb. Occurs in mesic, disturbed areas of chaparral. Elevation range 1,476-2,296 ft. Flowering period Apr-Jun.	A	The BSA is located above this species' elevation range.
Grindelia hallii	San Diego gumplant	--/-- CRPR 1B.2 County List A	Perennial herb. Occurs in montane meadows and lower montane coniferous forests, typically with sunny openings. Prefers very wet locales in early spring, although such places usually dry quickly as spring turns to summer. Elevation range 2,625-5,577 ft. Flowering period Jul-Oct.	A	No suitable habitat occurs within the BSA.
Hesperocyparis forbesii	Tecate cypress	--/-- CRPR 1B.1 County List A USFS	Tree. Occurs in closed-cone coniferous forest and southern mixed chaparral. Elevation range 1,476-4,921 ft.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Hesperocyparis stephensonii	Cuyamaca cypress	--/-- CRPR 1B.1 County List A USFS	Tree. Occurs in closed-cone coniferous forest and montane chaparral. Elevation range 2,986-5,906 ft.	A	No suitable habitat occurs within the BSA.
Heuchera abramsii	Abram's alumroot	--/-- CRPR 4.3 USFS	Perennial rhizomatous herb. Occurs in rocky upper montane coniferous forest. Elevation 9,186-11,482 ft. Flowering period Jul-Aug.	A	No suitable habitat occurs within the BSA.
Heuchera brevistaminea	Laguna Mountains alumroot	--/-- CRPR 1B.3 County List A	Perennial rhizomatous herb. Occurs in rocky outcrops in montane chaparral. Elevation range 4,593-6,234 ft. Flowering period Apr-Jul.	A	The BSA is located below this species' elevation range.
Horkelia cuneata puberula	Mesa horkelia	--/-- CRPR 1B.1 County List A USFS	Perennial herb. Occurs in sandy or gravelly areas in chaparral, coastal sage scrub, and coastal mesas. Elevation range 230-2,854 ft. Flowering period Feb-Jul.	A	The BSA is located above this species' elevation range.
Horkelia truncata	Ramona horkelia	--/-- CRPR 1B.3 County List A USFS	Perennial herb. Occurs on gabbro soils in chaparral communities (usually chamise chaparral). Elevation range 1,312-4,265 ft. Flowering period May-Jun.	A	No suitable habitat occurs within the BSA.
Hulsea californica	San Diego sunflower	--/-- CRPR 1B.3 County List A	Perennial herb. Occurs in montane coniferous forest and lightly disturbed chaparral. Occurs in large numbers following fires and is otherwise found in small colonies or singly in mildly disturbed locales. Elevation range 3,000-9,563 ft. Flowering period Apr-Jun.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	--/-- CRPR 1B.2 County List A	Shrub. Occurs in chaparral and sandy or grassy coastal sage scrub, often in disturbed areas. Elevation below 656 ft. Flowering period Apr-Nov.	A	The BSA is located above this species' elevation range.
Lepechinia cardiophylla	heart-leaved pitcher sage	--/-- CRPR 1B.2 County List A USFS	Perennial shrub. Occurs in closed-cone coniferous forest, chaparral, and cismontane woodland. Elevation range 1,968-3,937 ft. Flowering period Apr – Jul.	A	The BSA is located outside of this species' known range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	--/-- CRPR 1B.2 County List A	Annual herb. Occurs in openings in chaparral and coastal scrub at the coastal and foothill elevations. Typically in relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. Elevation range 0–2,905 ft. Flowering period Jan–Jul.	A	The BSA is located above this species' elevation range.
Lessingia glandulifera v. *tomentosa*	Warner Springs lessingia	--/-- CRPR 1B.1 County List A USFS	Annual herb. Occurs in sandy chaparral near Warner Springs. Elevation range 2,854-4,000 ft. Flowering period Aug-Oct.	A	The BSA is located outside of this species' known range.
Lewisia brachycalyx	short-sepaled lewisia	--/-- CRPR 2B.2 County List B USFS	Perennial herb. Occurs in lower montane coniferous forest, meadows, and seeps near Cuyamaca Lake. Elevation range 4,495-8,038 ft. Flowering period Feb-Jun.	A	The BSA is located below this species' elevation range.
Lilium parryi	lemon lily	--/-- CRPR 1B.2 County List A USFS	Perennial bulbiferous herb. Occurs in moist montane meadows. Elevation range 4,265-8,530 ft. Flowering period Jul-Aug.	A	The BSA is located below this species' elevation range.
Limnanthes alba ssp. *parishii*	Parish's meadowfoam	--/SE CRPR 1B.2 County List A USFS	Annual herb. Occurs in montane meadows largely devoid of shrubs and with concentrations of annuals and herbaceous perennials (not grasses). Elevation range 1,969-6,562 ft. Flowering period Apr-May.	A	No suitable habitat occurs within the BSA.
Linanthus bellus	desert beauty	--/-- CRPR 2B.1 County List B	Annual herb. Occurs in interior and high desert chaparral, usually in broad sandy openings. Elevation range 3,281-4,593 ft. Flowering period Apr-May.	A	No suitable habitat occurs within the BSA.
Linanthus orcuttii	Orcutt's linanthus	--/-- CRPR 1B.3 County List A USFS	Annual herb. Occurs in open, gravelly areas in montane coniferous forest or chaparral. Elevation range 3,609-7,054 ft. Flowering period May-Jun.	A	The BSA is located below this species' elevation range.
Lupinus albifrons var. *medius*	Mountain Springs bush lupine	--/-- CRPR 1B.3 County List A	Shrub. Occurs in pinyon and juniper woodland and sonoran desert scrub at higher elevations. Alluvial sandy washes on stream channel peripheries may be a preferred microhabitat. Elevation below 3,281 ft. Flowering period Mar-May.	A	The BSA is located below this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Monardella hypoleuca ssp. *lanata*	Felt-leaved monardella	--/-- CRPR 1B.2 County List A USFS	Perennial rhizomatous herb. Occurs in chaparral understory, typically beneath mature stands of chamise in xeric situations. Elevation range 984-4,921 ft. Flowering period Jun-Aug.	A	No suitable habitat occurs within the BSA.
Monardella macrantha ssp. *hallii*	Hall's monardella	--/-- CRPR 1B.3 County List A USFS	Perennial rhizomatous herb. Occurs in broadleafed upland forest, chaparral, lower montane coniferous forest, cismontane woodland, valley and foothill grassland, on dry slopes and ridges in openings. Elevation 2,395 – 7,200 feet. Flowering period Jun–Oct.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Monardella nana ssp. *leptosiphon*	San Felipe monardella	--/-- CRPR 1B.2 County List A USFS	Perennial rhizomatous herb. Occurs in lower montane coniferous forest. Elevation range 3,970-5,906 ft. Flowering period Jun-Jul.	A	The BSA is located below this species' elevation range.
Navarretia peninsularis	Baja navarretia	--/-- CRPR 1B.2 County List A USFS	Annual herb. Occurs in moist montane openings in the chaparral near Cuyamaca Lake. Elevation range 4,593-7,546 ft. Flowering period Jun-Aug.	A	The BSA is located below this species' elevation range.
Nolina cismontana	chaparral beargrass	--/-- CRPR 1B.2 County List A USFS	Shrub. Occurs in xeric chaparral and coastal scrub with sandstone or gabbro soils. Elevation range 656-4,265 ft. Flowering period May-Jul.	A	No suitable habitat occurs within the BSA.
Packera ganderi	Gander's butterwort	--/Rare CRPR 1B.2 County List A USFS	Perennial herb. Occurs on gabbro soils in interior chaparral regions, often beneath chamise. Elevation range 2,297-3,609 ft. Flowering period Apr-Jun.	A	No suitable habitat occurs within the BSA.
Penstemon californicus	California beardtongue	--/-- CRPR 1B.2 USFS	Perennial herb. Occurs in sandy locales in chaparral, lower montane coniferous forest, pinyon and juniper woodland. Elevation range 3,383-7,545 ft. Flowering period May-Jun.	A	The BSA is located below this species' elevation range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Phacelia keckii	Santiago Peak phacelia	--/-- CRPR 1B.3 USFS	Annual herb. Occurs in open chaparral and closed-cone pine forest. Elevation range 1,640-5,259 ft. Flowering period May-Sept.	A	The BSA is located outside of this species' known range.
Pickeringia montana var. *tomentosa*	Woolly chaparral-pea	--/-- CRPR 4.3	Shrub. Occurs on gabbroic and granitic substrates, usually in clay soil, in chaparral. Elevation range: 0-5,577 ft. Flowering period May-Aug.	A	No suitable habitat occurs within the BSA.
Plagiobryoides vinosula	Wine-colored tufa moss	--/-- CRPR 4.2	Moss. Usually occurs on granitic rock or granitic soil along seeps and streams, sometimes on clay. Occurs in cismontane woodland, Mojavean desert scrub, meadows and seeps, pinyon and juniper woodland, and riparian woodland. Elevation range 230-5,692 ft.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Poa atropurpurea	San Bernardino blue grass	FE/-- CRPR 1B.2 County List A	Perennial rhizomatous grass. Occurs in montane meadows surrounded by coniferous forest. Elevation range 4,101-7,612 ft. Flowering period May-Jul.	A	The BSA is located below this species' elevation range.
Ribes canthariforme	Moreno currant	--/-- CRPR 1B.3 County List A USFS	Shrub. Occurs in moist areas in southern interior chaparral. Typically occurs in areas of acid igneous rock land, typically with massive, exposed boulders. Elevation range 1,640-3,937 ft. Flowering period Feb-Apr.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Rupertia rigida	Parish's rupertia	--/-- CRPR 4.3 County List D	Perennial herb. Occurs in montane chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, pebble pavement plain, and valley and foothill grassland. Elevation range 2,296-8,202 ft. Flowering period Jun-Aug.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Satureja chandleri	San Miguel savory	--/-- CRPR 1B.2 County List A USFS	Perennial shrub. Occurs on rocky, gabbroic or metavolcanic soils in chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. Elevation range 393-3,526 ft. Flowering period Mar-Jul.	A	No suitable habitat occurs within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Scutellaria bolanderi ssp. *austromontana*	Southern mountains skullcap	--/-- CRPR 1B.2 County List A USFS	Perennial rhizomatous herb. Occurs in chaparral and montane creek areas. Elevation range 1,969-6,562 ft. Flowering period Jun- Aug.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Sibaropsis hammittii	Hammitt's claycress	--/-- CRPR 1B.2 County List A USFS	Annual herb. Occurs in mesic, grassy openings in chaparral and on clay soils in Stipa grassland. Elevation range 1,969-4,265 ft. Flowering period Mar-Apr.	A	No suitable habitat occurs within the BSA.
Streptanthus bernardinus	Laguna Mountains jewelflower	--/-- CRPR 4.3 County List D	Perennial herb. Occurs on montane peak tops in lower montane coniferous forest. While typically in mesic situations, it can occupy drier embankments in granitic gravels and sand. Elevation range 3,937-8,202 ft. Flowering period May-Aug.	A	The BSA is located below this species' elevation range.
Streptanthus campestris	Southern jewelflower	--/-- CRPR 1B.3 County List A USFS	Perennial herb. Occurs in pinyon juniper areas and high desert transitional chaparral. Elevation range 2,953-7,546 ft. Flowering period May-Jul.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Symphyotrichum defoliatum	San Bernardino aster	--/-- CRPR 1B.2 USFS	Perennial rhizomatous herb. Occurs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic), and near ditches, streams, and springs. Elevation below 6,726 ft. Flowering period Jul-Nov.	HP	Suitable habitat occurs within the BSA but species was not observed during rare plant surveys and is presumed absent.
Tetracoccus dioicus	Parry's tetracoccus	--/-- CRPR 1B.2 County List A USFS	Shrub. Occurs on gabbro soils in low growing chamise chaparral and sage scrub. Usually, conditions are quite xeric with only limited annual growth. Elevation below 3,281 ft. Flowering period Apr-May.	A	No suitable habitat occurs within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
PLANTS (cont.)					
Thermopsis californica var. *semota*	Velvety false lupine	--/-- CRPR 1B.2 County List A USFS	Perennial rhizomatous herb. Occurs in lower montane coniferous forest and montane meadows. Locally common in wet, open meadows around Cuyamaca Lake. Elevation range 3,281-4,921 ft. Flowering period Mar-Jun.	A	The BSA is located below this species' elevation range.
Thysanocarpus rigidus	rigid fringepod	--/-- CRPR 1B.2 USFS	Annual herb. Occurs in oak/pine woodland and rocky slopes. Elevation 1,969-7,218 ft. Flowering period Feb-May.	A	No suitable habitat occurs within the BSA.
WILDLIFE					
Invertebrates					
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/-- County Group 1	Occurs in vernal pools and other areas of shallow, standing water often in patches of grassland and agriculture interspersed in coastal sage scrub and chaparral.	A	Vernal pools are not present within the BSA.
Euphydryas editha quino	Quino checkerspot butterfly	FE/-- County Group 1	Occurs in open stands of sage scrub and chaparral, adjacent open meadows, old foot trails and dirt roads. Primary larval host plant in San Diego is dwarf plantain (*Plantago erecta*). Owl's clover (*Castilleja exserta*) is considered a secondary host plant.	A	No larval host plants were observed within the BSA, and the BSA does not support the open sage scrub habitat preferred by this species.
Halictus harmonius	Harmonius halictid bee	--/--	This species has been recorded with certainty only from the foothills of the San Bernardino and San Jacinto Mountains in southern California. It is not known to be specialized on particular habitat types or host plants.	A	The BSA is located outside of this species' known range.
Lycaena hermes	Hermes copper butterfly	FC/-- County Group 1 USFS	Occurs in southern mixed chaparral and coastal sage scrub with mature specimens of its larval host plant, spiny redberry (*Rhamnus crocea*).	A	No larval host plants were observed within the BSA.
Pyrgus ruralis lagunae	Laguna Mountains skipper	FE/-- County Group 1	Occurs in mountain meadow areas in pine forests where the larval foodplant, Cleveland's horkelia (*Horkelia clevelandii*), occurs.	A	No larval host plants were observed within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Invertebrates (cont.)					
Rothelix warnerfontis	Warner Springs snail	--/-- USFS	Known only from two localities near Warner Springs. Found in wood rat nests.	A	The BSA is located outside of this species' known range.
Streptocephalus woottoni	Riverside fairy shrimp	FE/-- County Group 1	Occurs in deep vernal pools and seasonal wetlands at least 30 centimeters deep.	A	Vernal pools are not present within the BSA.
Fishes					
Gila orcuttii	arroyo chub	--/-- SSC County Group 1 USFS	Occurs in freshwater headwaters, creeks, small to medium rivers, and intermittent streams within a limited geographic range. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	A	The BSA is located outside of this species' known range.
Oncorhynchus mykiss	southern steelhead trout	FE/-- County Group 1	Anadromous fish occurs in streams draining to the Pacific Ocean.	A	The BSA is located outside of this species' known range.
Rhinichthys osculus ssp. *8*	Santa Ana speckled dace	--/-- USFS	Requires permanent flowing streams with summer water temps of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	A	Permanent flowing streams are not present within the BSA.
Amphibians and Reptiles					
Anaxyrus californicus	Arroyo toad	FE/SSC County Group 1	Found on banks with open-canopy riparian forest characterized by willows, cottonwoods, or sycamores; breeds in areas with shallow, slowly moving streams, but burrows in adjacent uplands during dry months	SP	Species is present based on previous observations, including a 2011 protocol survey.
Anniella stebbinsi	southern California legless lizard	--/SSC County Group 2 USFS	Occurs in areas with loose soil, particularly in sand dunes and or otherwise sandy soil. Generally found in leaf litter, under rocks, logs, or driftwood in oak woodland, chaparral, and desert scrub.	A	The BSA is located outside of this species' known range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Amphibians and Reptiles (cont.)					
Arizona elegans occidentalis	California glossy snake	--/SSC	Occurs in arid scrub, rocky washes, grasslands, and chaparral. Prefers open areas and loose soil.	HP	Suitable habitat occurs within the BSA. The nearest CNDDB observation is over three miles away and the species has low potential to occur.
Aspidoscelis hyperythra	Orange-throated whiptail	--/WL County Group 2 USFS	Occurs in open, sandy coastal sage scrub, chaparral, and woodlands. Frequently found along the edges of dirt roads traversing its habitats. Important habitat components include a mosaic of open, sunny areas and shade, shrub cover with accumulated leaf litter, and an abundance of insects, spiders, or scorpions.	HP	Riparian woodlands, chaparral, and big sagebrush scrub occur within the BSA. The nearest CNDDB observation is over five miles away and the species has low potential to occur.
Coluber fuliginosus (Masticophis fuliginosus)	Baja California coachwhip	--/-- SSC	In California, occurs mainly in open areas such as grassland, shrubland, and coastal sand dunes, near the Mexican border.	A	The BSA is located outside of this species' known range.
Crotalus ruber	Red diamond rattlesnake	--/SSC County Group 2 USFS	Occurs in chaparral, coastal sage scrub, along creek banks, particularly among rock outcrops or piles of debris with a supply of burrowing rodents for prey.	HP	Suitable habitat occurs within the BSA. The nearest CNDDB observation is over seven miles away and the species has low potential to occur.
Diadophis punctatus similis	San Diego ringneck snake	--/-- County Group 2 USFS	Generally occurs in moist habitats such as oak woodlands and canyon bottoms, but is also sometimes encountered in grassland, chaparral, and coastal sage scrub.	A	The BSA is located outside of this species' known range.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Amphibians and Reptiles (cont.)					
Emys marmorata	Western pond turtle	--/SSC USFS	Almost entirely aquatic; occurs in freshwater marshes, creeks, ponds, rivers and streams, particularly where basking sites, deep water retreats, and egg laying areas are readily available.	A	The BSA does not support perennial water to support this species.
Ensatina klauberi	Large-blotched salamander	--/WL County Group 1 USFS	Occurs in moist shaded evergreen and deciduous forests and oak woodlands, generally in areas with coarse woody debris, rocks, and logs.	HP	Riparian habitat occurs within the BSA. The nearest CNDDB observation is about five miles away and the species has low potential to occur.
Gambelia copeii	Cope's leopard lizard	--/SSC	Occurs in coastal sage scrub, chaparral, and oak woodland. Prefers flat areas with open space.	HP	Suitable habitat occurs within the BSA. The nearest CNDDB observation is over five miles away and the species has low potential to occur.
Lampropeltis zonata (pulchra)	California mountain kingsnake (San Diego population)	--/ WL County Group 2 USFS	Occurs in montane areas with coniferous forest, hardwood forests, riparian areas, or chaparral.	A	The elevation of the BSA is too low for this species.
Lichanura trivirgata roseofusca (Lichanura orcutti)	coastal rosy boa	--/-- County Group 2 USFS	Occurs among rocky outcrops in coastal sage scrub, chaparral, and desert scrub.	HP	Suitable habitat present. Range cannot be confirmed because CNDDB does not show results for this species.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Amphibians and Reptiles (cont.)					
Phrynosoma blainvillii	coast horned lizard	--/SSC County Group 2	Occurs in grasslands, brushlands, woodlands, and open coniferous forest with sandy or loose soil; requires abundant ant colonies for foraging.	HP	Suitable habitat present. There are CNDDB observations within two miles of the BSA and the species has high potential to occur.
Rana aurora draytoni	California red-legged frog	FT/SSC County Group 1	Occurs in dense, shrubby riparian vegetation with deep, slow-moving water. Readily displaced by introduced aquatic predators, including bullfrogs (Rana catesbiana) or crayfish (Procambarus sp). Believed extirpated from San Diego County.	A	No suitable habitat occurs within the BSA.
Rana muscosa	mountain yellow-legged frog	FE/SE WL County Group 1	Occurs in mid- to upper-elevation permanent waterways, often with open riparian vegetation.	A	No permanent waterways occur within the BSA.
Spea hammondii	Western spadefoot	--/SSC County Group 2	Occurs in open coastal sage scrub, chaparral, and grassland along sandy or gravelly washes, floodplains, alluvial fans, or playas. Requires temporary pools for breeding and friable soils for burrowing; generally excluded from areas with bullfrogs (Rana catesbiana) or crayfish (Procambarus sp.)	A	Appropriate vernal pool habitat does not occur within BSA.
Thamnophis hammondii	Two-striped gartersnake	--/SSC County Group 1 USFS	Highly aquatic. Occurs along perennial and intermittent streams bordered by dense riparian vegetation, but occasionally associated with vernal pools or stock ponds.	HP	Suitable habitat occurs within the BSA. The nearest CNDDB observation is within one mile of the BSA and potential is moderate.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds					
Accipiter cooperii	Cooper's hawk	--/-- WL County Group 1	Occurs in oak groves, mature riparian woodlands, and eucalyptus stands or other mature forests.	SP	Observed on site in 2011.
Agelaius tricolor	Tricolored blackbird	BCC/ST, SSC County Group 1	Occurs in marsh habitat near grasslands, pastures, and agricultural fields.	A	No suitable habitat occurs within the BSA.
Aquila chrysaetos	Golden eagle	BCC/FP,WL County Group 1	Nesting occurs on cliff ledges or in trees on steep slopes, with foraging occurring primarily in grassland and sage scrub. Not usually observed near development.	HP	Suitable foraging habitat occurs within the BSA. The BSA is not suitable for nesting. The nearest CNDDB observation is approximately 3.5 miles away.
Buteo lineatus	red-shouldered hawk	--/-- County Group 1	Occurs in oak groves and mature riparian woodland. Nests high in trees beneath the canopy.	SP	Observed within the BSA in 2011 and 2017.
Campylorhynchus brunneicapillus sandiegensis	San Diego cactus wren	BCC/SSC County Group 1 USFS	Occurs in coastal sage scrub with large cacti for nesting.	A	No suitable habitat occurs within the BSA.
Cathartes aura	turkey vulture	--/-- County Group 1	Foraging habitat includes most open habitats with breeding occurring in crevices among boulders.	SP	Species observed foraging overhead. No suitable breeding habitat within the BSA.
Coccyzus americanus occidentalis	western yellow-billed cuckoo	FT/ SE BCC County Group 1	Generally occurs along larger river systems, where it nests in riparian forest dominated by willows and cottonwoods.	A	The BSA is not part of a larger river system that would support this species.
Elanus leucurus	white-tailed kite	--/-- FP County Group 1	Riparian woodlands and oak or sycamore groves adjacent to grassland or agriculture.	SP	Observed within the BSA in 2011. Habitat is suitable for nesting and foraging.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds (cont.)					
Empidonax traillii extimus	Southwestern willow flycatcher	FE/SE County Group 1	Breeds within thickets of willows or other riparian understory usually along streams, ponds, lakes, or canyons. Migrants may be found among other shrubs in wetter areas.	HP	Suitable habitat is present; however, protocol surveys in 2011 and 2017 were negative and the species is presumed absent. The nearest CNDDB observation of this species is over 20 miles away and the species is not expected to occur.
Falco mexicanus	Prairie falcon	BCC/WL County Group 1	Nesting occurs on cliff or bluff ledges or occasionally in old hawk or raven nests; foraging occurs in grassland or desert habitats.	HP	Suitable foraging habitat occurs within the BSA. Potential for nesting is low due to the lack of cliffs or bluffs.
Haliaeetus leucocephalus	bald eagle	--/-- USFS	Uses ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within one mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	A	No suitable habitat occurs within the BSA.
Pelecanus occidentalis	brown pelican	--/-- USFS	Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	A	No suitable habitat occurs within the BSA.
Polioptila californica californica	Coastal California gnatcatcher	FT/SSC County Group 1	Occurs in coastal sage scrub and other low scrub.	A	The BSA is located outside of this species' known range.
Setophaga petechia	yellow warbler	--/-- BCC/SSC County Group 2	Occurs in riparian woodland.	SP	Species observed within the BSA in 2011.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds (cont.)					
Strix occidentalis	California spotted owl	--/-- USFS	Occurs in coniferous forest and deciduous hardwood forest.	A	No suitable habitat occurs within the BSA.
Vireo bellii pusillus	Least Bell's vireo	FE/SE County Group 1	Occurs in mature riparian woodlands and riparian forests with a well-developed understory; prefers willows.	HP	Suitable habitat is present; however, a protocol survey in 2017 was negative and the species is presumed absent. A dispersing male was detected within the BSA in 2011 and the site has moderate potential to support this species.
Vireo vicinor	gray vireo	--/-- USFS	Occurs in dry chaparral; west of desert, in chamise-dominated habitat; mountains of Mojave Desert, associated with juniper & Artemisia.	A	The BSA is located outside of this species' known range.
Mammals					
Antrozous pallidus	Pallid bat	--/SSC County Group 2 USFS	Occurs in deserts and canyons. Daytime roosts in buildings, crevices; less often in caves, mines, hollow trees, and other shelters.	SP	Pallid bat was observed using the bridge as a night roost during a 2017 survey. No day roosts were observed within the BSA.
Chaetodipus californicus femoralis	Dulzura pocket mouse	--/SSC County Group 2	Occurs primarily in mature chaparral. It has, however, been trapped in mule fat scrub and is known to occur in coastal sage scrub.	HP	Suitable habitat occurs within the BSA. The nearest CNDDB record is within one mile and the species has high potential to occur.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds (cont.)					
Chaetodipus fallax fallax	Northwestern San Diego pocket mouse	--/SSC County Group 2	Occurs in open areas of coastal sage scrub and weedy growth, often on sandy substrates.	HP	Suitable habitat occurs within the BSA. All of the CNDDB records are located west of the BSA and the potential to occur is low.
Corynorhinus townsendii	Townsend's big-eared bat	--/SSC County Group 2 USFS	Occurs in desert scrubs as well as pine and piñon-juniper forests. Usually roosts in buildings or caves.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST County Group 1	Occurs primarily in annual and perennial grasslands, but also coastal scrub and sagebrush with sparse canopy cover. Prefers buckwheat, chamise, brome grass and filaree. Will burrow into firm soil.	A	The BSA is located outside of this species' known range.
Eumops perotis californicus	Western mastiff bat	--/SSC County Group 2	Occurs in rocky areas, cliff faces, and known to roost in buildings. Found in a variety of habitats, from desert scrub to chaparral to oak woodland and into the ponderosa pine belt.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Lasiurus blossevillii	Western red bat	--/SSC County Group 2	Day roosts are commonly in edge habitats adjacent to streams or open fields, in orchards, and sometimes in urban areas. Possible association with intact riparian habitat (particularly willows, cottonwoods, oaks, walnuts, and sycamores).	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds (cont.)					
Lasiurus cinereus	Hoary bat	--/--	Occurs in broadleaved upland, cismontane and coniferous forests. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	--/-- SSC County Group 2	Occurs primarily in open scrub with short grasses in arid regions. Occurs in desert or dune, grassland, and chaparral habitats. May occur in grasslands, croplands, and open, disturbed areas if there is at least some shrub cover present.	SP	Species observed within the BSA in 2011.
Myotis ciliolabrum	Western small-footed myotis	--/-- County Group 2	Occurs in arid, upland habitats near water. Prefers open stands in forests and woodlands as well as brushy habitats. Feeds over and drinks from streams, ponds, springs, and stock tanks.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Myotis evotis	Long-eared myotis	--/-- County Group 2	Occurs in sage to coniferous forests on high mountains, sometimes in buildings.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Myotis thysanodes	Fringed myotis	--/-- USFS	Occurs in a variety of habitats; optimal habitats are pinyon-juniper, valley foothill hardwood & hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.

Appendix D (cont.)
Sensitive Species Potential to Occur

Scientific Name	Common Name	Status*	General Habitat Description	Habitat or Species Present/ Absent†	Rationale
WILDLIFE (cont.)					
Birds (cont.)					
Myotis volans	Long-legged myotis	--/-- County Group 2	In summer, occurs in trees, crevices, and buildings, particularly in forested areas. They form nursery colonies of several hundred that disperse in the fall. Their winter behavior is unknown.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Myotis yumanensis	Yuma myotis	--/-- County Group 2	Always occurs near pond, streams, or lakes. By day, under sidings or shingles, caves, mines, buildings, or under bridges	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Nyctinomops femorosaccus	Pocketed free-tailed bat	--/SSC County Group 2	Occurs in the desert, pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian; roosts in rock outcrops.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.
Nyctinomops macrotis	Big free-tailed bat	--/-- SSC County Group 2	Occurs in arid and rocky areas. Roost in rocky cliffs, sometimes caves, buildings, or tree holes.	HP	Suitable habitat occurs within the BSA, but a 2017 survey did not detect this species and it is presumed not to be roosting within the BSA.

*FE = Federally listed endangered. FT = Federally listed threatened. FC = Federal candidate species. SE = State listed endangered. ST = State listed threatened. SSC = State species of special concern. WL = Watch list. Fully Protected = State fully protected. USFS = U.S. Forest Service sensitive.
CRPR = Rare, threatened, or endangered in California and elsewhere, eligible for state listing. List 2 = Rare, threatened, or endangered in California but more common elsewhere, eligible for state listing. List 3 = Distribution, endangerment, ecology, and/or taxonomic information needed, some eligible for state listing. List 4 = A watch list for species of limited distribution, needs monitoring for changes in population status, few (if any) eligible for state listing.
†ABSENT (A) = suitable habitat is absent. HABITAT PRESENT (HP) = suitable habitat is present. SPECIES PRESENT (SP) = species is present based on survey results and/or other data.
SOURCE: CDFW 2018a, CNPS 2018, USFWS 2015, USFS 2018. The CNDDB database search included areas within approximately 5 miles of the BSA. The CNPS search included the Morena Reservoir, Descanso, Cameron Corners, and Mount Laguna, California USGS 7.5 Minute Quadrangles.

Appendix E *Data Sheets*

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Buckman Springs Road Bridge City/County: Unincorporated San Diego Co. Sampling Date: 7/11/17

Applicant/Owner: County of San Diego (CSD-05.06) State: CA Sampling Point: 1

Investigator(s): Stacy Nigro and Beth Ehsan Section, Township, Range: Section 8, Township 17 South, Range 5 East

Landform (hillslope, terrace, etc.): Creek bed - edge Local relief (concave, convex, none): none Slope (%): 1%

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: Mottsville loamy coarse sand, 2 to 9 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil ✓, or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	**Is the Sampled Area within a Wetland?** Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

Sample point located in Southern Willow Riparian Forest with herb-dominated understory along creek edge, at toe of slope

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5X20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5X20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5X20')			
1. Veronica anagallis-aquatica	24	Yes	OBL
2. Mimulus guttatus	24	Yes	OBL
3. Polypogon monspeliensis	24	Yes	FACW
4. Juncus bufonius	3		FACW
5. Epilobium ciliatum	1		FACW
6. Lythrum californicum	1		OBL
7. Apium graveolens	1		FACW*
8. Conium maculatum	1		FACW
	80	= Total Cover	
Woody Vine Stratum (Plot size: 5X20')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

*Indicator status for Apium graveolens is based on delineators' professional opinion.
Species 9 and 10 in herb stratum = Rumex salicifolia, 1%, FACW; and Urtica dioica, 1%, FAC.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10 YR 2/3	100					LSand	slightly moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ **No** _____

Remarks:

Aquic moisture regime. No indicators present but soil is loamy sand, little organic matter, obligate species and dominant.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral = 3:0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Buckman Springs Road Bridge City/County: Unincorporated San Diego Co. Sampling Date: 7/11/17

Applicant/Owner: County of San Diego (CSD-05.06) State: CA Sampling Point: 2

Investigator(s): Stacy Nigro and Beth Ehsan Section, Township, Range: Section 8, Township 17 South, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1%

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: Mottsville loamy coarse sand, 2 to 9 percent slopes NWI classification: PFO1A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No ✓	**Is the Sampled Area within a Wetland?** Yes No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks:

Sample point located in Southern Willow Riparian Forest adjacent to the Cottonwood Creek channel - CDFW riparian only

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 25X25')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata	20	Y	FACW
2.			
3.			
4.			
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 25X25')			
1. Sambucus nigra ssp. caerulea	40	Y	FACU
2.			
3.			
4.			
5.			
	40	= Total Cover	
Herb Stratum (Plot size: 25X25')			
1. Hirschfeldia incana	20	Yes	UPL
2. Conium maculatum	2		
3. Bromus tectorum	70	Yes	UPL
4. Sonchus asper	1		
5. Urtica dioica	2		
6. Chenopodium album	2		
7. Erigeron canadensis	3		
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 25X25')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No ✓

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	10 YR 2/2	100					loam	
11-16	10 YR 3/2	100					sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral = 1:3

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Buckman Springs Road Bridge City/County: Unincorporated San Diego Co. Sampling Date: 7/11/17

Applicant/Owner: County of San Diego (CSD-05.06) State: CA Sampling Point: 3

Investigator(s): Stacy Nigro and Beth Ehsan Section, Township, Range: Section 8, Township 17 South, Range 5 East

Landform (hillslope, terrace, etc.): La Posta Creek Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: Mottsville loamy coarse sand, 2 to 9 percent slopes NWI classification: R3UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ✓, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	**Is the Sampled Area within a Wetland?** Yes ✓ No ____
Hydric Soil Present?	Yes ✓ No ____	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks:

herbaceous wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 8X20')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 8X20')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 8X20')			
1. Veronica anagallis-aquatica	30	Yes	OBL
2. Mimulus guttatus	30	Yes	OBL
3. Polypogon monspeliensis	25	Yes	FACW
4.			
5.			
6.			
7.			
8.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: 8X20')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 3/3	100					sand	moist

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ✓ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____

Remarks:

No indicators present. Soil naturally problematic = sand. Algal matting across surface and dominance of obligate species indicate aquic moisture regime/hydric soil.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ✓ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✓ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral = 3:0

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Buckman Springs Road Bridge City/County: Unincorporated San Diego Co. Sampling Date: 7/11/17

Applicant/Owner: County of San Diego (CSD-05.06) State: CA Sampling Point: 4

Investigator(s): Stacy Nigro and Beth Ehsan Section, Township, Range: Section 8, Township 17 South, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: Mottsville loamy coarse sand, 2 to 9 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No ✓	**Is the Sampled Area within a Wetland?** Yes No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks:

Southern Willow Riparian Forest, CDFW jurisdictional, southwest side of bridge

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=20')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata	70	Yes	FACW
2.			
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: R=20')			
1. Sambucus nigra ssp. caerulea	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: R=20')			
1. Bromus diandrus	65	Yes	UPL
2. Bromus tectorum	15		
3. Stipa miliacea	5		
4. Elymus triticoides	5		
5.			
6.			
7.			
8.			
	90	= Total Cover	
Woody Vine Stratum (Plot size: R=20')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Dominance Test is >50%
- Prevalence Index is ≤3.0[1]
- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes No ✓

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 3/2	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral = 1:2

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Buckman Springs Road Bridge City/County: Unincorporated San Diego Co. Sampling Date: 7/11/17

Applicant/Owner: County of San Diego (CSD-05.06) State: CA Sampling Point: 5

Investigator(s): Stacy Nigro and Beth Ehsan Section, Township, Range: Section 8, Township 17 South, Range 5 East

Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): C Lat: Long: Datum:

Soil Map Unit Name: Mottsville loamy coarse sand, 2 to 9 percent slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	**Is the Sampled Area within a Wetland?** Yes No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks:

Mule Fat Scrub, CDFW jurisdictional

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: R=15')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix laevigata			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: R=15')			
1. Baccharis salicifolia	75	Yes	FAC
2.			
3.			
4.			
5.			
	75 = Total Cover		
Herb Stratum (Plot size: R=15')			
1. Phacelia cicutaria	10		
2. Bromus diandrus	35	Yes	UPL
3. Hirschfeldia incana	10		
4. Urtica dioica	20	Yes	FACW
5. Artemisia dracunculus	15		
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: R=15')			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

Prevalence Index is ≤3.0[1]

Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10 YR 3/2	100					SaL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

FAC-Neutral = 1:1

Appendix F *Plant Species Observed*

Attachment F
Plant Species Observed

Family	Scientific Name	Common Name	Habitat**
MONOCOTS			
Agavaceae	*Hesperoyucca whipplei*	Our Lord's candle	SMC
Juncaceae	*Juncus bufonius*	toad rush	HW
	Juncus mexicanus	Mexican rush	SAWRF, MFS
Liliaceae	*Toxicoscordion fremontii*	star-lily	MFS
Poaceae	*Avena* sp.*	oats	CLOW
	*Bromus diandrus**	common ripgut grass	SAWRF, MFS, NNG
	*Bromus madritensis**	foxtail chess	CLOW, BSS, NNG, DH
	*Bromus tectorum**	cheatgrass	SAWRF, MFS, NNG
	Distichlis spicata	saltgrass	MFS, NNG
	Elymus triticoides	beardless wild ryegrass	SAWRF
	*Lamarckia aurea**	goldentop	CLOW
	Muhlenbergia rigens	deergrass	MFS, BSS, NNG
	*Polypogon monspeliensis**	annual beardgrass	HW
	*Schismus barbatus**	Mediterraneangrass	DH, UC
	*Stipa miliacea**	smilo grass	SAWRF
DICOTS			
Adoxaceae	*Sambucus nigra* ssp. *caerulea*	blue elderberry	SAWRF, MFS, SMC
Anacardiaceae	*Rhus aromatica*	basket-brush	CLOW, SMC
	Rhus ovata	sugar bush	BSS
Apiaceae	*Apium graveolens**	celery	HW
Apiaceae	*Conium maculatum**	poison-hemlock	HW, SAWRF
	Tauschia arguta	southern tauschia	MFS
Apocynaceae	*Asclepias* sp.	milkweed	NNG
Asteraceae	*Ambrosia psilostachya*	western ragweed	SAWRF, MFS, BSS, SMC, NNG, DH
	Ambrosia sp.	bur-sage	MFS, NNG, UC
	Artemisia douglasiana	mugwort	SAWRF, MFS, NNG, UC
	Artemisia dracunculus	tarragon	SAWRF, MFS, BSS, NNG, DH, UC
	Artemisia ludoviciana	silver wormwood	CLOW
	Artemisia tridentata	Great Basin sagebrush	CLOW, MFS, BSS, NNG, DH, UC
	Baccharis salicifolia	mule fat	SAWRF, MFS, NNG, UC
	Brickellia californica	brickellbrush	CLOW
	*Centaurea melitensis**	tocalote	MFS
	Cirsium occidentale var. *californicum*	California thistle	MFS, NNG
	*Cirsium vulgare**	bull thistle	NNG
	Corethrogyne filaginifolia	sand aster	BSS, SMC, NNG, DH
	Ericameria linearifolia	interior goldenbush	CLOW, MFS, SMC, NNG, DH
	Erigeron canadensis	horseweed	SAWRF, NNG
	Erigeron sp.	fleabane	BSS
	Eriophyllum confertiflorum	golden-yarrow	BSS, SMC
	Euthamia occidentalis	western goldenrod	DH
	Gutierrezia sp.	matchweed	BSS, NNG
	Helianthus sp.	sunflower	SAWRF

Attachment F (cont.)
Plant Species Observed

Family	Scientific Name	Common Name	Habitat**
DICOTS (cont.)			
Asteraceae (cont.)	*Heterotheca grandiflora*	telegraph weed	NNG
	*Hypochaeris glabra**	smooth catsear	MFS
	*Lactuca serriola**	wild lettuce	SAWRF
	Laennecia coulteri	Coulter's fleabane	SAWRF
	Lasthenia sp.	goldfields	NNG
	Matricaria discoidea	pineapple weed	DH
	Pseudognaphalium californicum	California everlasting	CLOW, UC
	Pseudognaphalium sp.	everlasting	SAWRF
	Solidago velutina ssp. *californica*	California goldenrod	CLOW, SMC
	*Sonchus asper**	prickly sow thistle	SAWRF, UC
	Stephanomeria sp.	wreath-plant	NNG, UC
	Stephanomeria virgata	virgate wreath-plant	BSS, NNG
	Uropappus lindleyi	silver puffs	SMC
	Xanthium strumarium	cocklebur	SAWRF
Boraginaceae	*Amsinckia intermedia*	rancher's fiddleneck	SAWRF, DH
	Cryptantha sp.	cryptantha	SMC, NNG, DH
	Emmenanthe penduliflora	whispering bells	SAWRF
	Eriodictyon trichocalyx var. *trichocalyx*	shiny-leaf yerba santa	CLOW, SMC, DH
	Heliotropium curassavicum var. *occulatum*	salt heliotrope	MFS, BSS, NNG, UC
	Nemophila sp.	nemophila	BSS
	Pectocarya sp.	pectocarya	NNG
	Phacelia cicutaria var. *hispida*	caterpillar phacelia	MFS
	Plagiobothrys sp.	popcorn flower	DH
Brassicaceae	*Barbarea orthoceras*	American rocket	SAWRF
	*Brassica tournefortii**	Sahara mustard	SAWRF, BSS, SMC, NNG, DH, UC
	*Capsella bursa-pastoris**	shepherd's purse	SMC
	Descurainia pinnata	tansy-mustard	MFS
	*Hirschfeldia incana**	short-pod mustard	SAWRF, MFS, BSS, NNG
	*Lepidium didymium**	lesser swine cress	DH
	Lepidium sp.	pepper grass	DH
	Sisymbrium sp.*	hedge mustard	SAWRF, MFS, NNG, UC
Cactaceae	*Opuntia littoralis*	coastal prickly pear	CLOW
Caprifoliaceae	*Lonicera* sp.	honeysuckle	CLOW, BSS, SMC
Chenopodiaceae	*Chenopodium album**	pigweed	SAWRF, BSS, NNG
	Chenopodium californicum	California pigweed	MFS
	*Chenopodium murale**	nettle-leaf goosefoot	NNG
	Chenopodium sp.*	goosefoot	SAWRF
	*Salsola tragus**	Russian thistle	DH, UC
Cucurbitaceae	*Marah macrocarpa*	wild cucumber	CLOW, SMC

Attachment F (cont.)
Plant Species Observed

Family	Scientific Name	Common Name	Habitat**
DICOTS (cont.)			
Ericaceae	*Arctostaphylos glauca*	bigberry manzanita	CLOW
Fabaceae	*Acmispon glaber*	deerweed	DH
	Acmispon sp.	lotus	CLOW, DH
	Astragalus sp.	raffleweed, locoweed	NNG
	Lupinus bicolor	miniature lupine	DH, UC
	Lupinus sp.	lupine	NNG
	*Medicago polymorpha**	burclover	MFS, NNG, UC
	*Melilotus indicus**	Indian sweet clover	NNG
	Melilotus sp.*	sweetclover	SAWRF
Fagaceae	*Quercus agrifolia* var. *agrifolia*	coast live oak	CLOW, MFS, BSS
	Quercus berberidifolia	scrub oak	SMC
	Quercus sp.	oak	SMC
Geraniaceae	*Erodium botrys**	long-beak filaree	NNG
	*Erodium cicutarium**	redstem filaree	NNG, DH, UC
Lamiaceae	*Lamium amplexicaule**	henbit	SAWRF, MFS, BSS, NNG
	*Marrubium vulgare**	horehound	CLOW
Lythraceae	*Lythrum californicum**	California loosestrife	HW
Montiaceae	*Claytonia* sp.	spring beauty	BSS
Onagraceae	*Camissoniopsis* sp.	sun cup	MFS, SMC, UC
	Clarkia sp.	clarkia	NNG
	Epilobium ciliatum ssp. *ciliatum*	willow herb	HW
Orobanchaceae	*Castilleja affinis* ssp. *affinis*	coast paint-brush	SMC, NNG
	Cordylanthus sp.	bird's beak	CLOW
Paeoniaceae	*Paeonia californica*	California peony	CLOW, SMC
Papaveraceae	*Argemone munita*	chicalote	NNG
Phrymaceae	*Mimulus aurantiacus*	monkey-flower	SMC
	Mimulus cardinalis	scarlet monkey-flower	MFS
	Mimulus guttatus	common monkey-flower	HW, SAWRF, MFS
Plantaginaceae	*Keckiella ternata*	summer penstemon	CLOW
	*Veronica anagallis-aquatica**	water speedwell	HW
Polemoniaceae	*Allophyllum glutinosum*	blue false gilia	NNG
Polygonaceae	*Eriogonum elongatum* var. *elongatum*	long-stemmed eriogonum	NNG
	Eriogonum fasciculatum	buckwheat	CLOW, SMC, NNG
	Eriogonum sp.	buckwheat	BSS, NNG, DH, UC
	Rumex salicifolius var. *salicifolius*	willow dock	HW
	Rumex sp.*	dock	SAWRF, CLOW, UC
Portulacaceae	*Calyptridium monandrum*	sand-cress	UC
Ranunculaceae	*Clematis pauciflora*	ropevine	SMC

Attachment F (cont.)
Plant Species Observed

Family	Scientific Name	Common Name	Habitat**
DICOTS (cont.)			
Rhamnaceae	*Ceanothus leucodermis*	chaparral whitethorn	CLOW, SMC
	Ceanothus perplexans	cupleaf ceanothus	NNG
	Rhamnus ilicifolia	holly-leaf redberry	SMC
Rosaceae	*Adenostoma fasciculatum*	chamise	BSS, SMC
	Prunus ilicifolia ssp. *ilicifolia*	holly-leafed cherry	SMC
	Rosa californica	California rose	SAWRF
Rubiaceae	*Galium aparine*	goosegrass	SAWRF
	Galium sp.	bedstraw	CLOW, SMC
Salicaceae	*Populus fremontii* ssp. *fremontii*	Fremont cottonwood	SAWRF, MFS
	Salix gooddingii	Goodding's black willow	SAWRF, NNG
	Salix laevigata	red willow	SAWRF
	Salix lasiolepis	arroyo willow	SAWRF
Saururacaea	*Anemopsis californica*	yerba mansa	SAWRF, MFS
Scrophulariaceae	*Verbascum* sp.*	mullein	SAWRF, MFS, UC
Solanaceae	*Datura wrightii*	jimson weed	DH
Tamaricaceae	*Tamarix ramosissima**	saltcedar	SAWRF
Urticaceae	*Urtica dioica* ssp. *holosericea*	stinging nettle	HW, SAWRF, MFS, BSS, NNG
Violaceae	*Viola pedunculata*	Johnny jump-up	BSS
Viscaceae	*Phoradendron* sp.	mistletoe	SMC

†Listed or sensitive species
*Non-native species
**BSS = big sagebrush scrub; CLOW = coast live oak woodland; DH = disturbed habitat; HW = herbaceous wetland; MFS = mule fat scrub; NNG = non-native grass; SAWRF = southern arroyo willow riparian forest; SMC = southern mixed chaparral; UC = unvegetated channel.

Appendix G *Animal Species Observed or Detected*

Appendix G
Animal Species Observed

Order	(Super) Family	Scientific Name	Common Name
INVERTEBRATES			
Diptera	--	--	unidentified fly
Hymenoptera	Apidae	*Apis mellifera*	honeybee
	Formicidae	--	unidentified ant
Lepidoptera	Hesperiidae	*Erynnis funeralis*	funereal duskywing
	Lycaenidae	--	unidentified blue butterfly
	Nymphalidae	*Junonia coenia*	common buckeye
		Vanessa cardui	painted lady
	Pieridae	*Anthocharis sara*	Sara orangetip
		Pontia protodice	checkered white
VERTEBRATES			
Reptiles			
Squamata	--	--	unidentified lizard
Birds			
Accipitriformes	Accipitridae	*Buteo jamaicensis*	red-tailed hawk
		Buteo lineatus†	red-shouldered hawk
	Cathartidae	*Cathartes aura*†	turkey vulture
Passeriformes	Corvidae	*Aphelocoma californica*	California scrub-jay
		Corvus brachyrhynchos	American crow
	Fringillidae	*Haemorhous mexicanus*	house finch
	Hirundinidae	*Petrochelidon pyrrhonota*	cliff swallow
		Stelgidopteryx serripennis	northern rough-winged swallow
	Passerellidae	*Melospiza melodia*	song sparrow
		Pipilo maculatus	spotted towhee
		Zonotrichia leucophrys	white-crowned sparrow
	Sittidae	*Sitta* sp.	unidentified nuthatch
	Troglodytidae	*Troglodytes aedon*	house wren
	Tyrannidae	*Sayornis nigricans*	black phoebe
		Tyrannus vociferans	Cassin's kingbird
Piciformes	Picidae	*Picoides* sp.	unidentified woodpecker
Mammals			
Carnivora	Canidae	*Canis latrans*	coyote (scat)
Lagomorpha	Leporidae	*Sylvilagus audubonii*	desert cottontail
Perissodactyla	Equidae	*Equus caballus*	horse
Rodentia	Cricetidae	*Neotoma lepida*	desert woodrat (nest)
	Geomyidae	*Thomomys bottae*	Botta's pocket gopher
	Sciuridae	*Otospermophilus beecheyi*	California ground squirrel

†Listed or sensitive species

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