

# **APPENDIX B**

*Natural Environment Study (Minimal Impacts)  
and Biological Assessment*



# Ladd Canyon Bridge Replacement

**NES (MI)**

## Natural Environment Study

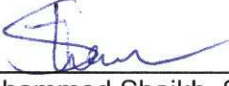
(Minimal Impacts)

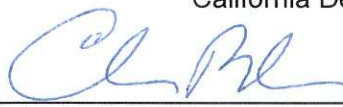
Ladd Canyon Bridge  
Orange County Public Works  
Orange County  
District No. 12  
Federal Project No.: BRLO-5955 (087)

**April 2017**

STATE OF CALIFORNIA  
Department of Transportation

Prepared By:  Date: 4/5/17  
Tricia Wotipka, Lead Project Biologist  
(760) 479-4295  
Dudek

Recommended for Approval By:  Date: 04/18/17  
Mohammed Shaikh, Senior Environmental Planner  
(657) 328-6569  
Division of Local Assistance  
California Department of Transportation

Approved By:  Date: 4/18/2017  
Charles Baker, Chief, Environmental Specialist Branch  
(657) 328-6139  
Division of Environmental Analysis, Environmental Specialist Branch  
California Department of Transportation, District 12 (Orange County)



INTENTIONALLY LEFT BLANK

# TABLE OF CONTENTS

<b><u>Section</u></b>	<b><u>Page No.</u></b>
<b>1. SUMMARY .....</b>	<b>1</b>
<b>2. INTRODUCTION .....</b>	<b>2</b>
<b>3. STUDY METHODS .....</b>	<b>3</b>
3.1 Field Surveys .....	3
3.2 Literature Review .....	4
3.3 Agency Coordination and Professional Contacts .....	4
3.4 Limitations That May Influence Results .....	4
<b>4. RESULTS - ENVIRONMENTAL SETTING.....</b>	<b>5</b>
4.1 Description of the Existing Biological and Physical Conditions.....	5
4.1.1 Study Area .....	5
4.1.2 Physical Conditions .....	5
4.1.3 Biological Conditions in the Study Area .....	5
4.1.4 Habitat Connectivity .....	6
4.2 Regional Species and Habitats of Concern.....	6
4.2.1 Special-Status Plants.....	7
4.2.2 Special-Status Wildlife .....	7
4.2.3 Critical Habitat .....	7
4.2.4 Vegetation Communities .....	9
<b>5. RESULTS – BIOLOGICAL RESOURCES.....</b>	<b>9</b>
5.1 Habitats and Natural Communities of Special Concern .....	9
5.1.1 California Sagebrush Scrub .....	10
5.1.2 Coast Live Oak Woodland.....	11
5.1.3 Annual Brome Grassland.....	11
5.1.4 Eucalyptus Groves .....	11
5.1.5 Urban/Developed Land.....	12
5.2 Flora.....	12
5.2.1 Special-Status Plants.....	13
5.3 Animals.....	13
5.3.1 Special-Status Wildlife .....	13
5.4 Jurisdictional Waters of the U.S. ....	14
<b>6. PROJECT IMPACTS .....</b>	<b>14</b>
6.1 Vegetation Communities and Land Covers .....	14
6.1.1 Avoidance and Minimization Efforts/Compensatory Mitigation .....	14
6.2 Special-Status Plants.....	15
6.2.1 Avoidance and Minimization Efforts/Compensatory Mitigation .....	15

## TABLE OF CONTENTS (CONTINUED)

<b><u>Section</u></b>	<b><u>Page No.</u></b>
6.3 Special-Status Wildlife .....	15
6.3.1 Avoidance and Minimization Efforts/Compensatory Mitigation .....	15
6.4 Jurisdictional Waters of the U.S. ....	16
6.4.1 Avoidance and Minimization Efforts/Compensatory Mitigation .....	16
<b>7. PERMITS REQUIRED.....</b>	<b>17</b>
<b>8. CONCLUSIONS AND REGULATORY DETERMINATION.....</b>	<b>17</b>
8.1 Federal Endangered Species Act Consultation Summary .....	17
8.2 Essential Fish Habitat Consultation Summary .....	18
8.3 Wetlands and Other Waters Coordination Summary .....	18
8.4 Invasive Species.....	18
8.5 Other .....	19
<b>9. REFERENCES .....</b>	<b>19</b>
<b>10. APPENDICES.....</b>	<b>22</b>

### APPENDICES

- A Project Figures
- B Plant Compendium
- C Wildlife Compendium
- D Special-Status Plant Species Potentially Occurring in Biological Survey Area
- E Special-Status Wildlife Species Potentially Occurring in Biological Survey Area

### TABLE

1	Vegetation Communities and Land Cover Types.....	10
---	--	----

# 1. Summary

---

Orange County Public Works (OCPW) is proposing to replace and widen the existing Silverado Canyon Road Bridge over Ladd Canyon Creek (referred to herein as the Ladd Canyon Bridge), located 2.2 miles east of Santiago Canyon Road at the intersection of Ladd Canyon Road and Silverado Canyon Road in the unincorporated community of Silverado, Orange County, California. Please refer to Figure 1, Regional Map and Figure 2, Vicinity Map. The bridge was built in 1947 and is considered to be structurally deficient according to Federal Highway Administration criteria, with a sufficiency rating of 43.1.

A biological resource survey and wetland delineation was conducted by Dudek senior biologist Tricia Wotipka in the 4.08-acre biological survey area (BSA) on September 9, 2014 and May 14, 2015 in order to establish the baseline biological conditions, delineate the extent of waters of the United States (U.S.), including wetlands, subject to regulation by the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), and to evaluate the potential for special-status plant and wildlife species to occur in the BSA. Vegetation communities and land covers within the BSA include: California sagebrush scrub, coast live oak woodland; eucalyptus groves; annual brome grassland; urban/developed land; and ephemeral stream channel. The BSA is bisected by Ladd Canyon Creek, a seasonally flowing, non-wetland waters of the U.S. and tributary to Silverado Creek.

No special-status plant or wildlife species were detected during the 2014 and 2015 biological resource surveys and based on a review of current state and federal databases including the California Natural Diversity Database (CNDDB), no special-status plant or wildlife species have a moderate to high potential to occur in the BSA. One special-status wildlife species, Cooper's hawk (*Accipiter cooperii*), a CDFW Watch List species, has a moderate potential to nest and forage in the taller trees within the BSA. Additionally, critical habitat for the federally-listed endangered arroyo toad (*Anaxyrus californicus*) is designated across the entire BSA including Silverado Canyon Road and other paved and disturbed lands in the BSA. Formal Section 7 consultation under the Endangered Species Act will be initiated with the U.S. Fish and Wildlife Service (USFWS) for impacts to critical habitat for this species.

Replacement of the existing bridge and associated infrastructure would result in direct, permanent impacts to 0.01 acre of coast live oak woodland; 0.20 acre developed land; and 0.01 acre eucalyptus groves.

Direct, temporary impacts resulting from construction of the bridge and use of temporary work staging will occur to 2.16 acres of developed land; 0.04 acre of eucalyptus groves; 0.10 acre of annual brome grassland; and 0.01 acre of coast live oak woodland.

Based on the project design, there will be limited permanent impacts to natural vegetation communities or potentially-suitable habitat for special-status wildlife or plants. Implementation of project minimization features will minimize any potential impacts.

Because the project proposes direct, permanent and temporary impacts to Ladd Canyon Creek, OCPW will be required to obtain a Section 404 Nationwide Permit from the USACE, Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Lake and Streambed Alteration Agreement from CDFW prior to construction. Additionally, a Biological Opinion will be needed from the USFWS to address any proposed effects to USFWS-designated critical habitat for the federally-listed endangered arroyo toad in the BSA.

## 2. Introduction

---

The purpose of the proposed project is to replace the existing Ladd Canyon Bridge at the intersection of Ladd Canyon Road and Silverado Canyon Road with a precast, concrete bridge with sidewalks to improve vehicle safety conditions and to provide safe pedestrian access in the area. The bridge was built in 1947 and is considered to be structurally deficient according to FHWA criteria, with a sufficiency rating of 43.1.

To provide continued access during project construction, only one lane will be closed at a time. The proposed project would require an expansion from the existing bridge width to accommodate the incorporation of sidewalks. This proposed project will not require acquisition of new right-of-way, as the bridge is located within the County of Orange right-of-way. The proposed project would require the construction of new footings. To minimize the excavation footprint, cast-in-drill-hole pile footings are proposed. Excavation for the footings is not anticipated to reach further than 20 feet below ground surface.

Utility connections and relocations are anticipated as part of the proposed project in order to accommodate an existing water line that occurs within the footprint of the existing bridge. Additionally, an electrical line and a fire hydrant may be relocated as part of the project.

Construction of the bridge would take approximately 6 months. Construction staging would occur within the road shoulder or in adjacent disturbed or developed areas along Silverado Canyon Road as preliminary identified in this assessment (see Figures 3 and 4, Project Footprint and Potential Staging Areas). No disposal or borrow sites are proposed. Construction access would be from Silverado Canyon Road.

A catching device underneath the bridge would be installed to help remove the debris while dismantling the existing bridge. If the removal of the existing abutments is required, pneumatic/hydraulic breakers would be employed to aid in the removal process. The girders would be erected through the use of a medium-size mobile crane with outriggers and a transport truck. For areas



requiring concrete to be cast in place, a concrete truck would be employed. A drilling rig would be required if cast-in-drill-hole pile footings are to be constructed.

The proposed project is located in the unincorporated community of Silverado, Orange County, California (Appendix A, Figure 1). The proposed project is bound by the community of Silverado and the Cleveland National Forest to the east, rural residential uses to the north and west, and Silverado Creek and undeveloped, open space to the south. The existing bridge is located at the intersection of Silverado Canyon Road and Ladd Canyon Road, approximately 2.2 miles east of Santiago Canyon Road. The project site lies within the U.S. Geological Survey (USGS) 7.5-minute EL Toro quadrangle in Section 8, Township 5 South, and Range 7 West. The project site is located at latitude 33° 74' 83.94" N and longitude 117° 64' 05.10" W (Appendix A, Figure 2).

## 3. Study Methods

---

### 3.1 Field Surveys

Dudek biologist Tricia Wotipka conducted a biological reconnaissance survey and wetland delineation on September 9, 2014 and May 14, 2015. All plant species encountered during the surveys were identified and recorded directly into a field notebook. A compiled list of plant species observed in the BSA is presented in Appendix B. Wildlife species detected during the field survey by sight, calls, tracks, scat, or other signs were recorded directly into a field notebook. Binoculars (8.5x42 magnifications) were used to aid in the identification of wildlife. A list of wildlife species observed in the BSA is presented in Appendix C.

A jurisdictional delineation of “waters of the U.S.,” including wetlands, under the jurisdiction of the USACE, CDFW, and RWQCB was conducted in the BSA in accordance with the 1987 USACE Wetland Delineation Manual (USACE 1987) and the Interim Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region (USACE 2008). The wetland delineation focused on identifying the extent of regulated resources within Ladd Canyon Creek, which was evaluated for evidence of an ordinary high water mark (OHWM), surface water, and hydrophytic vegetation. A predominance of a bed and bank with evidence of hydrology and/or hydrophytic vegetation, where associated with a stream channel, defined CDFW-regulated wetlands. The limits of areas under the jurisdiction of the RWQCB generally match those areas delineated as USACE-jurisdictional. However, stream channels with evidence of an OHWM that lack connectivity to waters of the U.S. may be considered to be under the jurisdiction of RWQCB and CDFW but not under the jurisdiction of USACE.

### **3.2 Literature Review**

Prior to conducting field surveys, literature and databases relevant to the BSA were reviewed and included the following: California Natural Diversity Database (CNDDDB) (CNDDDB 2014) and California Native Plant Society (CNPS) On-Line Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2014). In addition, the USFWS Information Planning and Conservation (IPaC) System was reviewed for special-status species occurrence data and critical habitat designation within the project area and a project-specific Trust Resource List was generated (USFWS 2017). The Central-Coastal Subregion NCCP/HCP (County of Orange 1996) also was also reviewed with respect to regional reserve planning and conservation efforts in the area.

### **3.3 Agency Coordination and Professional Contacts**

This was not applicable for this report as no agency coordination has occurred to date.

### **3.4 Limitations That May Influence Results**

There were no rare plant surveys conducted for the proposed project; therefore, the species list is not comprehensive. The list of plant species observed within the BSA includes those species observed during general surveys of the BSA and likely does not include plant species that are indeed present but were not blooming at the time of the surveys. In addition, lower-than-average rainfall over the past three years (2013-2015) may have limited the number of plant individuals that germinated in 2014 and 2015 and the blooming period of those that did bloom during general surveys of the BSA.

There was no trapping conducted for small mammals, reptiles, and amphibians. The survey was conducted during the daytime to maximize the detection of most animals. Birds represent the largest component of the vertebrate fauna, and because most birds are active in the daytime, diurnal surveys maximize the number of bird observations. Conversely, diurnal surveys usually result in few observations of mammals, many of which may only be active at night. In addition, many species of reptiles and amphibians are secretive in their habits and are difficult to observe using standard meandering transects. The surveys were conducted in Fall 2014 and Spring 2015, which is optimal for detecting fall and spring migrants that may use the BSA seasonally. However, wintering bird species and summer migrants that would utilize the BSA for nesting may not have been detected.

## 4. Results - Environmental Setting

---

### 4.1 Description of the Existing Biological and Physical Conditions

#### 4.1.1 Study Area

The BSA, depicted on Figure 3 (see Appendix A), is roughly 4.08 acres in size and represents the extent of the proposed bridge improvements, the three equipment staging areas currently under consideration by OCPW, and the stretch of Silverado Canyon Road connecting the proposed bridge improvements to the three staging areas. The BSA is immediately bound by rural residential uses to the north, commercial land uses to the east, open, undeveloped lands to the south, and scattered rural residential uses to the west.

#### 4.1.2 Physical Conditions

According to the Natural Resources Conservation Service (NRCS) (2014), the BSA supports two different soil types from the following series:

- Cieneba-Rock outcrop complex, 30 to 75% slopes
- Soboba gravelly loamy sand, 0 to 5% slopes

Soils in the Cieneba series consist of very shallow, excessively drained soils that formed in material weathered from granitic rock (NRCS 2014). Soils in the Soboba series tend to be excessively well-drained soils that formed in alluvium from granitic rock (NRCS 2014).

Topographic relief ranges from approximately 1170 feet above mean sea level (AMSL) to 1180 feet AMSL. The vegetation communities in the BSA are primarily upland in nature with the exception of the ephemeral stream course that flows north-south at the existing bridge crossing (discussed further in Section 4.3, Vegetation).

#### 4.1.3 Biological Conditions in the Study Area

Prominent features in the BSA include Silverado Canyon Road, a rural, two-lane, paved roadway, and Ladd Canyon Creek, a north-south trending seasonal tributary to Silverado Creek. The land covers within the BSA are comprised of California sagebrush scrub, coast live oak woodland, eucalyptus groves, annual non-native grassland, urban/developed land, and ephemeral stream channel. A majority of the BSA has been previously disturbed as evidenced by the extent of non-native vegetation and developed/disturbed surfaces. The Cleveland National Forest is located over 1,000 feet south and east of the BSA (see Appendix A, Figure 2).

#### **4.1.4 Habitat Connectivity**

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations and by providing access to adjacent habitat and routes for recolonization after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals and may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as stepping stones for dispersal.

Ladd Canyon Creek is an ephemeral USGS blue-line stream that conveys flow seasonally from foothills to the north through the BSA and downstream toward the confluence with Silverado Creek off site. Within the context of the BSA, Ladd Canyon Creek is roughly 10 feet wide with a dry, rock and cobble lined bottom with channel banks reinforced with riprap boulders. The stream traverses through lands supporting coast live oak woodland and eucalyptus groves all of which can facilitate local wildlife movement. Within the BSA, terrestrial wildlife and avifaunal species can travel unrestricted along Ladd Canyon Creek and beneath Silverado Canyon Road via the existing bridge opening. Although the BSA facilitates wildlife movement, the project, as proposed, will not adversely impact wildlife use of Ladd Canyon Creek because the impacts are largely temporary in nature. Coyotes (*Canis latrans*), raccoons (*Procyon lotor*), birds, ground squirrels, and other wildlife species that may move through the BSA will continue to do so following project implementation. Furthermore, with the exception of birds and reptiles, mammals are more likely to move through the work site at night when construction would not occur.

#### **4.2 Regional Species and Habitats of Concern**

Endangered, rare, or threatened species, as defined in California Environmental Quality Act (CEQA) Guideline Section 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status species” in this study, and include (1) endangered or threatened species recognized in the context of the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA); (2) plant species with a California Rare Plant Rank (CRPR) (CDFW 2014b; CNPS 2014) (CRPR 1 and 2); (3) California Species of Special Concern (SSC), as designated by the CDFW (2014); (4) mammals and birds that are fully protected (FP) species, as described in Fish and Wildlife Code, Sections 4700 and 3511; and (5) plant and wildlife species that are listed in the Orange County Central-Coastal NCCP/HCP (County of Orange 1996).

#### **4.2.1 Special-Status Plants**

Fifty-two special-status plant species are reported to occur within the USGS 7.5-minute El Toro quadrangle and surrounding eight 7.5 Minute topographic quadrangles. Nine of these are federal and/or state listed as endangered or threatened including the three following species from the USFWS IPaC Trust Resource List (2017): thread-leaved brodiaea (*Brodiaea filifolia*), a state-listed endangered and federally-listed threatened species; the Laguna Beach liveforever (*Dudleya stolonifera*), a federally-listed threatened species; and the Santa Monica Mountains dudleya (*Dudleya cymosa* ssp. *ovatifolia*), a federally-listed threatened species. All of the special-status plants identified in the literature review, including the three species from the USFWS IPaC Trust Resource List, were determined to be absent or not expected to occur due to a lack of suitable habitat within the BSA. In addition, there are no reported current occurrences of any special-status plant species within the BSA. Special-status plant species and their habitat requirements, regulatory status, and potential for occurrence within the BSA are detailed within Appendix D.

#### **4.2.2 Special-Status Wildlife**

According to the USFWS IPaC Trust Resource List (2017), five federally listed wildlife species are reported to potentially occur within the project area including the arroyo toad (*Anaxyrus californicus*); coastal California gnatcatcher (*Poliophtila californica californica*); least Bell's vireo (*Vireo bellii pusillus*); Riverside fairy shrimp (*Streptocephalus woottoni*); and steelhead (*Oncorhynchus* (= *Salmo*) *mykiss*). None of the federally listed species identified in the IPaC Trust Resource List were observed during 2014 and 2015 biological surveys and there are no reported occurrences of these species within the BSA. Special-status wildlife species and their habitat requirements, regulatory status, and potential for occurrence within the BSA are detailed within Appendix E.

#### **4.2.3 Critical Habitat**

The entire BSA, including Silverado Canyon Road, Ladd Canyon Road, and developed/disturbed road shoulders and vehicle pullovers, is located within designated critical habitat for the federally-listed endangered arroyo toad (72 FR 72010-72213) (Figures 2 and 3, Appendix A). In 2009, the USFWS identified 12 critical habitat units within the Southern Recovery Unit. The BSA is located within Unit 8, which consists of approximately 737 acres of land along the lower Santa Ana River Basin in east-central Orange County. Specifically the proposed project is located within the portion of Unit 8 along the 7.3 mile stretch of Silverado Creek from the boundary of the Cleveland National Forest east downstream to the confluence with Santiago Creek.

Arroyo toads have very specific habitat requirements that influence their distribution and potential to occur throughout their range (Jennings and Hayes 1994). Suitable habitat includes rivers and streams with the following primary constituent elements (i.e., physical and biological features that

are essential to the conservation of the species) based on studies completed by Sweet (1992, 1993), Griffin (1999), and Ramirez (1999, 2000, 2001, 2002) and summarized by the USFWS (2001):

1. A hydrologic regime that supplies sufficient flowing water of suitable quality for breeding followed by complete metamorphosis (i.e., hatching from eggs into tadpoles and completed development from tadpoles into juvenile toads) must be present. In the northern portion of the range, surface water, either as stream flow or persisting pools, must last into at least July.
2. Low gradient stream segments with shallow breeding pools for mating and egg laying, sandy or fine gravel beds where egg masses are deposited and tadpoles develop, and sparsely vegetated sand and gravel bars that are sufficiently wet, at least temporarily, for juvenile toads to forage and burrow must be present.
3. A natural flooding regime, which reworks sand and gravel bars, scours dense streamside vegetation, and deposits streamside sand bars and upland sand terraces such that breeding pools, terraces, and vegetation requirements are maintained for all life stages of the toad must be present.
4. Upland sandy terrace habitats of sufficient width and quality with areas of loose sandy soil where adult toads can burrow outside the breeding season must be present. Non-breeding estivation sites generally possess an associated canopy cover (mule fat, willow spp.) and layer of detritus.
5. Few or no non-native wildlife species (e.g., crustaceans, gamefish, and bullfrogs) which may compete with or prey on adult or juvenile toads and/or tadpoles and plants (e.g., giant reed, which chokes out native vegetation and may alter flood patterns) should be present.
6. Streams and upland areas absent of artificial barriers which interfere with natural flooding regimes and toad movement (e.g., migration to and from breeding pools, dispersal between populations, or recolonization of previously occupied areas) should be present.
7. Habitats undisturbed by grading, agriculture, or other human-associated land use conversions should be present.

To elaborate further, habitats utilized by arroyo toad include both breeding sites and overwintering sites. Suitable breeding habitat features include shallow pools with a minimum of vegetation along one or both margins during the breeding season (Sweet 1992). Preferred pools occur adjacent to sand bars and sandy, stream terraces with riparian vegetation that is mature enough to stabilize the terrace soils during all but the largest storm events. Eggs are deposited and larvae develop in shallow pools with minimal current, little or no emergent vegetation, and a sand or pea gravel substrate overlain with silt (USFWS 1994). As described by Sweet (1992), the following characteristics are relatively consistent with documented breeding pools: proximity to sandy terrace habitat; minimal current; the majority of the pool is less than 30 centimeters deep; substrate is sand, gravel, or pebbles; a gently sloping shoreline, or central sand bar; and bordering vegetation is low or set back such that most of the pool is open to the sky.

Ladd Canyon Creek is a seasonal stream that only flows immediately following a storm event. The channel banks are steep and reinforced by large riprap boulders, which are not typically suitable for arroyo toad breeding and/or foraging uses. On the upstream side of Silverado Canyon Road, Ladd Canyon Creek is roughly 10 feet wide, is bound by rural residential development with paved lots, driveways, and fences to the east and west and supports a stream substrate comprised of small to medium-sized rock and cobble. The vegetation on the upstream side of the existing bridge consists of coast live oak woodland with a disturbed understory comprised of ornamental vegetation and non-native upland grasses. On the south (downstream) side of Silverado Canyon Road, Ladd Canyon Creek is dominated by eucalyptus groves in the canopy with a disturbed understory comprised of non-native grasses and leaf litter. The stream bottom lacks persistent water and wetlands vegetation and supports rock and cobble with a substantive amount of trash and debris. In light of these circumstances, arroyo toad has a low potential to occur within the BSA. However, because the BSA is within designated critical habitat for this species, formal consultation will be initiated with the USFWS under Section 7 of the federal ESA to address potential adverse impacts to arroyo toad critical habitat.

#### **4.2.4 Vegetation Communities**

California sagebrush scrub is the only natural community of special concern found within the BSA. Ladd Canyon Creek bisects the far east end of the BSA and flows north to south toward the confluence with Silverado Creek, located approximately 100 feet off site and south of the BSA. Within the context of the BSA, Ladd Canyon Creek conveys flows seasonally and ranges in width from 10-15 feet. It is earthen and rock and cobble lined with channel banks reinforced with riprap boulders. No wetland vegetation was present during the 2014 and 2015 biological resource surveys. Ladd Canyon Creek is under the jurisdiction of the USACE pursuant to Section 404 of the federal CWA; the RWQCB legal authority in accordance with Section 401 of the CWA and as defined within Section 13050(e) (et seq.) of the California Water Code via the Porter-Cologne Water Quality Control Act; and CDFW jurisdiction pursuant to Section 1600 (et seq.) of the California Fish and Game Code.

## **5. Results – Biological Resources**

---

### **5.1 Habitats and Natural Communities of Special Concern**

Vegetation communities were mapped following *A Manual of California Vegetation, 2<sup>nd</sup> Edition* (Sawyer et al. 2009). Based on this classification system, six vegetation communities and land covers are identified and mapped in the BSA. Communities that did not conform to *A Manual of California Vegetation, 2<sup>nd</sup> Edition*, were mapped according to their dominant species and characteristics. Table 1 describes the vegetation communities and their acreages in the BSA. These communities and land covers are shown on Figure 4 (Appendix A). Each individual vegetation community and land cover is described below.

**Table 1**  
**Vegetation Communities and Land Cover Types**

<b>Vegetation Community/Land Cover Type</b>	<b>Acreage</b>
<b>Native Upland Vegetation Communities (Alliance)</b>	
California Sagebrush Scrub	0.04
<b>Subtotal</b>	<b>0.04</b>
<b>Xeromorphic Sclerophyll Woodlands</b>	
Coast Live Oak Woodland	0.10
<b>Subtotal</b>	<b>0.10</b>
<b>Non-Native Vegetation Communities (Semi-Natural Stands)</b>	
Annual Brome Grassland	0.10
Eucalyptus Groves	0.19
<b>Subtotal</b>	<b>0.29</b>
<b>Other Land Cover Types (Not Classified)</b>	
Developed Land	3.61
<b>Subtotal</b>	<b>3.61</b>
<b>Waters of the U.S., including Wetlands</b>	
Ephemeral Stream Channel	0.04
<b>Subtotal</b>	<b>0.04</b>
<b>Total</b>	<b>4.08</b>

### **5.1.1 California Sagebrush Scrub**

California sagebrush scrub, according to Oberbauer et al. (2008), is a native plant community characterized by a variety of soft, low, aromatic, drought-deciduous shrubs, such as coastal sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), California bush sunflower (*Encelia californica*), and sages (*Salvia* spp.), and may include scattered evergreen shrubs. It typically develops on steep slopes and at times, though rarely, occurs on flooded low-gradient deposits along streams with scattered willows and mulefat, depending on the site conditions. Soils on which this community occurs are described as alluvial or colluvial-derived and shallow (Sawyer et al. 2009).

Within the BSA, California sagebrush scrub occurs on the steep, south-facing slopes near the northwest corner of Silverado Canyon Road and Ladd Canyon Road. Within the context of the BSA, this habitat community is primarily dominated by laurel sumac (*Malosma laurina*), California sagebrush, and California buckwheat with a low percentage (less than 10%) of non-native species comprised of Maltese star thistle (*Centaurea melitensis*) and annual, non-native grasses.



### **5.1.2 Coast Live Oak Woodland**

Coast live oak woodland refers to lands that include coast live oak as the sole, dominant, or important tree in the canopy. Coast live oak woodland has a continuous to open canopy less than 30 meters (98 feet) in height with occasional to common shrubs, and grassy ground layer if present (Sawyer and Keeler-Wolf 1995). Coast live oak woodland occurs on slopes that are often very steep and raised stream banks and terraces. Soils are mostly sandstone or shale-derived (Sawyer and Keeler-Wolf 1995).

Within the BSA, coast live oak woodland dominates the narrow floodplain north of the existing bridge crossing with individual trees rooted beyond the top of bank. Within the context of the BSA, species associated with this community include coast live oak (*Quercus agrifolia*) with an understory comprised of disturbed, ornamental vegetation likely recruited and dispersed from adjacent residential properties to the east and west.

Coast live oak woodland is ranked by the CDFW as a G5S4 alliance. This ranking indicates that this alliance is secure globally and apparently secure within California (Sawyer et al. 2009; NatureServe 2015). Further, coast live oak is considered an upland species per the Arid West 2014 Regional Wetland Plant List and is not considered a wetland plant species (Lichvar et al. 2014). Therefore, coast live oak woodland is not considered a special-status natural community by CDFW.

### **5.1.3 Annual Brome Grassland**

Annual brome grassland is a semi-natural herbaceous stand composed of non-native herbs, including, but not limited to, ripgut brome (*Bromus diandrus*), soft brome (*B. hordeaceus*), false brome (*Brachypodium distachyon*), and smilo grass (*Stipa miliacea* var. *miliacea*). Scattered shrubs and trees may be present at a low cover. Annual brome grassland can establish in all topographic settings, and particularly establish in areas that have been previously disturbed or near developed areas, including range lands, roadsides, disturbed slopes and vegetation communities, openings in woodland, and waste places (Sawyer et al. 2009).

Within the BSA, annual brome grassland occurs in heavily disturbed areas along the road shoulders of Silverado Canyon Road and abutting development on the southeast side of Ladd Canyon Creek. These areas are dominated by bromes; there are also other non-native herbs present, including mustards (*Brassica* spp., *Hirschfeldia incana*) and cultivated radish (*Raphanus sativus*), with little to no shrubs present.

### **5.1.4 Eucalyptus Groves**

Eucalyptus groves are dominated by eucalyptus trees (*Eucalyptus* spp.) with relatively dense canopy cover and sparse to intermittent herb and shrub understory (Sawyer et al. 2009).

Eucalyptus trees are non-native and have naturalized near areas where they were planted as groves or wind breaks. The understory is either depauperate or absent owing to shade and the possible allelopathic (i.e., toxic) properties of the eucalyptus leaf litter. Although eucalyptus groves are of limited value to most native plants and animals, they frequently provide nesting and perching sites for several raptor species.

Within the BSA, eucalyptus groves occur on the south side of Silverado Canyon Road along the channel banks and within the bottom of Ladd Canyon Creek. Although eucalyptus groves are of limited value to most native plants and animals, they frequently provide nesting and perching sites for raptors.

### **5.1.5 Urban/Developed Land**

Urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover type is unvegetated or supports a variety of ornamental plants and landscaping. Urban/developed land is not regulated by the environmental resource agencies and is often considered a disturbed category.

Within the BSA, developed land refers to Silverado Canyon Road, the paved but deteriorated road shoulders and vehicle pullovers, and existing homes, buildings, driveways, parking lots, and structures associated with the community of Silverado.

## **5.2 Flora**

All plant species encountered during the surveys were recorded. A total of 26 plant species were recorded in the BSA, including 10 native species (38%) and 16 non-native species (62%). The small number of plant species and families represented in the BSA is indicative of the disturbed nature of vegetation communities in the project area and vicinity. The more common plant species in the BSA were identified in the description of the vegetation communities above.

Latin and common names for plant species with a CRPR (formerly CNPS List) follow the *California Native Plant Society On-Line Inventory of Rare, Threatened, and Endangered Plants of California* (CNPS 2012). For plant species without a CRPR, Latin names follow the *Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California* (Jepson Flora Project 2012) and common names follow the United States Department of Agriculture (USDA) NRCS Plants Database (USDA 2012). A cumulative list of plant species observed in the BSA is provided in Appendix B of this report.

### **5.2.1 Special-Status Plants**

No special-status plant species were detected during the 2014/2015 biological resource surveys. Due to the extent of developed lands and disturbed vegetation within the BSA (approximately 87% of the BSA supports developed and/or disturbed vegetation), there is limited potential for special-status plant species to occur including thread-leaved brodiaea; the Laguna Beach liveforever; and the Santa Monica Mountains dudleya. As previously mentioned, Appendix D includes special-status plants that are recorded in the USGS 7.5-minute El Toro quadrangle and surrounding eight topographic quadrangles (CDFG 2014a-c; CNPS 2014; USFWS 2012), as well as species included in the USFWS IPaC Trust Resource List (2017) and Orange County Central-Coastal NCCP/HCP (County of Orange 1996). Appendix D also analyzes each of these special-status species' potential to occur based on known range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. There are no special-status plant species with a moderate or high potential to occur within the BSA.

## **5.3 Animals**

Thirteen wildlife species were detected in the BSA during the site surveys. The more common bird species observed include mourning dove (*Zenaida macroura*), house finch (*Carpodacus mexicanus*), bushtit (*Psaltirparus minimus*), and western scrub-jay (*Aphelocoma californica*).

Latin and common names of animals follow Crother (2008) for reptiles and amphibians, American Ornithologists' Union (AOU) (2012) for birds, Wilson and Reeder (2005) for mammals, North American Butterfly Association (NABA) (2001) for butterflies, and Moyle (2002) for fish. A cumulative list of wildlife species observed in the BSA is provided in Appendix C to this study.

### **5.3.1 Special-Status Wildlife**

No special-status wildlife species were observed during the 2014/2015 biological resource surveys. Appendix E includes occurrences of special-status wildlife species that are recorded in the USGS 7.5-minute Black Star Canyon quadrangle and surrounding eight topographic quadrangles (CDFW 2014a; USFWS 2012) as well as species included in the USFWS IPaC Trust Resource List (2017) and Orange County Central-Coastal NCCP/HCP (County of Orange 1996). Although the BSA lies within the El Toro quadrangle, it is immediately south of the boundary between El Toro and Black Star Canyon quadrangles. The Black Star Canyon quadrangle gives a more representative sample of the inland special-status species with potential to occur within the BSA than the El Toro quadrangle, which would include a larger percentage of coastal species unlikely to be found in the BSA. Appendix E also analyzes each of these special-status species' potential to occur based on known range, habitat associations, and elevation. One species, Cooper's hawk, a CDFW Watch List species, has a moderate potential to nest and forage in the tall trees that line Ladd Canyon Creek in the BSA.

The BSA is located entirely within USFWS-designated critical habitat for the arroyo toad, a federally-listed endangered species (76 FR 7245-7467) (Figure 3). However, there is a low potential for arroyo toad to occur within the BSA largely due to the ephemeral/seasonal nature of the stream, the extent of anthropogenic disturbance and refuse in the BSA, and the general lack of suitable stream substrate and habitat conditions.

## **5.4 Jurisdictional Waters of the U.S.**

The proposed project is centered on Ladd Canyon Creek, a north-south trending, seasonal USGS blue-line stream and tributary to Silverado Creek. Ladd Canyon Creek originates north and off site of the BSA on the east flank of Pleasants Peak at about 3,590 feet AMSL and flows southwest toward the BSA and community of Silverado, where it converges off site with Silverado Creek at approximately 1,178 feet AMSL. Within the BSA, Ladd Canyon Creek is incised with relatively steep channel banks reinforced by riprap boulders and an earthen rock and cobble lined stream bottom disturbed by trash and non-native grasses. Ladd Canyon Creek flows through eucalyptus groves, coast live oak woodland, and mulefat scrub before reaching its confluence with Silverado Canyon Creek less than 100 feet from the BSA boundary. Within the context of the BSA, Ladd Canyon Creek occupies 0.04 acre and is best characterized as an unvegetated, ephemeral stream channel.

As mentioned previously, Ladd Canyon Creek is considered a jurisdictional non-wetland waterway subject to regulation by the USACE pursuant to Section 404 of the federal CWA; the RWQCB in accordance with Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; and CDFW pursuant to Section 1600 (et seq.) of the California Fish and Game Code.

# **6. Project Impacts**

---

## **6.1 Vegetation Communities and Land Covers**

Impacts associated with the proposed project were quantified by overlaying the site design with the biological resources map (Appendix A, Figure 4). The proposed bridge replacement work will result in direct, permanent impacts to 0.01 acre of coast live oak woodland; 0.20 acre of developed land; and 0.01 acre of eucalyptus groves.

Direct, temporary impacts resulting from construction of the bridge and use of temporary work staging will occur to 2.16 acres of developed land; 0.04 acre of eucalyptus groves; 0.10 acre of annual brome grassland; and 0.01 acre of coast live oak woodland.

### **6.1.1 Avoidance and Minimization Efforts/Compensatory Mitigation**

The project has been designed to avoid impacts to native upland vegetation communities of concern. All permanent impacts to mature live oak and eucalyptus trees will be replaced at a

ratio of 2:1, primarily due to the extent of existing development and minimal impact to native habitats resulting from the proposed project. Please note that impacts to jurisdictional waters of the U.S. are discussed in Section 6.4 of this report.

## **6.2 Special-Status Plants**

No special-status plants were documented in the BSA, and no special-status plants, including those referenced in the USFWS IPaC Trust Resource List (2017) are expected to have a moderate or high potential to occur due to the extent of developed lands and disturbed vegetation in the BSA. In addition, the proposed project activities will occur within the existing roadway and areas previously disturbed by anthropogenic uses to the greatest extent feasible; therefore, no impacts to potentially occurring special-status plants are anticipated to occur.

### **6.2.1 Avoidance and Minimization Efforts/Compensatory Mitigation**

No avoidance or minimization measures or compensatory mitigation are required for special-status plant species because impacts to special-status plants are not expected to occur.

## **6.3 Special-Status Wildlife**

No special-status wildlife species, including coastal California gnatcatcher, Riverside fairy shrimp, arroyo toad, least Bell's vireo, and steelhead, were documented in the BSA during the 2014 and 2015 biological resource surveys. Only one species, Cooper's hawk, has a moderate potential to occur in the BSA based on suitable habitat present. The project involves the removal of small trees and shrubs within the impact footprint and could involve the trimming of vegetation to facilitate the proposed bridge improvements. Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. Potential impacts from construction-related noise could occur to nesting birds and raptors protected under the Migratory Bird Treaty Act if work is to occur during the breeding season (i.e., February 15 through September 1).

### **6.3.1 Avoidance and Minimization Efforts/Compensatory Mitigation**

This section describes the mitigation measure required to avoid indirect impacts to breeding birds, which reduces identified and potential significant impacts to a level that is less than significant pursuant to CEQA.

**BIO-1** Construction-related noise impacts may occur to breeding wildlife if construction occurs during the breeding season (i.e., February 15 through September 1).

**MM-1** To avoid any direct impacts to raptors and/or any native/migratory birds, removal of habitat that supports active nests in the BSA should occur outside of the breeding season for these species (February 15 to September 1), where feasible. If removal of habitat in the proposed area of disturbance must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within three calendar days prior to the start of construction activities (including removal of vegetation). If nesting birds are detected, a letter report or nesting bird protection and management plan shall be prepared in conformance with applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction and noise barriers/buffers, etc.) and shall include proposed measures to be implemented to ensure that take of birds or eggs or disturbance of breeding activities is avoided. The report or nesting bird protection and management plan shall be submitted to Caltrans and CDFW for review and approval and implemented to the satisfaction of Caltrans and CDFW. The Biologist in concert with OCPW and Caltrans shall verify and approve that all measures identified in the report or nesting bird protection and management plan are in place prior to and/or during construction. If nesting birds are not detected during the pre-construction survey, no further mitigation is required.

## **6.4 Jurisdictional Waters of the U.S.**

The replacement of the existing bridge, construction of the bridge footings, and the widening of the new bridge to include sidewalks will result in permanent impacts to 0.002 acre of ephemeral stream channel. Construction access and the relocation of existing utilities will result in temporary impacts to 0.02 acre of ephemeral stream channel.

### **6.4.1 Avoidance and Minimization Efforts/Compensatory Mitigation**

This section describes the mitigation measure required to avoid direct and indirect impacts to Ladd Canyon Creek, which reduces identified and potential significant impacts to a level that is less than significant pursuant to CEQA.

**BIO-2** Direct impacts to non-wetland waters of the U.S. subject to regulation by the USACE, RWQCB, and CDFW, including direct, permanent impacts to 0.002 acre, and direct, temporary impacts to 0.02 acre of ephemeral stream channel, will occur due to project implementation.

**MM-2** Mitigation for direct, temporary impacts to 0.02 acre of ephemeral stream channel will include restoring temporarily impacted areas in place to pre-construction contours and conditions following construction.

Mitigation for direct, permanent impacts to 0.002 acre of ephemeral stream channel will be determined in consultation with the resource agencies, and may include establishing/creating ephemeral stream channel at a 1:1 ratio within the Santa Ana River watershed. Habitat restoration and erosion control treatments will be installed within temporary disturbance areas. Habitat restoration will feature native species that are typical of the area, and erosion control features will include silt fence and straw fiber rolls, where appropriate. The temporary impact revegetation areas will be monitored and maintained for 25 months to ensure adequate establishment and sustainability of the plantings/seedings.

**MM-2(a)** State and federal law regulates impacts to non-wetland waters of the U.S. OCPW will be required to obtain a Section 404 Nationwide Permit from the USACE, Section 401 Water Quality Certification from the RWQCB, and a Section 1602 Lake and Streambed Alteration Agreement from CDFW prior to construction.

## 7. Permits Required

---

Permits required include the standard construction-related permits, a USACE Section 404 Nationwide Permit, a RWQCB Section 401 Water Quality Certification, and a CDFW Section 1602 Lake and Streambed Alteration Agreement. Due to the presence of designated critical habitat for arroyo toad, formal consultation with the USFWS must be initiated to ensure that adverse impacts to critical habitat do not occur.

## 8. Conclusions and Regulatory Determination

---

### 8.1 Federal Endangered Species Act Consultation Summary

Due to the lack of suitable habitat and substrate coupled with the extent of developed and disturbed lands within the BSA, special-status plants including thread-leaved brodiaea, Santa Monica Mountains dudleya, and Laguna Beach liveforever, have no potential to occur within the BSA. Therefore, the project will have no effect on these federally listed species.

Regarding special-status wildlife, due to the lack of suitable habitat coupled with the extent of developed and disturbed lands within the BSA, coastal California gnatcatcher, least Bell's vireo, Riverside fairy shrimp, and steelhead are not expected to occur within the BSA. Therefore, the project will have no effect on these federally listed species.

With respect to the federally-listed endangered arroyo toad, there is a low potential for arroyo toad to occur within the BSA largely due to the ephemeral/seasonal nature of the stream, the extent of anthropogenic disturbance and refuse in the BSA, and the general lack of suitable stream substrate and habitat conditions. Thus, the project is not expected to have an adverse effect on this species. However, the entire 4.08-acre BSA occurs within designated critical habitat for this species including existing roads and structures. Consultation with the USFWS will be necessary to confirm that impacts to critical habitat for arroyo toad will not adversely jeopardize the existence and persistence of this species in the region.

## **8.2 Essential Fish Habitat Consultation Summary**

There is no mapped Essential Fish Habitat (EFH) in the BSA and, given the ephemeral nature of Ladd Canyon Creek, the BSA lacks suitable fish habitat entirely. Therefore no consultation with National Oceanic and Atmospheric Administration (NOAA) Fisheries is necessary. Based on the analysis presented in this study and the lack of mapped EFH in the BSA, the proposed project will have no effect on EFH.

## **8.3 Wetlands and Other Waters Coordination Summary**

The project proposes to replace the existing Ladd Canyon Bridge with a new precast bridge with sidewalks. In order to facilitate these improvements, minimal direct, permanent and temporary impacts to Ladd Canyon Creek will occur. Coordination with and permits from the USACE, CDFW, and RWQCB will be needed to authorize impacts to Ladd Canyon Creek prior to construction. No coordination with these or other agencies has occurred to date.

## **8.4 Invasive Species**

The proposed improvements are centered on an existing bridge crossing where Silverado Canyon Road crosses Ladd Canyon Creek. This area is characterized by eucalyptus trees on the south side of Silverado Canyon Road and coast live oak woodland to the north. Eucalyptus trees occur along the east and west channel banks of Ladd Canyon, and many common ornamental species are ubiquitous throughout the developed portions of the BSA. Therefore, the likelihood of non-native species becoming established as a result of this project is likely very low. Due to the limited footprint of the project and the project location adjacent to existing residential development and Silverado Canyon Road, the project is not likely to cause or promote the introduction or spread of invasive species and, thus, complies with Executive Order 13112–Invasive Species.



## 8.5 Other

The list of migratory birds present within the BSA are presented in Appendix C. Potential impacts, and mitigation, to migratory birds covered under the Migratory Bird Treaty Act are identified in Section 5 of this document.

No additional analysis or consultation is required.

## 9. References

---

- 14 CCR 15000–15387 and Appendix A–L. Guidelines for Implementation of the California Environmental Quality Act, as amended.
- 66 FR 9414 9474. Final rule: “Endangered and Threatened Wildlife and Plants Final Designation of Critical Habitat for Arroyo toad (*Anaxyrus californicus*).” 2001.
- AOU (American Ornithologists’ Union). 2012. Check-List of North American Birds: List of the 2,078 Bird Species Known From the AOU Check-List Area. AOU | Check-List of North American Birds | Browse the List. Accessed November 2012. <http://www.aou.org/checklist/north/full.php>
- CDFW (California Department of Fish and Wildlife). 2014. “Special Animals (900 taxa).” California Natural Diversity Database. CDFG, Biogeographic Data Branch. September 2014. Accessed August 2014. [http://www.dfg.ca.gov/biogeodata/cnddb/plants\\_and\\_animals.asp](http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp).
- CDFW (California Department of Fish and Wildlife). 2014a. California Natural Diversity Database (CNDDDB). Rarefind, Version 5 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed February 2014. <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.
- CDFW. 2014b. “State and Federally Listed Endangered, Threatened, and Rare Plants of California.” California Natural Diversity Database. CDFW, Biogeographic Data Branch. January 2014. <http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf>.
- CDFW. 2014c. Special Vascular Plants, Bryophytes, and Lichens List. California Natural Diversity Database. January 2014. [http://www.dfg.ca.gov/biogeodata/cnddb/plants\\_and\\_animals.asp](http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp).
- CNPS (California Native Plant Society). 2014. “Quadrangles used in query: El Toro, Black Star Canyon, Laguna Beach, San Juan Capistrano, Canada Gobernadora, Santiago Peak, Tustin, Orange, and Corona South.” Inventory of Rare and Endangered Plants. Online ed. Version 8-10a. Sacramento, California: CNPS. December 2010. Accessed August 2014. <http://www.rareplants.cnps.org>.

- County of Orange. 1996. *Natural Community Conservation Plan/Habitat Conservation Plan, County of Orange, Central & Coastal Subregion. Parts I & II, III, IV: Implementing Agreement, and V: Map Section (Figures 1 through 73)*. December 7, 1996.
- Crother, B.I. 2008. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in our Understanding*. 6th ed. Herpetological Circular No. 37. Ed. J.J. Moriarty. Shoreview, Minnesota: Society for the Study of Amphibians and Reptiles.
- Griffin, P.C., T. Case, and R. Fisher. 1999. Radio telemetry study of *Bufo californicus*, arroyo toad movement patterns and habitat preferences. Contract Report to the California Department of Transportation Southern Biology Pool. 66 pp.
- Jennings, M. and M. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. California Department of Fish and Game, Inland Fisheries Division, Contract No. 8023. 255 pp.
- Jepson Flora Project. 2012. *Jepson eFlora*. Berkeley, California: University of California. Accessed October 2012. [http://ucjeps.berkeley.edu/cgi-bin/get\\_JM\\_name\\_data.pl](http://ucjeps.berkeley.edu/cgi-bin/get_JM_name_data.pl).
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2014 Update of Wetland Ratings*. Phytoneuron 2014-41: 1-42.
- Moyle, P.B. 2002. *Inland Fishes of California*. Berkeley and Los Angeles: University of California Press.
- NABA (North American Butterfly Association). 2001. "Checklist of North American Butterflies Occurring North of Mexico." Adapted from North American Butterfly Association (NABA) Checklist & English Names of North American Butterflies, eds. B. Cassie, J. Glassberg, A. Swengel, and G. Tudor. 2nd ed. Morristown, New Jersey: NABA. <http://www.naba.org/pubs/enames2.html>.
- NRCS (Natural Resources Conservation Service). 2014. Web Soil Survey. Accessed October 2014. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.
- Sawyer, J.O., and T. Keeler-Wolf. 1995. *A Manual of California Vegetation*. Sacramento, California: California Native Plant Society.
- Sawyer, J.O., Todd Keeler-Wolf, and Julie M. Evens. 2009. *A Manual of California Vegetation*. Second Edition. Sacramento, California: California Native Plant Society.
- Sweet, S.S. 1992. Initial report on the ecology and status of the arroyo toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California

- with management recommendations. Contract report to USDA, Forest Service, Los Padres National Forest, Goleta, California. 198 pp.
- Sweet, S.S. 1993. Second report on the ecology and status of the arroyo toad (*Bufo microscaphus californicus*) on the Los Padres National Forest of Southern California. Contract report to USDA, Forest Service, Los Padres National Forest, Goleta, California. 73 pp.
- USACE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetlands Delineation Manual*. Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed September 1, 2010. [http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge\\_id=1606](http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606).
- USACE. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. Environmental Laboratory, ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center. September 2008. Accessed September 24, 2012. <http://el.erdc.usace.army.mil/elpubs/pdf/trel08-28.pdf>.
- USDA (United States Department of Agriculture). 2012. "California." State PLANTS Checklist. Accessed October 2014. [http://plants.usda.gov/dl\\_state.html](http://plants.usda.gov/dl_state.html).
- USFWS (United States Fish and Wildlife Service). 1994. Endangered and threatened wildlife and plants; determination of endangered status for the arroyo southwestern toad. Federal Register 59:64859-64866.
- USFWS. 2001. 50 CFR Part 17, Final Designation of Critical Habitat for the Arroyo Toad; Final Rule.
- USFWS. 2012. "Critical Habitat and Occurrence Data" [map]. Accessed October 2014. <http://www.fws.gov/data>.
- USFWS. 2017. Environmental Conservation Online System: Information, Planning and Conservation System (IPaC). March 17.
- Wilson, D.E., and D.M. Reeder, eds. 2005. *Mammal Species of the World: A Taxonomic and Geographic Reference*. 3rd ed. Baltimore, Maryland: Johns Hopkins University Press.
- USGS (United States Geological Service). Ladd Canyon. Geographic Names Information System. United States Geological Survey. 1989-01-19. Retrieved 2010-01-22



# **APPENDIX A**

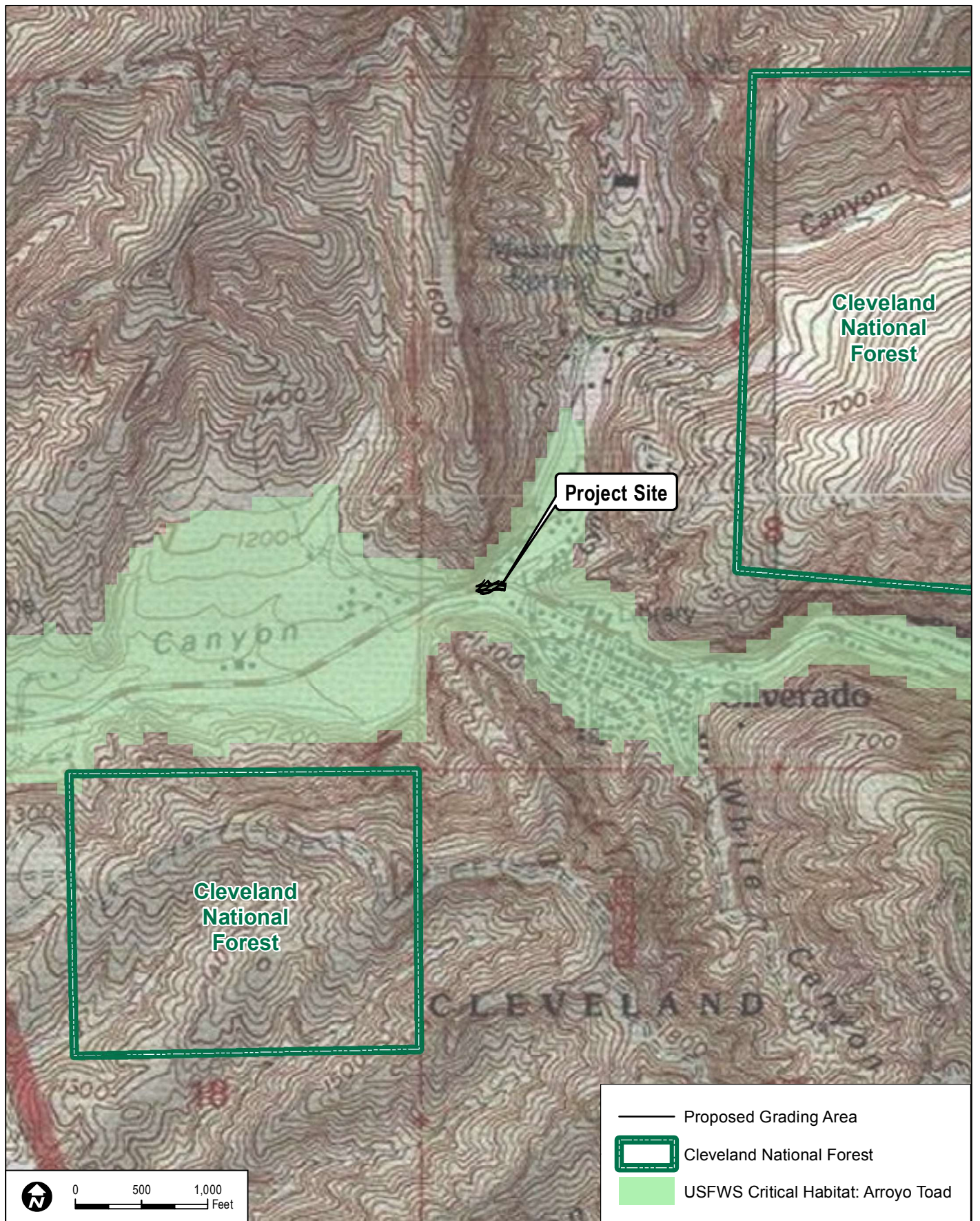
## *Project Figures*











**FIGURE 2**  
**Vicinity Map**

SOURCE: BLM, USGS 7.5-Minute Series - El Toro Quadrangle.



















# **APPENDIX B**

## *Plant Compendium*





## APPENDIX B

### Plant Compendium

---

#### VASCULAR SPECIES

##### DICOTS

##### ***ANACARDIACEAE – SUMAC OR CASHEW FAMILY***

*Malosma laurina* – laurel sumac

*Rhus integrifolia* – lemonade sumac

##### ***ASTERACEAE – SUNFLOWER FAMILY***

*Artemisia californica* – coastal sagebrush

*Baccharis pilularis* – coyotebrush

\* *Centaurea melitensis* – Maltese star-thistle

\* *Glebionis coronaria* – crowndaisy

##### ***BRASSICACEAE – MUSTARD FAMILY***

\* *Brassica nigra* – black mustard

\* *Hirschfeldia incana* – shortpod mustard

\* *Raphanus sativus* – cultivated radish

##### ***CRASSULACEAE – STONECROP FAMILY***

\* *Crassula argentea* – jade plant

##### ***OXALIDACEAE – OXALIS FAMILY***

\* *Oxalis pes-caprae* – Bermuda buttercup

##### ***EUPHORBIACEAE – SPURGE FAMILY***

\* *Ricinus communis* – castorbean

##### ***FAGACEAE – OAK FAMILY***

*Quercus agrifolia* – California live oak

##### ***LAMIACEAE – MINT FAMILY***

\* *Marrubium vulgare* – horehound

*Salvia apiana* – white sage

*Salvia mellifera* – black sage

##### ***MYRTACEAE – MYRTLE FAMILY***

\* *Eucalyptus camaldulensis* – river redgum

\* *Melaleuca viminalis* – weeping bottlebrush

## APPENDIX B (Continued)

---

### ***PLATANACEAE – PLANE TREE, SYCAMORE FAMILY***

*Platanus racemosa* – California sycamore

### ***POLYGONACEAE – BUCKWHEAT FAMILY***

*Eriogonum fasciculatum* – Eastern Mojave buckwheat

### ***SALICACEAE – WILLOW FAMILY***

*Salix lasiolepis* – arroyo willow (sapling)

## MONOCOTS

### ***POACEAE – GRASS FAMILY***

- \* *Avena fatua* – wild oat
- \* *Bromus diandrus* – ripgut brome
- \* *Bromus hordeaceus* – soft brome
- \* *Bromus madritensis* – compact brome
- \* *Stipa miliacea* var. *miliacea* – smilo grass

- \* Signifies introduced (non-native) species

# **APPENDIX C**

## *Wildlife Compendium*



## APPENDIX C

### Wildlife Compendium

---

#### BIRD

##### EMBERIZINES

###### ***AEGITHALIDAE – BUSHTITS***

*Psaltiriparus minimus* – bushtit

###### ***EMBERIZIDAE – EMBERIZIDS***

*Melospiza melodia* – song sparrow

*Pipilo crissalis* – California towhee

###### ***FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES***

*Carduelis psaltria* – lesser goldfinch

*Carpodacus mexicanus* – house finch

###### ***MIMIDAE – THRASHERS***

*Mimus polyglottos* – northern mockingbird

###### ***TROCHILIDAE – HUMMINGBIRDS***

*Calypte anna* – Anna’s hummingbird

###### ***PICIDAE – WOODPECKERS***

*Melanerpes formicivorus* – acorn woodpecker

###### ***TYRANNIDAE – TYRANT FLYCATCHERS***

*Sayornis nigricans* – black phoebe

###### ***CORVIDAE – CROWS AND JAYS***

*Aphelocoma californica* – western scrub-jay

*Corvus brachyrhynchos* – American crow

###### ***PARIDAE – TITMICE***

*Baeolophus inornatus* – oak titmouse

###### ***COLUMBIDAE – PIGEONS AND DOVES***

*Zenaida macroura* – mourning dove

\* Signifies introduced (non-native) species

## APPENDIX C (Continued)

---

INTENTIONALLY LEFT BLANK

# **APPENDIX D**

*Special-Status Plant Species Potentially  
Occurring in Biological Survey Area*





## APPENDIX D

### Special-Status Plant Species Potentially Occurring in Biological Survey Area

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Abronia villosa</i> var. <i>aurita</i>	Chaparral sand-verbena	None/ None/ None	1B.1	Chaparral, Coastal scrub, Desert dunes/sandy/ annual herb/ January–September/ 260–5,250 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Allium munzii</i>	Munz's onion	FE/ ST/ None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Pinyon and juniper woodland, Valley and foothill grassland/mesic, clay/ perennial bulbiferous herb/ March–May/ 970–3,510 feet	Not expected to occur. No suitable habitat or clay soils occur in the BSA.
<i>Aphanisma blitoides</i>	Aphanisma	None/ None/ None	1B.2	Coastal bluff scrub, coastal sage scrub, sandy soils/annual herb/April-May/ 3–915 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Astragalus brauntonii</i>	Braunton's milk-vetch	FE/ None/ None	1B.1	Chaparral, Coastal scrub, Valley and foothill grassland/recent burns or disturbed areas, usually sandstone with carbonate layers/ perennial herb/ January-August/ 10–2,100 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/ None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; alkaline or clay/ perennial herb/ March-October/ 10–1,500 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Atriplex pacifica</i>	South Coast saltscale	None/ None/ None	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, playas/ annual herb/ March-October/ < 500 feet	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Atriplex parishii</i>	Parish's brittlescale	None/ None/ None	1B.1	Chenopod scrub, playas, vernal pools/ annual herb/ June -October/ 80–6,300 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	None/ None/ None	1B.2	Coastal bluff scrub, coastal scrub; alkaline/ annual herb/ April-October/ 30–650 feet	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Baccharis malibuensis</i>	Malibu baccharis	None/ None/ None	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/ perennial deciduous shrub/ August/ 490–1,000 feet	Not expected to occur. The site is outside of the species' known elevation range.

## APPENDIX D (Continued)

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Brodiaea filifolia</i>	Thread-leaved brodiaea	FT/ SE/ None	1B.1	Chaparral (openings) cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools; often clay/ bulbiferous herb/ March-June/ 400–2,800 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Calochortus catalinae</i>	Catalina mariposa lily	None/ None/ Covered	4.2	Chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland/perennial herb/February-May/ 45–2,100 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate mariposa lily	None/ None/ Covered	1B.2	Chaparral; coastal scrub, valley and foothill grassland; rocky/ bulbiferous herb/ May-July/ 350–2,800 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Centromadia</i> [ <i>Hemizonia</i> ] <i>parryi</i> spp. <i>australis</i>	Southern tarplant	None/ None/ None	1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools/ annual herb/ May-November/ < 400 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Centromadia</i> [ <i>Hemizonia</i> ] <i>pungens</i> ssp. <i>laevis</i>	Smooth tarplant	None/ None/ None	1B.1	Chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland; alkaline/ annual herb/ April-September/ <1,580 feet	Not expected to occur. Although this species is disturbance-tolerant, the soils in the BSA are largely disturbed and in some cases compacted reducing the likelihood of this species occurring in the BSA.
<i>Chaenactis</i> <i>glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/ None/ None	1B.1	Coastal bluff scrub, coastal dunes/ annual herb/ January -August/ 10–330 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	FC/ SE/ None	1B.1	Coastal scrub(sandy) / annual herb/ April-July/ 500–4,000 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Chorizanthe</i> <i>polygonoides</i> var. <i>longispina</i>	Long-spined spineflower	None/ None/ None	1B.2	Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland; often clay/ annual herb/ April-July/ 100–5,000 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	White-bracted spineflower	None/ None/ None	1B.2	Coastal scrub (alluvial fans), Mojavean desert scrub, Pinyon and juniper woodland/sandy or gravelly/April-June/ 300–1,200 feet	Not expected to occur. No suitable habitat occurs in the BSA.

## APPENDIX D (Continued)

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Clinopodium mimuloides</i>	Monkey-flower savory	None/ None/ None	1B.2	Chaparral, North Coast coniferous forest/stream banks, mesic/ perennial herb/ June-October/ 1,000–5,910 feet	Low potential to occur. Suitable habitat occurs in the BSA. However, this perennial herb would have been observed during surveys if present.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	Summer holly	None/ None/ None	1B.2	Chaparral, cismontane woodland/ evergreen shrub/ April-June/100–1,800 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	FE/ SE/ None	1B.1	Chaparral, cismontane woodland, coastal scrub; alluvial fan, sandy/ annual herb/ April-June/ 650– 2,500 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Dudleya cymosa</i> ssp. <i>ovatifolia</i>	Santa Monica Mtns. dudleya	FT/ None/ Covered	1B.2	Chaparral, Coastal scrub/volcanic, rocky/ perennial herb/ March-June/ 490–5,500 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Dudleya multicaulis</i>	Many-stemmed dudleya	None/ None/ None	1B.2	Chaparral, coastal scrub, valley and foothill grassland; often clay/ perennial herb/ April-July/ 50–2,600 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Dudleya stolonifera</i>	Laguna Beach liveforever	FT/ ST/ Covered	1B.1	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/rocky/ perennial stoloniferous herb/ May-July/ 30–850 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Dudleya viscida</i>	Sticky dudleya	None/ None/ None	1B.2	Coastal bluff scrub, Chaparral, Coastal scrub/rocky/ perennial herb/ May-June/ 30–1,800 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FE/ SE/ None	1B.1	Chaparral, Coastal scrub(alluvial fan)/sandy or gravelly/ perennial herb/ May-September/ 300– 2,000 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Euphorbia misera</i>	Cliff spurge	None/ None/ Covered	2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub/rocky/ perennial shrub December- August/ 30–1,640 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	None/ None/ None	1A	Marshes and swamps(coastal salt and freshwater)/ perennial rhizomatous herb/ August- October/ 30–5,500 feet	Not expected to occur. No suitable habitat occurs in the BSA.

## APPENDIX D (Continued)

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Hesperocyparis forbesii</i>	Tecate cypress	None/ None/ Covered	1B.1	Closed-cone coniferous forest, Chaparral/clay, gabbroic or metavolcanic/ perennial evergreen tree/ / 840–4,920 feet	Absent. No suitable habitat occurs in BSA. Further, this conspicuous tree would have been detected during surveys if present.
<i>Hesperocyparis goveniana</i>	Gowen cypress	None/ None/ None	1B.2	Closed-cone coniferous forest, Chaparral (maritime/ perennial evergreen tree/ / 90–900 feet	Absent. No suitable habitat occurs in the BSA. Further, this conspicuous tree would have been detected during surveys if present.
<i>Horkelia cuneata</i> var. <i>puberula</i>	Mesa horkelia	None/ None/ None	1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub/sandy or gravelly/ perennial herb/ February–July (September)/ 230–2,660 feet.	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Imperata brevifolia</i>	California satintail	None/ None/ None	2B.1	Chaparral, Coastal scrub, Mojavean desert scrub, Meadows and seeps often alkali, Riparian scrub/mesic/ perennial rhizomatous herb/ September-May/ <1640 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	Decumbent goldenbush	None/ None/ None	1B.2	Coastal sage scrub (sandy, often disturbed areas)/shrub/April–November/ 30–400 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None/ None/ None	1B.1	Marshes and swamps(coastal salt), Playas, Vernal pools/ annual herb/ February–June/ <4,000 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Lepechinia cardiophylla</i>	Heart-leaved pitcher sage	None/ None/ Covered	1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland/ perennial shrub/ April–July/ 1,710–4,500 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Monardella hypoleuca</i> ssp. <i>intermedia</i>	Intermediate monardella	None/ None/ None	1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest (sometimes)/Usually understory/ April–September/ 400–1,250 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	Felt-leaved monardella	None/ None/ None	1B.2	Chaparral, Cismontane woodland/ perennial rhizomatous herb/ June–August/ 985–5,170 feet	Not expected to occur. No suitable habitat occurs in the BSA.

## APPENDIX D (Continued)

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Monardella macrantha</i> ssp. <i>hallii</i>	Hall's monardella	None/ None/ None	1B.3	Broad-leaved upland forest, Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland/ perennial rhizomatous herb/ June-August/ 2,400–7,200 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Nama stenocarpum</i>	mud nama	None/ None/ None	2B.2	Marshes and swamps(lake margins, riverbanks)/ annual/perennial herb/ January-July/ 15–1,640 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Navarretia prostrata</i>	Prostrate navarretia	None/ None/ None	1B.1	Coastal scrub, Meadows and seeps, Valley and foothill grassland(alkaline), Vernal pools/mesic/ annual herb/ April-July/ 50–2,300 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Nolina cismontana</i>	Chaparral nolina	None/ None/ None	1B.2	Chaparral, Coastal scrub/sandstone or gabbro/ perennial evergreen shrub/ May-July/ 460–4,180 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Penstemon californicus</i>	California beardtongue	None/ None/ None	1B.2	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland/sandy / May-June/1,170–2,300 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Pentachaeta aurea</i> ssp. <i>allenii</i>	Allen's pentachaeta	None/ None/ None	1B.1	Coastal scrub (openings), Valley and foothill grassland/March-June/ 80–1,850 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Phacelia keckii</i>	Santiago Peak phacelia	None/ None/ None	1B.3	Closed-cone coniferous forest, Chaparral/ annual herb/ May-June/ 200–5,250 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Pseudognaphalium leucocephalum</i>	White rabbit-tobacco	None/ None/ None	2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/sandy, gravelly/ perennial herb/ (Jul)August-November(Dec)/ < 6,890 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Quercus dumosa</i>	Nuttall's scrub oak	None/ None/ Covered	1B.1	Closed-cone coniferous forest, Chaparral, Coastal scrub/sandy, clay loam/ perennial evergreen shrub/ February-April/ 50–1,310 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Senecio aphanactis</i>	Chaparral ragwort	None/ None/ None	2B.2	Chaparral, Cismontane woodland, Coastal scrub/sometimes alkaline/ annual herb/ January-April/ 50–2,625 feet	Not expected to occur. No suitable habitat occurs in the BSA.

## APPENDIX D (Continued)

Scientific Name	Common Name	Status Federal/State/ County	CNPS RPR	Primary Habitat Associations/ Life Form/Blooming Period	Status Onsite or Potential to Occur
<i>Sidalcea neomexicana</i>	Salt spring checkerbloom	None/ None/ None	2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas/alkaline, mesic/ perennial herb/ March-June/ 50–5,020 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Suaeda esteroa</i>	Estuary seablite	None/ None/ None	1B.2	Marshes and swamps(coastal salt)/ perennial herb/ May-October(Jan)/ < 20 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.
<i>Symphyotrichum defoliatum</i>	San Bernardino aster	None/ None/ None	1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic)/near ditches, streams, springs/ perennial rhizomatous herb/ July-November/ < 6,700 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	None/ None/ None	1B.2	Chaparral, Coastal scrub/ perennial deciduous shrub/ April-May/ 540–3,280 feet	Not expected to occur. No suitable habitat occurs in the BSA.
<i>Verbesina dissita</i>	Big-leaved crownbeard	FT/ ST/ None	1B.1	Chaparral(maritime), Coastal scrub/ perennial herb/ April-July/ 150–675 feet	Not expected to occur. The BSA is outside of the species' known elevation range and there is no suitable habitat present.

### STATUS

#### Federal

FC: Candidate for federal listing as threatened or endangered  
 FE: Federally-listed as endangered  
 FT: Federally-listed as threatened  
 PFE: Proposed for federal listing as endangered

#### State

SCE: State candidate for listing as endangered  
 SE: State-listed as endangered  
 SR: State rare  
 ST: State-listed as threatened

#### County

Covered: Covered Species under Orange County Central-Coastal NCCP/HCP

### CNPS RPR (California Native Plant Society Rare Plant Rank)

1A: Plants presumed extinct in California  
 1B: Plants rare, threatened, or endangered in California and elsewhere  
 2: Plants rare, threatened, or endangered in California but more common elsewhere  
 3: Plants about which more information is needed – a review list  
 4: Plants of limited distribution – a watch list  
 .1: Seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat)  
 .2: Fairly endangered in California (20% to 80% of occurrences threatened)  
 .3: Not very endangered in California (less than 20% of occurrences threatened or no current threats known).

# **APPENDIX E**

*Special-Status Wildlife Species Potentially  
Occurring within the Biological Survey Area*





## APPENDIX E

### Special-Status Wildlife Species Potentially Occurring within the Biological Survey Area

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Amphibians</i>				
<i>Anaxyrus californicus</i>	Arroyo toad	FE/SSC/Covered/None	Stream channels for breeding (typically 3 <sup>rd</sup> order); adjacent stream terraces and uplands for foraging and wintering. Inhabits washes, arroyos, sandy riverbanks, riparian areas with willows, sycamores, oaks, cottonwoods. Extremely specialized habitat needs, including exposed sandy streamsides with stable terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding.	Low potential to breed and forage within the BSA. Ladd Canyon Creek flows seasonally and as such only supports flow for a short time following a rain event. The channel banks have been previously disturbed by the placement of large riprap boulders for stabilization purposes. The channel bottom consists of small to medium sized rock and cobble and is disturbed by non-native vegetation and a considerable amount of human-generated trash. The channel also lacks a sandy, gravel bottom with suitable ponded areas. Adjacent uplands are disturbed with non-native vegetation with only a few scattered sycamores and one arroyo willow sapling. This species is recorded within the general vicinity.
<i>Lithobates pipiens</i> (native populations only)	Northern leopard frog	None/SSC/None/None	In or near quiet, permanent and semi-permanent water in many habitats, <7,000 feet.	Not expected to occur. Permanent or semi-permanent water is not present within or adjacent to the BSA.
<i>Spea</i> [= <i>Scaphiopus</i> ] <i>hammondi</i>	Western spadefoot	None/SSC/Covered/None	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, riparian habitats, and mountains. Most common in grasslands and coastal sage scrub near rain pools or vernal pools which do not contain bullfrogs, fish, or crayfish. riparian habitats	Low potential to occur. Slow-moving water or ponded areas do not appear to be present within the project area; however, suitable upland habitat is present adjacent to the BSA. This species is recorded within the general vicinity.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Taricha torosa torosa</i>	Coast Range newt	None/SSC/None/None	Coastal drainages from Mendocino County to San Diego County. In southern California, this species is found in drier chaparral, oak woodland, forest, and grasslands.	Low potential to occur. The ephemeral creek may provide breeding habitat and potentially suitable upland habitat is also present adjacent to the creek drainage. This species is recorded within the general vicinity.
<i>Reptiles</i>				
<i>Actinemys marmorata</i>	Western pond turtle	None/SSC/None/None	This species prefers aquatic habitats with exposed areas for basking including ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation, such as algae and other water plants	No potential to occur. Suitable habitat is not present within or adjacent to the BSA.
<i>Aspidoscelis hyperythra</i>	Orange-throated whiptail	None/SSC/Covered/None	They are typically found in hot, dry, flat open spaces in deserts or semi-arid areas. Also occur in coastal sage scrub, chaparral, grassland, juniper, and oak woodland.	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed and continue to be disturbed by anthropogenic uses. This species is recorded within the general vicinity.
<i>Aspidoscelis tigris stejnegeri</i>	Coastal western whiptail	None/None/Covered/None	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage - chaparral, coastal sage scrub, woodland, and riparian areas.	Low potential to occur. Coastal sage scrub is present within the BSA but is situated adjacent to Silverado Canyon Road on steep slopes near the intersection of Ladd Canyon Road and Silverado Canyon Road. The mulefat scrub present is patchy and is surrounded by disturbed lands. This species is recorded within the region, but not in the general vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Charina</i> [=Lichanura] <i>trivirgata</i>	Rosy boa	None/None/Covered/None	Occurs in a great variety of habitats including rocky chaparral, coastal sage scrub, oak woodlands, desert and semi-desert scrub, rocky shrubland, boulder strewn hillsides, and creek-beds. Most often associated with areas with intermittent or permanent water sources (i.e. desert springs, seasonal streams)	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed and continue to be disturbed by anthropogenic uses. Additionally, Ladd Canyon Creek flows seasonally and is dry during a majority of the year. This species is recorded within the region, but not in the general vicinity of the BSA.
<i>Coleonyx variegatus</i> <i>abbotti</i>	San Diego banded gecko	None/None/None/None	Prefers rocky areas in coastal sage and chaparral.	Low potential to occur. Coastal sage scrub is present within the BSA but is situated adjacent to Silverado Canyon Road on steep slopes near the intersection of Ladd Canyon Road and Silverado Canyon Road. This species is recorded in the vicinity of the BSA.
<i>Crotalus ruber</i>	Red-diamond rattlesnake	None/SSC/Covered/None	Inhabits a variety of shrub habitats (arid scrub, coastal chaparral), oak and pine woodlands, rocky grassland where there is heavy brush, large rocks, or boulders, and cultivated areas.	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed and continue to be disturbed by anthropogenic uses. This species is recorded in the general vicinity.
<i>Lampropeltis zonata</i> (pulchra)	California mountain kingsnake (San Diego population)	None/SSC/None/None	A habitat generalist, found in diverse habitats including coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, coastal sage scrub and wooded areas near a stream with rock outcrops. Restricted to the San Gabriel and San Jacinto Mountains of Southern California.	Low potential to occur. The habitats present in the BSA are largely disturbed with non-native vegetation and human-generated refuse. Suitable habitat is present within and adjacent to the BSA. This species is recorded in the general vicinity.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Phrynosoma blainvillii</i>	Coast horned lizard	None/SSC/Covered/None	Inhabits open areas of sandy soil and low vegetation in valleys, foothills and semiarid mountains from sea level to 8,000 ft. (2,438 m) in elevation. Found in grasslands, coastal sage scrub, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Often found in lowlands along sandy washes with scattered shrubs.	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed. This species is recorded in the general vicinity.
<i>Salvadora hexalepis virgulata</i>	Coast patch-nosed snake	None/SSC/None/None	Inhabits semi-arid brushy areas and chaparral in canyons, rocky hillsides, plains, washes, and sandy flats	Low potential to occur. Only marginal habitat is present within or adjacent to the BSA. This species is recorded within the region, but not in the general vicinity of the BSA.
<i>Thamnophis hammondi</i>	Two-striped garter snake	None/SSC/None/None	Coastal California from vicinity of Salinas to northwest Baja California from sea level to about 7,000 feet elevation. Generally found around pools, creeks, cattle tanks, and other water sources, often in rocky areas, in oak woodland, chaparral, brushland, and coniferous forest.	Low potential to occur. Suitable water sources are not present within or adjacent to the BSA. This species is recorded in the general vicinity.
<i>Birds</i>				
<i>Accipiter cooperii</i> (nesting)	Cooper's hawk	None/ WL/None/None	Riparian and woodland habitats (from deep forests to leafy subdivisions and backyards), and montane canyons.	Moderate potential to nest in BSA due to the presence of scattered western sycamores, coast live oaks, and eucalyptus trees. This species is recorded in the general vicinity.
<i>Agelaius tricolor</i>	Tricolored blackbird	BCC/SSC/None/None	Open water areas with tall emergent vegetation or in willow and blackberry thickets. Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region but not in the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	None/WL/Covered/None	Grass hillsides, coastal sage scrub, chaparral with boulders and outcrops	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed, and continue to be disturbed, by anthropogenic uses. This species is recorded in the vicinity.
<i>Ammodramus savannarum</i>	Grasshopper sparrow	None/SSC/None/None	This species appears to prefer areas with significant grass cover and a few scattered shrubs for perching. Breeds in grasslands and savannas in rolling hills and lower mountain hillsides up to 5000 feet elevation. They don't occur in habitats with dense shrub cover or BSAs that have been over-grazed.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region in lowlands around the base of the mountains but not in the general vicinity of the BSA.
<i>Amphispiza belli belli</i>	Bell's sage sparrow	BCC/WL/None/None	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys.	Low potential to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed, and continue to be disturbed, by anthropogenic uses. This species is recorded within the region but not in general vicinity of the BSA.
<i>Aquila chrysaetos</i> (nesting and nonbreeding/wintering)	Golden eagle	BCC/FP, WL/Covered/None	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest	Low potential to nest or forage on BSA. Limited suitable habitat within the BSA. Habitats present have been previously disturbed, and continue to be disturbed, by anthropogenic uses. This species is recorded within the region, but not in the general vicinity of the BSA.
<i>Asio otus</i>	Long-eared owl	None/SSC/None/None	Inhabits open woodlands, dense, mixed forests, and tall shrub lands usually next to open spaces. Also occurs in forest edges, riparian strips along rivers, hedgerows, juniper thickets, woodlots, and wooded ravines and gullies. Breeding habitat includes thickly wooded areas with nearby open spaces for hunting. Often nests in	Low potential to occur. Limited suitable habitat occurs within the riparian corridor within or adjacent to the BSA. Coastal sage scrub habitat in the vicinity of the project may provide forage habitat. This species is recorded within the region, but not within the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
			abandoned crow, magpie, or hawk nest, occasionally in a natural tree cavity.	
<i>Athene cunicularia</i> (burrow BSAs and some wintering BSAs)	Burrowing owl	BCC/SSC/None/None	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region primarily in the lowlands surrounding the mountains.
<i>Buteo swainsoni</i>	Swainson's hawk	BCC/ST/None/None	Grasslands, agricultural lands	Not expected to occur within the BSA. No suitable habitat is present within or adjacent to the BSA. This species is recorded within the region, but not within the vicinity of the BSA.
<i>Buteo regalis</i> (wintering)	Ferruginous hawk	BCC/WL/None/None	Open, dry country, grasslands, prairies, open and brushy open country, and agricultural areas.	Not expected to occur. Suitable habitat is not present within the BSA, and limited suitable habitat is present within the general region. This species is recorded within the region, but not within the vicinity of the BSA.
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego and Orange Counties only)	Coastal cactus wren	BCC/SSC/Covered/None	Southern cactus scrub, maritime succulent scrub, cactus thickets in coastal sage scrub	Not expected to occur. Suitable cactus or succulent scrub habitat is not present within the BSA. This species is recorded in the vicinity.
<i>Charadrius nivosus ssp. nivosus</i>	Western snowy plover (coastal population)	FT, BCC/SSC/None/None	Nests primarily on coastal beaches, in flat open areas, with sandy or saline substrates; less commonly in salt pans, dredged spoil disposal BSAs, dry salt ponds and levees	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is not recorded within the region.
<i>Circus cyaneus hudsonius</i> (nesting)	Northern harrier	None/SSC/Covered/None	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub	No potential to occur or nest on BSA. There are no wetlands suitable for nesting on BSA or adjacent to the BSA. This species is recorded within the region, but not within the vicinity of the BSA.
<i>Coccyzus americanus occidentalis</i>	Western yellow-billed cuckoo	FC, BCC/SE/None/None	Riparian forests along the broad, lower floodplains of larger rivers. Nests in thickets of willows and cottonwoods with an understory of blackberry, nettle, or wild grape.	Not expected to occur. Suitable riparian habitat is not present within of adjacent to the BSA. This species is recorded within the region primarily in the lowlands north and east of the mountains.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Elanus leucurus</i> (nesting)	White-tailed kite	None/FP/Covered/None	Open grasslands, savanna-like habitats, agriculture, wetlands, oak woodlands, riparian	Low potential to nest in the BSA. Limited suitable habitat (riparian) occurs within the BSA and nesting opportunities are potentially present within the eucalyptus trees on BSA, although this species prefers woodlands or oak groves. Suitable foraging habitat is highly limited in this area. This species is recorded in the region (in lower elevation areas north and northwest of the mountains, but not in the vicinity of the BSA.
<i>Empidonax traillii</i> <i>extimus</i>	Southwestern willow flycatcher	FE/SE/Covered/None	Riparian woodlands along streams and rivers with mature, dense stands of willows or alders; may nest in thickets dominated by tamarisk	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is not recorded within the region.
<i>Eremophila alpestris</i> <i>actia</i>	California horned lark	None/WL/Covered/None	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow grain fields	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded in the region primarily in the lowlands around the base of the mountains, but not in the vicinity of the BSA.
<i>Icteria virens</i>	Yellow-breasted chat	None/SSC/None/None	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles and dense brush.	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded in the region, but not in the vicinity of the BSA.
<i>Laterallus jamaicensis</i> <i>coturnculus</i>	California black rail	BCC/ST, FP/None/None	Salt and freshwater marshes with dense cover. Interior populations known from Sierra Nevada foothills. Typical inland habitat is irrigation-fed wetlands >0.25-acre.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region but not in the vicinity of the BSA.
<i>Rallus longirostris</i> <i>levipes</i>	Light-footed clapper rail	FE/SE, FP/None/None	Coastal saltmarsh	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region near the coast but not in the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Setophaga petechia</i>	Yellow warbler	None/SSC/None/None	Breeds in riparian vegetation throughout California; populations in Sacramento and San Joaquin valleys are declining. Occur in moist thickets, especially along streams and in swampy areas; and gardens. Common in eastern Sierran riparian habitats below 8,000 feet.	Not expected to occur. Suitable riparian habitat is not present within or adjacent to the BSA. This species is recorded within the region along the Santa Ana River northeast of the mountains.
<i>Sterna antillarum browni</i>	California least tern	FE/SE, FP/None/None	Nests along the coast from San Francisco Bay south to northern Baja California. Occurs along seacoasts, beaches, bays, estuaries, lagoons, lakes and rivers, breeding on sandy or gravelly beaches and banks of rivers or lakes.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region near the coast but not in the vicinity of the BSA.
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	None/SE/None/None	Coastal saltmarsh, pickleweed	Not expected to occur. Suitable habitat not present within or adjacent to the BSA. This species is recorded within the region along several stream corridors northwest, north, northeast, and east of the mountains.
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	FT/SSC/Covered/None	Coastal sage scrub, coastal sage scrub–chaparral mix, coastal sage scrub–grassland ecotone, riparian in late summer	Low potential to occur. Although coastal sage scrub occurs in the BSA, it is restricted to the road shoulder and on the steep, nearly vertical slopes abutting Silverado Canyon Road to the north. Given the exposure to Silverado Canyon Road and the steep adjacent slopes, which tend to be unsuitable for nesting, there is a low likelihood of California gnatcatchers occurring in the BSA. This species is recorded in numerous locations in the vicinity.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	FE, BCC/SE/Covered/None	Nests in southern willow scrub with dense cover within 1-2 meters of the ground; habitat includes willows, cottonwoods, baccharis, wild blackberry or mesquite on desert areas.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded within the region along several stream corridors northwest, north, northeast, and east of the mountains.



## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Mammals</i>				
<i>Antrozous pallidus</i>	Pallid bat	None/SSC/None/WBWW:H	Occurs in arid regions in shrublands, grasslands, forests, woodlands; rocky outcrops, caves, cliffs, crevices, mines, hollow trees for roosting with access to open habitats for foraging. Water must be available close by to all sites.	Low potential to occur. Suitable vegetation or roosting structures/microhabitat are limited (possible hollow trees) within the BSA. This species is recorded in the vicinity.
<i>Chaetodipus fallax fallax</i>	Northwestern San Diego pocket mouse	None/SSC/None/None	Coastal sage scrub, grassland, sage scrub-grassland ecotones, sparse chaparral; rocky substrates, loams, and sandy loams	Not expected to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed, and continue to be disturbed, by anthropogenic uses. This species is recorded in the region (in the lowlands immediately east of the mountains) but not in the vicinity of the BSA.
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None/SSC/None/WBWW:H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland. Roosts in caves, mines, and buildings.	Not expected to occur. Suitable vegetation or roosting structures/microhabitat is not present within the BSA. They are typically found south of the project area and into Mexico. This species is recorded in the region (lowlands west of the mountains) but not in the vicinity of the BSA.
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST/None/None	Open habitat, grassland, sparse coastal sage scrub, sandy loam and loamy soils with low clay content; gentle slopes (<30%).	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded in the region (in the lowlands immediately east of the mountains) but not in the vicinity of the BSA.
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC/None/None	This species prefers alluvial scrub/coastal sage scrub habitats on gravelly and sandy loam soils adjoining river and stream terraces, and on alluvial fans; and rarely occur in dense vegetation or rocky washes.	Not expected to occur. Suitable habitat is not present within the BSA but may be present within the general area. This species is recorded in the region but not in the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Eumops perotis californicus</i>	Western mastiff bat	None/SSC/None/WBWG:H	Roosts in small colonies in cracks and small holes, crevices in cliff faces, high buildings, trees, and tunnels and seems to prefer man-made structures.	Low potential to occur. Would have likely been observed if present. Trees and the existing bridge structure provide the only suitable habitat within the BSA. The bridge opening was walked and evaluated thoroughly. There was no evidence of bat roosting in the BSA. This species is recorded in the vicinity.
<i>Lasiurus xanthinus</i>	Western yellow bat	None/SSC/None/WBWG:H	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland.	Not expected to occur. Suitable vegetation or roosting structures/microhabitat is not present within the BSA. This species is recorded in the region (lowlands northeast of the mountains) but not in the vicinity of the BSA.
<i>Myotis yumanensis</i>	Yuma myotis	None/None/None/WBWG:LM	Occurs in a variety of western lowland habitats in areas of abundant water which is used for foraging; open forests and woodlands are optimal habitat. Summer roosts include crevices in cliffs, old buildings, mines, caves, bridges, and abandoned cliff swallow nests.	Low potential to occur. The bridge structure provides the only suitable habitat within the BSA; however, the BSA lacks open water and suitable woodlands. This species is recorded in the region (at a bridge structure) but not in the vicinity of the BSA.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC/Covered/None	Coastal sage scrub, chaparral, pinyon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth	Not expected to occur. Limited suitable habitat within the BSA. Habitats present have been previously disturbed, and continue to be disturbed, by anthropogenic uses. This species is recorded in the region but not in the vicinity of the BSA.
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	None/SSC/None/WBWG:M	Rocky desert areas with high cliffs or rock outcrops	Not expected to occur. Suitable vegetation or roosting structures/microhabitat is not present within the BSA. This species is recorded in the region (lowlands northeast of the mountains) but not in the vicinity of the BSA.
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE/SSC/Covered/None	Grassland, coastal sage scrub with sandy soils along the immediate coast.	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded in the region (near the coast) but not in the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Sorex ornatus salicornicus</i>	Southern California saltmarsh shrew	None/SSC/None/None	Valley foothill and montane riparian optimal (prefers moist soil); also woodland, chaparral, grassland, and emergent wetland. Nests in wood, shrubs, and burrows.	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded in the region but not in the vicinity of the BSA.
<i>Fish</i>				
<i>Catostomus santaanae</i>	Santa Ana sucker	FT/SSC/None/AFS: TH	Small, shallow, cool, clear streams less than 7 meters in width and a few centimeters to more than a meter in depth; substrates are generally coarse gravel, rubble and boulder.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is present within the region in the Santa Ana River.
<i>Eucyclogobius newberryi</i>	Tidewater goby	FE/SSC/None/AFS:EN	Low-salinity waters in coastal wetlands	Not expected to occur. No suitable habitat is present within or adjacent to the BSA. This species occurs along the coast and is not recorded within the region.
<i>Gila orcutti</i>	Arroyo chub	None/SSC/None/AFS:VU	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths > 40 centimeters; substrates of sand or mud.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is present within the region in the Santa Ana River.
<i>Oncorhynchus mykiss</i>	Southern California coastal steelhead	FE/SSC/None/AFS:TH	This species occurs from the Santa Maria River to the Tijuana River at the United States and Mexican Border in seasonally accessible rivers and streams.	Not expected to occur. No suitable habitat is present in the vicinity of the BSA. This species is not recorded within the region.
<i>Rhinichthys osculus</i> ssp. 3	Santa Ana speckled dace	None/SSC/None/AFS:TH	Permanent streams with cool, flowing rocky-bottomed washes, shallow cobble and gravel riffles.	Not expected to occur. Suitable habitat is not present within or adjacent to the BSA. This species is recorded in the region but not in the vicinity of the BSA.

## APPENDIX E (Continued)

Scientific Name	Common Name	Status: Federal/State/ NCCP <sup>1</sup> /Other	Primary Habitat Associations	Status on BSA or Potential to Occur*
<i>Invertebrates</i>				
<i>Branchinecta lynchii</i>	Vernal pool fairy shrimp	FT/None/None/None	Vernal pools and other temporary bodies of water in southern Central Valley. Most common in smaller grass or mud bottomed swales or basalt flow depression pools in unplowed grasslands.	Not expected to occur. Suitable habitat is not present within the BSA. This species is not recorded within the region.
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/None/Covered/None	Small, shallow vernal pools, occasionally ditches and road ruts	Not expected to occur. Suitable habitat is not present within the BSA. This species is recorded within the region but not in the vicinity of the BSA.
<i>Danaus plexippus</i> (wintering BSAs)	Monarch butterfly	None/ None/None/None	Overwinters in eucalyptus groves	Not expected to be used as an overwintering site. Eucalyptus groves occur in the BSA; however, they are limited in size and are not known to be documented overwintering sites. This species is recorded in the region (lowlands southwest of the mountains) but not in the vicinity of the BSA.
<i>Rhaphiomidas terminatus abdominalis</i>	Delhi Sands flower-loving fly	FE/None/None/None	Associated with Delhi sands formation; sparsely vegetated habitat (< 50%) supporting <i>Eriogonum fasciculatum</i> , <i>Croton californicus</i> , <i>Heterotheca grandiflora</i>	Not expected to occur. Suitable habitat is not present within the BSA. This species occurs within the region (along the Santa Ana River) but not in the vicinity of the BSA.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/None/Covered/None	Deep, long-lived vernal pools, vernal pool-like seasonal ponds, stock ponds; warm water pools that have low to moderate dissolved solids	Low potential to occur. Suitable habitat is not present within the BSA. This species is recorded in the region but not in the vicinity of the BSA.
<i>Tryonia imitator</i>	Mimic tryonia (=California brackishwater snail)	None/None/None/None	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County.	Not expected to occur. Suitable habitat is not present within the BSA. This species occurs in coastal areas within the region but not in the vicinity of the BSA.

Species listed in this table were obtained from the CNDDb for the Black Star Canyon USGS 7.5-minute quadrangle (project location) and the eight quadrangles surrounding the Black Star Canyon quadrangle (Corona South, Orange, Corona North, Prado Dam, Yorba Linda, Santiago Peak, El Toro, and Tustin) and from an official USFWS species list.

## APPENDIX E (Continued)

---

The federal and state status of species is based on the Special Animals List (January 2011) (CDFG 2011).

\* "Vicinity" refers to species recorded in the lower half of the Black Star Canyon USGS 7.5-minute quadrangle and the upper half of the El Toro quadrangle (CDFW 2013), since the project BSA is located at the bottom of the Black Star Canyon quadrangle. "Region" refers to species recorded within the eight quadrangles surrounding USGS 7.5-minute Black Star Canyon quadrangle (CDFW 2013).

<sup>1</sup> NCCP Designations:

Covered – Covered species under central / Coastal Subarea Plan

### Federal Designations:

BCC United States Fish and Wildlife Service Birds of Conservation Concern  
FE Federally listed as Endangered.  
FT Federally listed as Threatened.  
FC Federal candidate species for listing

### State Designations:

SSC California Species of Special Concern  
SE State listed as Endangered.  
ST State listed as Threatened.  
FP California Department of Fish and Game Protected and Fully Protected Species  
(SD) State-delisted.  
WL California Department of Fish and Game Watch List

### Other:

WBWG Western Bat Working Group  
L: Species is stable globally but there may be localized conservation concerns.  
M: Species warrants closer evaluation, research, and conservation actions  
H: Species are imperiled or are at high risk of imperilment  
AFS American Fisheries Society  
EN: Endangered  
TH: Threatened  
VU: Vulnerable

## APPENDIX E (Continued)

---

INTENTIONALLY LEFT BLANK