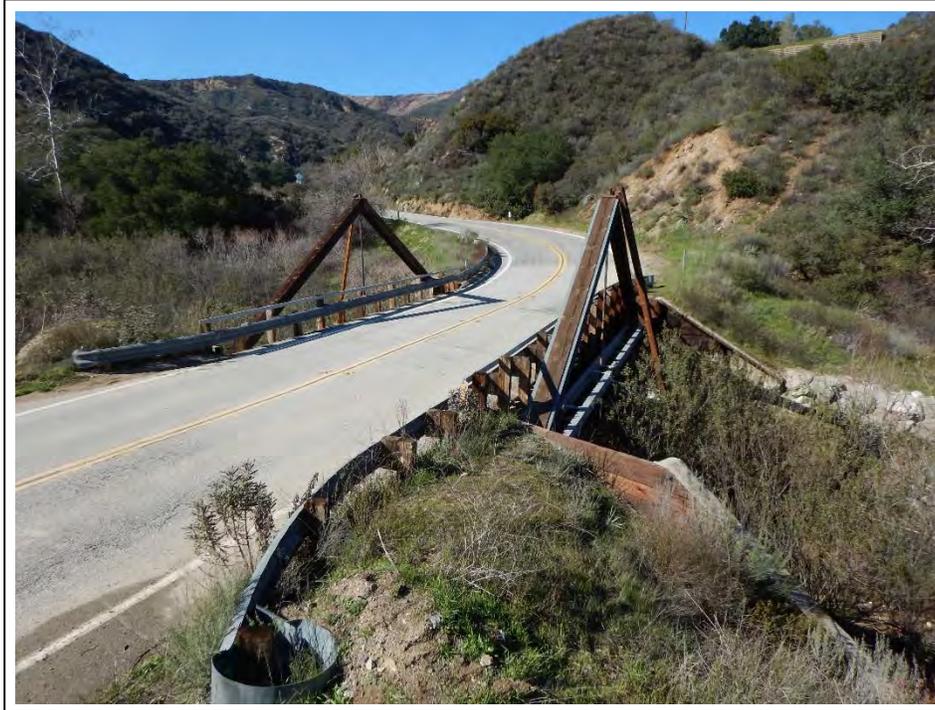


Little Tujunga Canyon Road over Buck Canyon Bridge Replacement

NES



Natural Environment Study

Discussion of Biological Assessments and Jurisdictional Delineation
Little Tujunga Canyon Road over Buck Canyon Bridge Replacement

Bridge No. 53C0967

Angeles National Forest, Sylmar Area

Los Angeles County, California

07-LA-0-CR

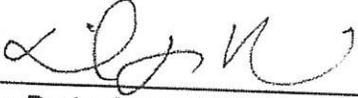
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August 2018

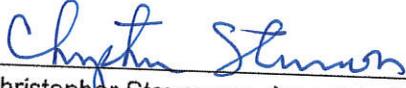


Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
County of Los Angeles

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SUMMARY

This Natural Environment Study (NES) report contains the findings of Michael Baker International's (Michael Baker) biological resources survey, jurisdictional delineation, and focused rare plant survey within the Biological Study Area (BSA) for the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement project (project). The BSA is defined as the area of analysis for direct effects, indirect effects, and cumulative effects within the project boundary. In this case, it includes a 500-foot radius buffer around the entire project site.

The proposed project consists of a bridge replacement and approach improvements along Little Tujunga Canyon Road at the bridge over Buck Canyon. The existing bridge is classified as functionally obsolete. A new bridge would meet current design and safety standards and provide resistance to fire damage, facilitate large vehicle access, and improve roadway safety.

The biological resources survey was conducted by Michael Baker biologists Daniel Rosie and Stephen Anderson on January 25, 2017, to document baseline conditions of the biological resources and to identify special-status species and natural communities of special concern, and their potential to occur based on habitat suitability within the BSA that could pose a constraint to implementation of the proposed project. A formal jurisdictional delineation was also conducted by Mr. Rosie and Mr. Anderson during the January 25 site investigation to delineate U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) jurisdictional limits within the BSA. A Jurisdictional Delineation Report (Michael Baker 2017) was prepared under a separate cover (see Appendix C), with the results of the jurisdictional delineation summarized in this NES. Further, Michael Baker biologists Mr. Rosie (senior botanist) and Ryan Phaneuf or Linda Nguyen conducted a focused rare plant survey on April 18, May 16, and June 15, 2018; refer the 2018 Rare Plant Survey Results report (Michael Baker 2018; see Appendix F), which is also summarized in this NES.

Prior to the field survey, Michael Baker conducted a records search of the CDFW California Natural Diversity Database (CNDDDB), California Native Plant Society Online Inventory of Rare and Endangered Vascular Plants of California, and the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) database. A total of thirteen (13) special-status plant species and twenty-one (21) special-status animal species were identified during the records search as potentially occurring within the vicinity of the BSA. Six (6) natural communities of special concern according to the CNDDDB were identified within the vicinity of the BSA. No USFWS-designated Critical Habitat has been mapped within the vicinity of the BSA.

The BSA primarily consists of undeveloped lands of the Angeles National Forest comprised of natural plant communities, with the Little Tujunga Canyon Road and the associated bridge crossing over Buck Canyon Creek. Five (5) native plant communities were observed and mapped within the boundaries of the BSA during the field survey: oak riparian woodland, southern willow scrub, mule fat scrub, Diegan coastal sage scrub, and southern mixed chaparral. Construction of the proposed project would result in a temporary loss of approximately 0.10 acre of Diegan coastal sage scrub, 0.02 acre of southern mixed chaparral, and 0.02 acre of oak riparian woodland, 0.09 acre of southern willow scrub, and 0.14 acre of mule fat scrub, with a permanent loss of approximately 0.09 acre of Diegan coastal sage scrub, 0.01 acre of southern mixed chaparral, 0.02 acre of

southern willow scrub, and 0.01 acre of mule fat scrub. In addition, three (3) human-modified areas mapped as disturbed habitat, bare ground, and developed were observed. Impacts to these areas do not require mitigation.

Based on habitat requirements for specific species, availability and quality of habitats needed by special-status plant species, and known distributions, Plummer's mariposa-lily (*Calochortus plummerae*) was determined to have a high potential to occur within the BSA. Catalina mariposa lily (*Calochortus catalinae*) and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*) were determined to have a moderate potential. There is a low potential for State- and/or Federally-listed species such as Braunton's milk-vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and slender-horned spineflower (*Dodecahema leptoceras*) to occur within the BSA. All other special-status plant species were not expected. Three (3) special-status plant species were observed during the 2018 rare plant survey: Plummer's mariposa-lily, Lewis' clarkia (*Clarkia lewisii*), and southern California black walnut (*Juglans californica*). Only Lewis' clarkia (minimum of 5 individuals) was observed present within the project site. No other special-status plant species were observed during the survey.

Further, coastal whiptail (*Aspidoscelis tigris stejnegeri*), silvery legless lizard (*Anniella pulchra pulchra*), Townsend's big-eared bat (*Corynorhinus townsendii*), prairie falcon (*Falco mexicanus*), California condor (*Gymnogyps californianus*) were determined to have a moderate potential to occur within the BSA. There is a low potential for State- and/or Federally-listed species such as arroyo toad (*Anaxyrus californicus*), Swainson's hawk (*Buteo swainsoni*), coastal California gnatcatcher, and least Bell's vireo (*Vireo bellii pusillus*) to occur within the BSA. All other special-status wildlife species are not expected. No special-status wildlife species were observed during the survey. Although the survey was not conducted during the optimal time of day or season for some, implementation of the proposed mitigation measures would reduce impacts to less than significant.

Development of the proposed project has the potential to have direct and indirect effects on the above-mentioned special-status plant and wildlife species. Habitat within the proposed project site would be permanently lost due to an expanded footprint, with additional habitat temporarily affected to provide access during construction activities. Noise and visual disruptions during construction may directly but temporarily affect the wildlife species mentioned above. Ground-dwelling animals could also be injured or killed by the project construction if they are underground at the time of development. Indirect impacts would be generally restricted to long-term habitat degradation, primarily through the unintended spread of non-native weed seeds within the BSA, which may result in changing plant composition and lower the quality of the on-site natural habitat. Considering the relatively unchanged layout and bridge design, impacts to wildlife movement opportunities would be relatively unimpeded following project activities. Cumulative impacts would be limited to improvements to existing developments in the area (if/when proposed) as the majority of the surrounding land is managed by the U.S. Forest Service.

There are four drainage features within the BSA (Buck Canyon Creek and its Tributaries A, B, and C). Within the project site, Buck Canyon Creek is an earthen, ephemeral drainage feature and a riparian corridor (except for the bridge and a concrete apron immediately downstream). Due to its connectivity with the Los Angeles River (Relatively Permanent Waters) and the Pacific Ocean (Traditional Navigable Waters), Buck Canyon Creek and its tributaries containing an Ordinary High Water Mark are considered waters

of the U.S. (WoUS) subject to jurisdiction of the Corps pursuant to Section 404 of the Federal Clean Water Act (CWA) and Regional Board pursuant to CWA Section 401. Further, streambed/banks within the BSA, and riparian vegetation where present, are subject to CDFW jurisdiction pursuant to Section 1600 *et seq.* of the California Fish and Game Code. The proposed project would result in approximately 0.05 acre of permanent impacts and 0.11 acre of temporary impacts to non-wetland WoUS (376 linear feet), and approximately 0.07 acre of permanent impacts and 0.30 acre of temporary impacts to primarily riparian-vegetated streambed. Prior to project construction, mitigation to offset impacts must be agreed upon, and the following permits/authorization procured:

- Corps CWA Section 404 Nationwide Permit 14 – *Linear Transportation Projects* for impacts associated with dredge and fill material to non-wetland WoUS;
- Regional Board CWA Section 401 Water Quality Certification for impacts associated with dredge and fill material to WoUS; and
- CDFW California Fish and Game Code (CFGC) Section 1602 Lake or Streambed Alteration Agreement (or other approval such as an Operation by Law letter or Letter of Non-Substantial Impact) for impacts/alteration to streambed/banks and associated riparian vegetation.

To further minimize impacts to biological resources, pre-construction surveys conducted by qualified biologists are recommended as follows:

- If project activities are conducted during the avian breeding season, nesting bird surveys within three days prior to vegetation clearing and initial ground disturbing activities, and nest monitoring as applicable;
- Roosting bat survey within three days prior to project commencement;
- Wildlife clearance surveys before initial vegetation clearing and ground disturbing activities.

Additional measures, including staking the limits of work prior to construction, inspecting and cleaning all construction equipment prior to use in the proposed project footprint to prevent the importation of non-native plant material, managing fugitive dust, and the implementation of Best Management Practices are intended to help limit impacts to biological and aquatic resources as a result of the proposed project.

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LIST OF ACRONYMS AND ABBREVIATIONS

1987 Manual	1987 Corps Wetland Delineation Manual
AOU	American Ornithologists' Union
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corp of Engineers
CWA	Clean Water Act
EPA	United States Environmental Protection Agency
FESA	Federal Endangered Species Act
GIS	Geographic Information System
GPS	Geographic Positioning System
HCP	Habitat Conservation Plan
IPaC	Information for Planning and Conservation
MBTA	Migratory Bird Treaty Act
Michael Baker	Michael Baker International
NES	Natural Environment Study
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
Porter-Cologne project	Porter-Cologne Water Quality Control Act Little Tujunga Canyon Road over Buck Canyon Bridge Replacement
Regional Board	Regional Water Quality Control Board
RPW	Relatively Permanent Waters
SCE	Southern California Edison
SEA	Significant Ecological Area
TNW	Traditional Navigable Waters
USC	United States Code
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoUS	Waters of the United States

Chapter 1 – Introduction

This Natural Environment Study (NES) report contains the findings of Michael Baker International's (Michael Baker) biological resources survey/habitat assessment within the Biological Study Area (BSA) for the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement project (project). In addition, this report provides a summary of the results of a formal jurisdictional delineation of aquatic features, with details presented in the *Jurisdictional Delineation Report* (Michael Baker 2017), and a focused rare plant survey, with details presented in the *2018 Rare Plant Survey Results* letter report (Michael Baker 2018).

The proposed project is located in the San Gabriel Mountains of the Angeles National Forest, approximately 4 miles north of Interstate 210 and approximately 3 miles east of Sylmar, in an unincorporated portion of Los Angeles County, California (Figure 1, Regional Vicinity). The BSA is depicted in Section 21 of Township 3 North, Range 14 West of the U.S. Geological Survey (USGS) *Sunland, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*). Specifically, the BSA is intersected by Little Tujunga Canyon Road at Buck Canyon Creek (Figure 3, *Project Site*). The BSA identified for the proposed project includes the project footprint (incorporating the design plans and limits of disturbance during construction) and a 500-foot radius buffer around the project footprint.

PROJECT HISTORY

PURPOSE

The proposed project is to replace the existing bridge with a new bridge to meet current bridge design standards, and improve the safety for pedestrians, bicyclists, and vehicle users in the project area.

NEED

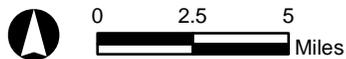
The existing bridge, built in 1928 and widened in 1959, is a timber A-frame bridge with timber piles and substandard travel lanes: a 12-foot lane and 1-foot shoulder in each direction. The existing bridge is classified as functionally obsolete and 16-ton trucks and greater are prohibited from traveling on the bridge.

PROJECT DESCRIPTION

The County of Los Angeles has proposed the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement Project in order to meet current bridge design standards, and improve the safety for pedestrians, bicyclists, and vehicle users in the project area. The existing Little Tujunga Canyon Road Bridge structure was built in 1928 and has undergone one widening in 1959. It is a timber A-frame bridge supported by timber pile abutments and substandard travel lanes (a 12-foot lane and 1-foot shoulder in each direction). The existing bridge is classified as functionally obsolete and 16-ton trucks and greater are prohibited from traveling on the bridge. The proposed project would replace the existing bridge with a new bridge to meet current engineering standards, improving safety for all users of the bridge in the area.



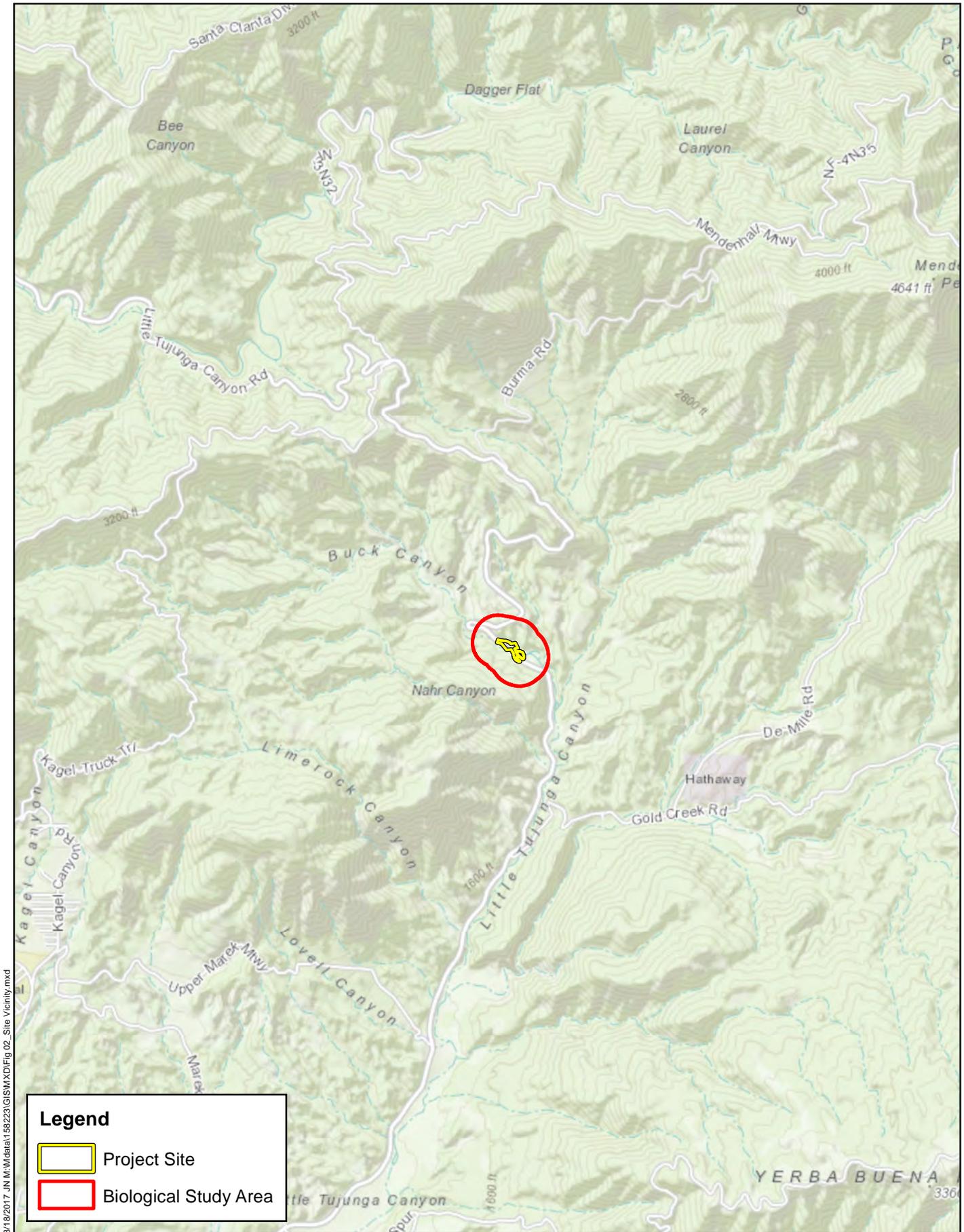
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LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Regional Vicinity

Source: ArcGIS Online

Figure 1



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Legend

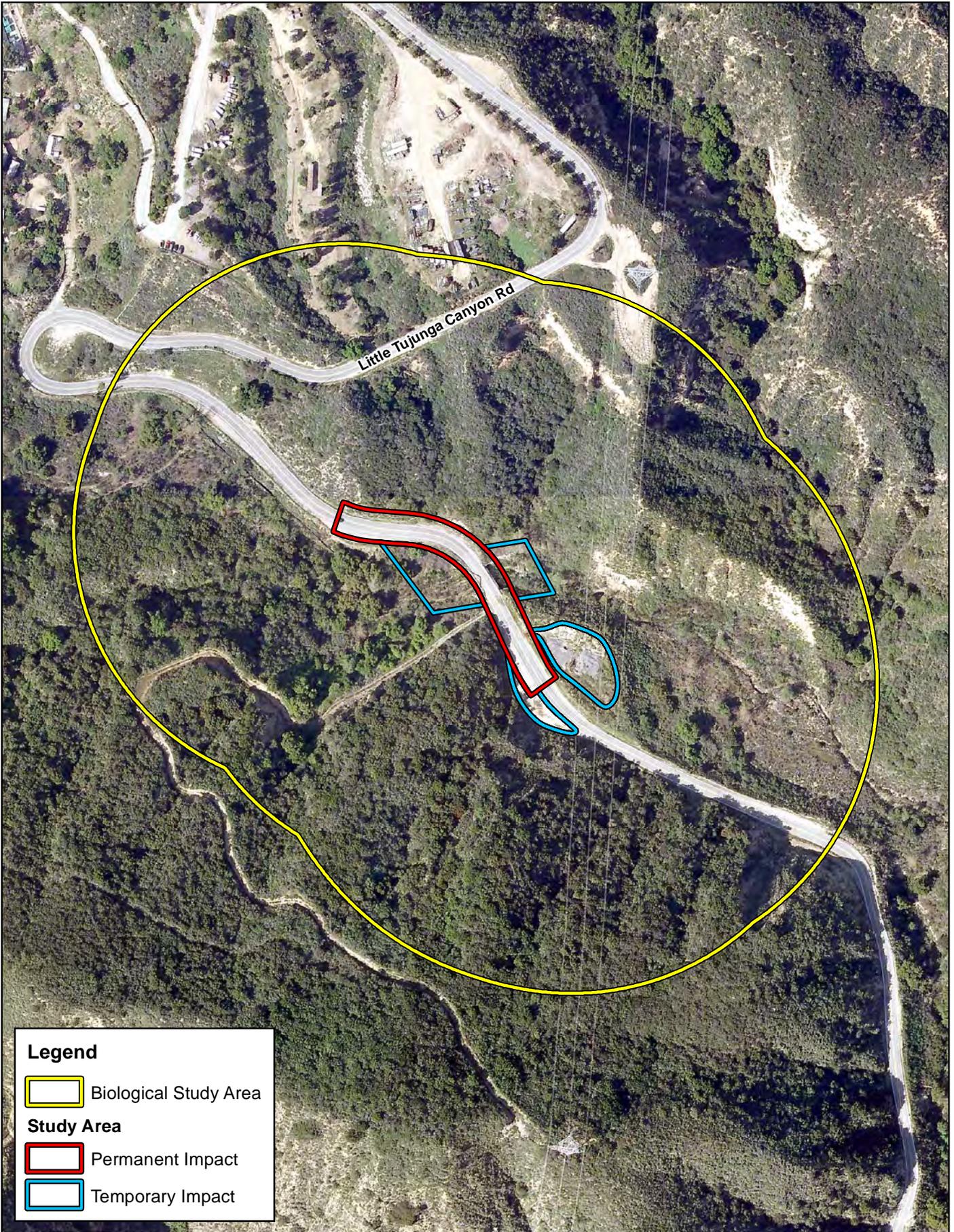
- Project Site
- Biological Study Area



Source: ArcGIS Online

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Site Vicinity

Figure 2



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Legend

- Biological Study Area

Study Area

- Permanent Impact
- Temporary Impact



Source: ArcGIS Online

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Project Site

Figure 3

The proposed project would implement the replacement of the existing bridge and reconstruction of the adjacent roadway to improve operations and safety in the project area. The new bridge would be a 65-foot-long, 42-foot-wide single-span precast, pre-stressed concrete I-girder structure supported by abutments on deep pile foundations across Buck Canyon Creek. The new bridge would consist of a 12-foot lane and 5-foot shoulder in each direction. Concrete barriers with tubular handrails would be installed on both sides of the bridge. New wingwalls would be constructed; the top of the new concrete deck is expected to be approximately one foot above the existing deck.

The project would also include approximately 385 feet of roadway reconstruction, including approximately 235 feet on the north side of the bridge and 150 feet on the south side of the bridge. The reconstructed roadway width would vary from the existing 26 feet to 34 feet, in order to accommodate the new travel lane and shoulder widths on the bridge. Metal beam guardrails would be installed at the approach corners.

The project would be constructed in two phases in order to keep the bridge open to the public throughout the construction period. It should be noted that access to the project site would occur from points within the project footprint. Phase 1 construction would occur at the east side of the existing bridge, and one-way traffic would be maintained on the west side of the bridge. Phase 2 construction would occur at the west side and one-way traffic would be maintained on the east side of the bridge.

Chapter 2 – Study Methods

This section provides the regulatory framework by which biological resources were reviewed for the proposed project and the methods used in determining the suitability of the habitat for given biological resources. There are several overlying Federal, State, and local biological resources regulations and policies that pertain to this project. These policies are summarized, along with a brief description of how they relate to the proposed project's planning, permitting, and implementation.

REGULATORY REQUIREMENTS

The project will be implemented to satisfy the requirements of applicable Federal and State regulations, and local policies, ordinances, or adopted plans protecting biological resources. Several of these regulations and/or environmental protection documents are summarized below.

FEDERAL

Federal Endangered Species Act of 1973

As defined within the Federal Endangered Species Act (FESA) of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, Federal law prohibits the "take" of any individuals or habitat of Federally-listed species. Under Section 9 of the FESA, take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" has been clarified to include "any act which actually kills or injures fish or wildlife and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." Enforcement of FESA is administered by the U.S. Fish and Wildlife Service (USFWS).

Critical habitat is designated for the survival and recovery of species listed as threatened or endangered under the FESA. Critical habitat includes those areas occupied by the species, in which are found physical and biological features that are essential to the conservation of an FESA-listed species, and which may require special management considerations or protection. Critical habitat may also include unoccupied habitat if it is determined that the unoccupied habitat is essential for the conservation of the species.

Whenever Federal agencies authorize, fund, or carry out actions that may adversely modify or destroy USFWS-designated Critical Habitat, they must consult with USFWS under Section 7 of the FESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing has a Federal nexus and uses Federal funds or requires Federal authorization or permits (e.g., funding from the Federal Highway Administration or a permit from the Corps). If USFWS determines that Critical Habitat will be lost or adversely modified from a proposed action, the USFWS will develop reasonable and prudent alternatives to ensure the purpose of the proposed action can be achieved without loss of Critical Habitat. If the action is not likely to adversely modify or destroy critical habitat, USFWS will include a statement in its biological opinion concerning any incidental take that may be authorized and specify terms and conditions to ensure the agency is in compliance with the opinion.

In the event that a Federally-listed species will be affected and there is no Federal nexus, the USFWS would require a Habitat Conservation Plan (HCP) under Section 10 of the FESA prior to issuing an incidental take permit. HCPs are required to include an impact assessment, minimization or mitigation measures, and reasonable and prudent alternatives and the reasons for not taking them. As in Section 7 consultations, the approval of an HCP and associated Implementation Agreement (if required) will necessitate a Biological Opinion from the USFWS, which will include any additional measures that USFWS feels are necessary to properly protect the resource(s) being permitted for take.

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S. Code [USC] 703) of 1918, as amended in 1972, Federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 Code of Federal Regulations [CFR] 10, 21). The statute states the following:

Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions...

The Act covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls)

The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds, and many other relatively common species.

Federal Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) jointly regulate discharges of dredged or fill material into “waters of the U.S.” (WoUS), including wetland and non-wetland aquatic features, pursuant to Section 404 of the Federal Clean Water Act (CWA). Section 404 is founded on the findings of a significant nexus (or connection) between the aquatic feature in question and interstate commerce via Relatively Permanent Waters (RPW), and ultimately Traditional Navigable Waters (TNW). The term WoUS is defined under 33 CFR Section 328.3(a). The Corps typically regulates as WoUS any aquatic feature displaying and ordinary high water mark (OHWM), or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding

area.” Wetlands, a subset of jurisdictional waters, jointly defined by the Corps and EPA, are defined as “Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.”

Applicants for a federal license or permit for activities which may discharge to WoUS must seek Water Quality Certification from the state or Indian tribe with jurisdiction. Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, there are nine (9) Regional Water Quality Control Board (Regional Board) regions that issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which are defined as numeric and narrative objectives in each Regional Board’s Basin Plan.

Where applicable, the State Water Resources Control Board has this responsibility for projects affecting waters within multiple Regional Boards. The Regional Board’s jurisdiction extends to all waters of the State and to all WoUS, including wetlands.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) provides for the protection of the environment within the State of California by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives and/or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by lead agencies. Section 15380 of the California Environmental Quality Act Guidelines independently defines “endangered” and “rare” species separately from the definitions in the California Endangered Species Act (CESA). Under CEQA, “endangered” species of plants or animals are defined as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act

In addition to Federal laws, the State of California has its own Endangered Species Act, the CESA, which is enforced by the California Department of Fish and Wildlife (CDFW). The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers

throughout its range that it may become endangered if its present environment worsens. State-listed as threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a Species of Special Concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection. At the Federal level, USFWS also uses the label species of concern, as an informal term that refers to species that might be in need of concentrated conservation actions.

As the species of concern designated by USFWS do not receive formal legal protection, the use of the term does not necessarily ensure that the species will be proposed for listing as a threatened or endangered species.

California Fish and Game Code

Sections 3503, 3503.5, 3511, and 3513

The CDFW administers the California Fish and Game Code (CFGC). There are particular sections of the Code that are applicable to natural resource management. For example, Section 3503 of the Code makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the MBTA. Further, any birds in the orders Falconiformes or Strigiformes (Birds of Prey, such as hawks, eagles, and owls) are protected under Section 3503.5 of the Code which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with CDFW may be required prior to the removal of any bird of prey nest that may occur on a project site. Section 3511 of the Code lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are State fully protected include golden eagle (*Aquila chrysaetos*) and white-tailed kite (*Elanus leucurus*). Section 3513 of the Code makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Sections 1600 et seq.

CFGC Section 1600 *et seq.* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. Section 1602 of the Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to CFGC Section 1602, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. This includes activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators.

Native Plant Protection Act

CFGF Sections 1900–1913 were developed to preserve, protect, and enhance Rare and Endangered plants in the State of California. The act requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use that would adversely affect listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Native Plant Society Rare and Endangered Plant Species

Vascular plants listed as rare or endangered by the California Native Plant Society (CNPS), but which have no designated status under State and Federal endangered species legislation are defined as follows:

California Rare Plant Rank (CRPR)

- 1A - Plants Presumed Extirpated in California and either Rare or Extinct Elsewhere
- 1B - Plants Rare, Threatened, or Endangered in California and Elsewhere
- 2A - Plants Presumed Extirpated in California, But More Common Elsewhere
- 2B - 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

Threat Ranks

- .1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 - Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- .3 - Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

LOCAL

Los Angeles County General Plan

The Los Angeles County General Plan 2035 contains a goal (Goal C/NR 3) to permanently and sustainably preserve genetically and physically diverse biological resources and ecological systems, including habitat linkages, forests, the coastal zone, riparian habitats, streambeds, wetlands, woodlands, alpine habitat, chaparral, shrublands, and Significant Ecological Areas (SEA). To achieve this goal, the County has created eleven policies. Those policies that are relevant to the general area include the following:

- 1) Policy C/NR 3.1: Conserve and enhance the ecological function of diverse natural habitats and biological resources;

- 2) Policy C/NR 3.3: Restore upland communities and significant riparian resources, such as degraded streams, rivers, and wetlands to maintain ecological function;
- 3) Policy C/NR 3.8: Discourage development in areas with identified significant biological resources, such as SEAs; and
- 4) Policy C/NR 3.11: Discourage development in riparian habitats, streambeds, wetlands, and other native woodlands in order to maintain and support their preservation in a natural state, unaltered by grading, fill, or diversion activities.

STUDIES REQUIRED

The studies required for the proposed project include a general biological resources survey, a formal delineation of jurisdictional waters/wetlands and streambeds, and a focused rare plant survey. Pre-construction plant and wildlife clearance surveys are recommended to avoid impacts to special-status species. The following subsections provide the basis for these studies and the methods used.

BIOLOGICAL RESOURCES SURVEY

Michael Baker's initial work effort included a literature review and a biological resources survey to document baseline conditions within the BSA.

Literature Review

Prior to conducting the field visit, a database records search was conducted for special-status biological resources potentially occurring on or within the vicinity of the BSA. Previously recorded occurrences of special-status¹ plant and wildlife species within a 5-mile radius of the project footprint were determined through a query of the CDFW California Natural Diversity Database (CNDDB) Rarefind 5 (CDFW, Biogeographic Data Branch 2016), in conjunction with ArcGIS software. The CNPS Online Inventory of Rare and Endangered Vascular Plants of California was queried within the USGS Sunland, California 7.5-minute quadrangle (CNPS 2017). In addition, a Species List was generated from the USFWS Information for Planning and Conservation (IPaC) database on February 1, 2017 (USFWS 2017a), refer to Appendix A, *United States Fish and Wildlife Service Species List*). The *Special Animals List* (CDFW 2017a) and the *Special Vascular Plants, Bryophytes, and Lichens List* (CDFW 2017b) were reviewed for the current status of rare and endangered plant and wildlife species.

Literature detailing biological resources previously observed in the vicinity of the BSA and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on special-status and non-special-status biological resources were reviewed for habitat requirements, as well as the United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS), *Soil Survey of the Angeles National Forest Area, California* (USDA, NRCS 1987); and USFWS Critical Habitat designations for Threatened and Endangered Species.

¹ As used in this report, "special-status" refers to plant and animal species that are Federally or State listed, proposed, or candidates; plant species that have been designated a CNPS California Rare Plant Rank; and animal species that are designated by the CDFW as fully protected, species of special concern, or watch list species.

The literature review provided a baseline from which to inventory the biological resources potentially occurring within the BSA. Additional recorded occurrences of these species found on or near the BSA were derived from database queries. The CNDDDB was used, in conjunction with Google Earth Pro, to locate the nearest occurrence and determine the distance from the BSA.

Field Reviews

Michael Baker is not aware of any field reviews conducted on the proposed project site prior to Michael Baker's biological resources survey, jurisdictional delineation, and rare plant survey.

Survey Methods

Biological Resources Survey/Field Investigation

The BSA included the proposed temporary and permanent project footprint and a 500-foot buffer. Plant communities identified on aerial photographs during the literature review were verified by walking meandering transects through the plant communities and along boundaries between plant communities. The plant communities were evaluated for their potential to support special-status plant and wildlife species. In addition, field staff identified any jurisdictional features, riparian/riverine habitat, and any natural corridors and linkages that may support the movement of wildlife through the area.

Special attention was given to natural communities of special concern and/or undeveloped areas, which have higher potential to support special-status plant and animal species such as those identified during the records search. The BSA was surveyed by walking throughout accessible areas, including areas not steep-sloped and/or densely vegetated, varying depending upon visibility given the vegetative structure, and by making general observations from a dirt access road to the west and Little Tujunga Canyon Road using binoculars to maximize visual coverage.

All plant and wildlife species observed, as well as dominant plant species within each plant community, were recorded (refer to Appendix B, *2017 Plant and Wildlife Species Observed List*; refer to Appendix F, *2018 Rare Plant Survey Results*, for an updated plant species observed list). Wildlife detections were made through observation of scat, trails, tracks, burrows, nests, and/or visual and aural observation. In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, condition of on-site plant communities, and presence of potential jurisdictional drainage and/or wetland features were noted.

Soil Series Assessment

On-site and adjoining soils were researched prior to the field visit using the USDA, NRCS Soil Survey (1987). In addition, a review of the local geological conditions and historical aerial photographs was conducted to assess the ecological changes the BSA has undergone.

Plant Communities

Plant communities were mapped in the field using recent aerial photography. Classification of the on-site vegetation communities and other land uses is based on the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland

1986), with modifications to better represent existing conditions in the field using the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), an expanded vegetation classification system based on Holland (1986).

Plants

Common plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Plant species nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012). All plant species encountered were noted and identified at minimum to the lowest possible taxonomic level necessary to determine rarity. In this report, scientific names are provided immediately following common names of plant species (first reference only).

Wildlife

Wildlife identification and nomenclature followed standard references, including The American Ornithologists' Union (AOU) *Checklist of North and Middle American Birds* (AOU 1998), the *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, With Comments Regarding Confidence In Our Understanding* (Crother 2012), and *Mammals of North America, Second Edition* (Kays and Wilson 2009). All wildlife observed and/or otherwise detected through sign (e.g., tracks, scat) were recorded. Other wildlife may occupy the site but are not easily detectable during the day (i.e., nocturnal) and without extraordinary survey efforts during the appropriate season, in addition to several species being transient and potentially occupying the site other times of the year. Although common names of wildlife species are fairly well standardized, scientific names are provided immediately following common names in this report (first reference only).

JURISDICTIONAL DELINEATION

Michael Baker conducted a jurisdictional delineation (refer to Appendix C) in order to delineate the Corps, Regional Water Quality Control Board (RWQCB), and CDFW jurisdictional limits within the BSA. The delineation report was prepared to address the impacts of the proposed project to jurisdictional features.

Literature Review

Prior to the field delineation, a literature review and records search were conducted to determine watershed characteristics and the locations/types of aquatic resources that may be present within the BSA. High-resolution aerial photographs (Google Earth Pro 2017), USFWS National Wetlands Inventory (NWI) maps (USFWS 2017b), USGS topographic maps were examined to determine the potential areas of Corps, Regional Board, and CDFW jurisdiction within the BSA. The USDA, NRCS Web Soil Survey (USDA, NRCS 2017) was referenced for soil types identified within the project site and BSA. The National Hydric Soils List (USDA, NRCS 2015) was referenced to identify soils mapped within the survey area that are considered to be hydric. The literature review provided a baseline from which to document jurisdictional resources occurring on the project site.

Field Reviews

Michael Baker is not aware of any field reviews conducted on the proposed project site prior to Michael Baker's biological resources survey, jurisdictional delineation, and rare plant survey.

Survey Methods

Jurisdictional Delineation/Field Investigation

The purpose of this jurisdictional delineation was to define areas within the BSA that may fall within the jurisdiction of the Corps and Regional Board as wetland- and non-wetland WoUS pursuant to Sections 404 and 401 of the CWA, respectively; the Regional Board as "waters of the State" pursuant to Section 13263 of the Porter-Cologne Water Quality Control Act (Porter-Cologne); and CDFW as "streambed/banks and associated riparian vegetation" pursuant to CFGC Sections 1600 *et. seq.*

The methodologies practiced during the field delineation and preparation of the Jurisdictional Delineation Report were in accordance with *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008a) to identify non-wetland WoUS; *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Regional Supplement; Corps 2008b) and 1987 Corps Wetland Delineation Manual (1987 Manual; Environmental Laboratory 1987) to identify wetland WoUS; *National Hydric Soils List 2015* (USDA, NRCS 2015); *Munsell Soil Color Charts* (Munsell Color 2009); and the most recent guidelines from CDFW. The following 3-parameter criteria were used to identify the limits of wetland WoUS:

Hydrophytic Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, herb, and woody vine layers) are considered hydrophytic. Each species is rated according to a wetland indicator category, as shown below. To be considered hydrophytic, the species must have wetland indicator status (i.e., be rated as OBL, FACW, or FAC).

- | | | |
|-----------------------|------|--|
| • Obligate Wetland | OBL | Plants that occur almost always (estimated >99 percent) in wetlands under natural conditions, but which may also occur rarely (estimated <1 percent) in non-wetlands |
| • Facultative Wetland | FACW | Plants that occur usually (estimated >67 to 99 percent) in wetlands, but also occur (estimated 1 to 33 percent) in non-wetlands |
| • Facultative | FAC | Plants with similar likelihood (estimated 33 to 67 percent) of occurring in both wetlands and non-wetlands |
| • Facultative Upland | FACU | Plants that occur sometimes (estimated 1 to <33 percent) in wetlands, but occur more often (estimated >67 to 99 percent) in non-wetlands |
| • Upland | UPL | Plants that occur rarely (estimated 1 percent) in wetlands, but occur almost always (estimated >99 percent) in non-wetlands under natural conditions |

Hydric Soils

Hydric soils include soils that are saturated, inundated, flooded, or ponded for long enough periods of time (generally one week or more) during the growing season to develop anaerobic conditions and/or soil depletion within the upper surface horizons as indicated in the Regional Supplement.

Wetland Hydrology

Under natural conditions, development of hydrophytic vegetation and hydric soils is dependent on a third characteristic: wetland hydrology. Areas with wetland hydrology are those where the presence of water has an overriding influence on vegetation and soil characteristics due to anaerobic and reducing conditions, respectively (1987 Manual). The wetland hydrology parameter is satisfied if the area is seasonally inundated or saturated to the surface for a minimum of 14 consecutive days during the growing season in most years. Indicators commonly used to identify wetland hydrology include visual observation of inundation or saturation, watermarks, recent sediment deposits, surface scour, and oxidized root channels (rhizospheres) resulting from prolonged anaerobic conditions.

The delineation was conducted on foot and included a systematic inspection and evaluation of all hydrogeomorphic² features present within the survey area. The channel widths within drainage features were measured based on the discernible OHWM in order to quantify acreage and linear feet of potential WoUS. Where there were observed changes in the OHWM width, transects were recorded to obtain an accurate representation of the entire reach of each feature. Width of streambed and bank and associated riparian vegetation and/or wildlife resources were also measured in order to quantify potential jurisdictional streambed. The lateral extent potential jurisdictional streambed was measured from top of active bank to bank, or to the drip-line of the associated riparian vegetation where it extends beyond the bank of the channel, whichever is greater.

Data were collected using the ESRI ArcGIS Collector application on an Apple iPad connected via Bluetooth to an iSX Blue II+ GNSS Global Positioning System (GPS) unit with sub-meter accuracy for recording and identifying soil pits, picture locations, and the jurisdictional limits of hydrological and aquatic features. A Garmin GPS Map62 unit was also used to record and identify soil pits and drainage features. These data were then transferred as shapefiles, added to the jurisdictional map, and measurements calculated using Geographic Information System (GIS) software on 1 inch = 200 feet scale aerial imagery.

RARE PLANT SURVEY

Michael Baker conducted a focused rare plant survey in which the report (included herein as Appendix F) was prepared to address impacts to special-status plant species.

² Hydrogeomorphic features include land forms characterized by a specific origin, geomorphic setting, water source, and hydrodynamic.

Literature Review

Target species included those identified as having a moderate or high potential for occurrence based on the records searches and habitat suitability assessment conducted in January 2017.

Field Reviews

Michael Baker is not aware of any field reviews conducted on the proposed project site prior to Michael Baker's biological resources survey, jurisdictional delineation, and rare plant survey.

Survey Methods

The 2018 rare plant survey was conducted following the most recent CDFW rare plant survey guidelines (CDFW 2018). It was conducted using systematic field techniques in all habitats of the project site (disturbance footprint) to ensure thorough coverage of potential impact areas, while traversing steep, densely vegetated slopes where accessible and practical (and using binoculars otherwise) within other portions of the BSA. The field visits were conducted during the peak blooming periods for many plant species, but particularly for those with the potential to occur on-site based on the database reviews, known habit preferences and distribution, and subsequent determination of potential for occurrence. The survey was floristic in nature, meaning that all plant taxon observed on-site was identified to the lowest taxonomic level necessary to determine rarity or listing status. Rare plant observations of individuals or populations were recorded using a Garmin GPSMAP 64 GPS unit, transferred as shape files, and mapped using GIS software.

PERSONNEL AND SURVEY DATES

Michael Baker biologists Daniel Rosie and Stephen Anderson inventoried and evaluated the biological conditions within the boundaries of the project site and BSA on January 25, 2017. A jurisdictional delineation was also conducted by Mr. Rosie and Mr. Anderson during the January 25 site investigation. Further, a rare plant survey was conducted by Mr. Rosie (senior botanist) and Michael Baker biologists Ryan Phaneuf or Linda Nguyen on April 18, May 16, and June 15, 2018.

AGENCY COORDINATION AND PROFESSIONAL CONTACTS

No agency coordination or professional contacts have been initiated at this time for the NES.

LIMITATIONS THAT MAY INFLUENCE RESULTS

All field studies were conducted in accordance with applicable protocols and in a way to maximize the detectability of special-status species that may be present within the BSA during the time of the survey. The survey was conducted by experienced and qualified personnel during good weather conditions.

Chapter 3 – Results: Environmental Setting

The BSA is located in the San Gabriel Mountains of the Angeles National Forest approximately 4 miles north of Interstate 210 and approximately 3 miles east of Sylmar, along Little Tujunga Canyon Road at the Buck Canyon drainage, in an unincorporated location of Los Angeles County, California. The BSA consists of steep hills to moderately steep slopes dominated by a mosaic and/or various combinations of Diegan coastal sage scrub and southern mixed chaparral, with compositions of species from both at their ecotones. According to historical aerial imagery in Google Earth Pro (2017), the site has undergone little change since 1994. The immediately surrounding area is generally undeveloped, with the exception of the Wildlife Waystation to the north, which consists of an animal sanctuary within a small rural area. Also on the northeastern border of the BSA is a Southern California Edison (SCE) lattice tower staging area (tower pad), the tower supporting an electric transmission line that spans the eastern half of the BSA. Buck Canyon Creek conveys flows west to east through the center of the project site.

DESCRIPTION OF THE EXISTING BIOLOGICAL AND PHYSICAL CONDITIONS

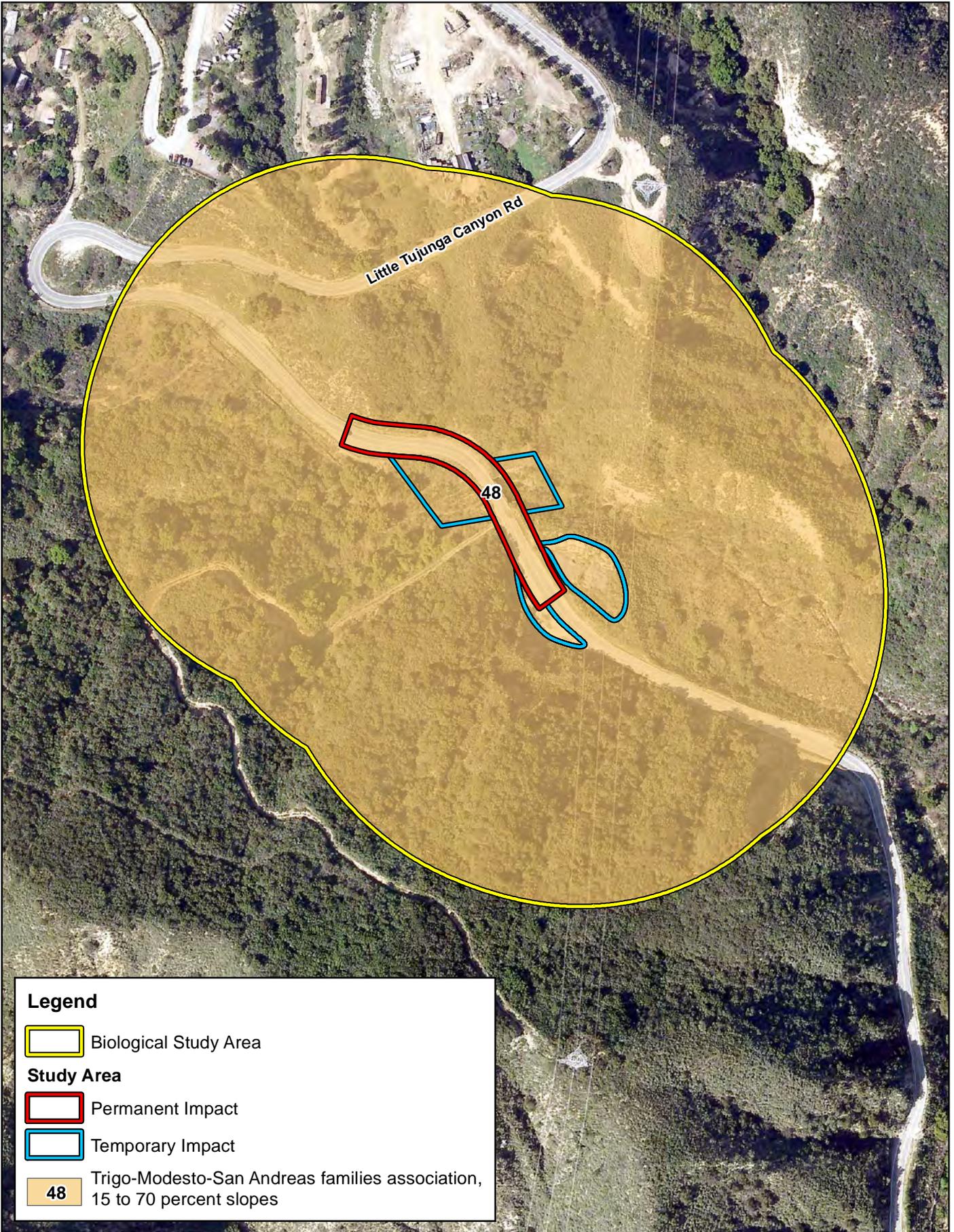
STUDY AREA

The BSA identified for the proposed project includes the project footprint (incorporating the potential design plans and limits of disturbance during construction) and a 500-foot radius buffer around the project footprint (refer to Figure 3). The 500-foot buffer was established to evaluate areas that have the potential to be indirectly affected by the proposed project. The area within the BSA surrounding the project footprint is generally undeveloped. A small portion of rural development is located at the northern end of the BSA, immediately north of Little Tujunga Canyon Road, just marginally within the project footprint. The remainder of the BSA is generally undisturbed and undeveloped, with the exception of Little Tujunga Canyon Road and an unpaved road to the southwest. Refer to Appendix D, *Site Photographs*, for representative photographs of the BSA.

PHYSICAL CONDITIONS

Surface elevations within the BSA range from approximately 2,095 to 1,765 feet above mean sea level (amsl), with elevations within the project site varying between approximately 1,845 feet above mean sea level (amsl) at the north end on Little Tujunga Canyon Road to approximately 1,805 feet amsl at the downstream end of Buck Canyon Creek. On-site and adjoining soils were researched prior to the field visit using the USDA NRCS, Soil Survey³. Soils within the BSA consist of the Trigo-Modesto-San Andreas families association (Figure 4, *USDA Soils*). Buck Canyon Creek conveys flows generally northwest to southeast through the center of the project site, underneath Little Tujunga Canyon Road. Buck Canyon Creek within the project site is mapped as a freshwater forested/shrub wetland feature by the NWI, with tributaries and areas further upstream and downstream of Buck Canyon Creek described as riverine. However, all of

³ A soil series is defined as a group of soils with similar profiles developed from similar parent materials under comparable climatic and vegetation conditions. These profiles include major horizons with similar thickness, arrangement, and other important characteristics, which may promote favorable conditions for certain biological resources.



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Legend

- Biological Study Area
- Study Area**
- Permanent Impact
- Temporary Impact
- 48 Trigo-Modesto-San Andreas families association, 15 to 70 percent slopes



Source: County of Los Angeles

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
USDA Soils

Figure 4

these resources are ephemeral, with potential intermittence upstream of the project site. A series of significant rain events had occurred for several days, ending two to three days prior to the site visit.

BIOLOGICAL CONDITIONS IN THE BIOLOGICAL STUDY AREA

Plant Communities

Six natural plant communities, including two other land uses, were observed within the BSA (Figure 5, *Vegetation Communities, Land Uses, and Special-Status Plant Species*): oak riparian woodland, southern willow scrub, mule fat scrub, Diegan coastal sage scrub, southern mixed chaparral, disturbed habitat, bare ground, and developed areas. These native plant communities and previously human-modified areas to which impacts do not require mitigation are described in further detail below. For a complete list of plant species observed during the 2017 survey, refer to Appendix B, *Plant and Wildlife Species Observed List*. Refer to Appendix F for an updated plant list generated from the 2018 rare plant survey discussed below.

Oak Riparian Woodland

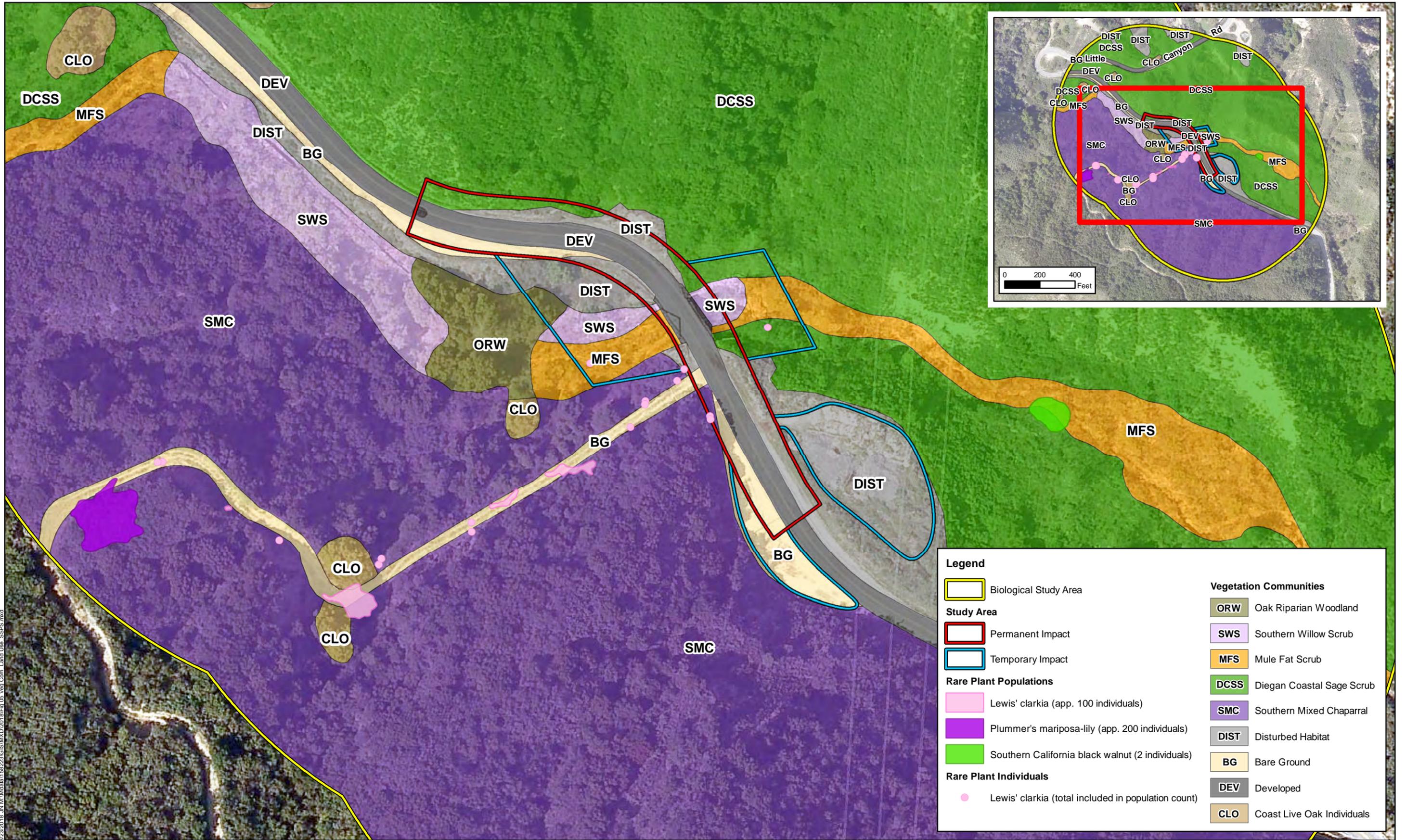
Oak riparian woodland was observed within the BSA upstream of the bridge, totaling approximately 0.02 acre within the project site (temporary impacts only). Coast live oak (*Quercus agrifolia*), as associated with Buck Canyon Creek, dominates this vegetation community. Individuals of coast live oak are scattered throughout the BSA, but do not constitute woodlands, rather are small components of the upland scrub community where they occur.

Southern Willow Scrub

Approximately 0.11 acre of southern willow scrub was mapped within the project site upstream and downstream of the bridge (impacts: 0.02 acre permanent / 0.09 acre temporary). Dominant species upstream include sandbar willow (*Salix exigua*) along the northern terrace, with an upland species in the understory, including common ripgut grass (*Bromus diandrus*) and California sagebrush (*Artemisia californica*), likely established as a result of a prolonged drought. Downstream within the project site, southern willow scrub is dominated by arroyo willow (*Salix lasiolepis*), and to a lesser extent by mule fat (*Baccharis salicifolia*), California mugwort (*Artemisia douglasiana*), established upland grasses, and an individual blue elderberry (*Sambucus nigra* ssp. *caerulea*). Further upstream within the BSA are patches of southern willow scrub dominated by arroyo willow. Further downstream within the BSA are remnants of a partially riparian vegetated floodplain with scattered individuals of arroyo willow. However, upland scrub dominates these areas perhaps as a result of the drought.

Mule Fat Scrub

Mule fat scrub was observed immediately west of the bridge, totaling approximately 0.15 acre within the project site (impacts: 0.01 acre permanent / 0.14 acre temporary). Dominants include mule fat, with widely scattered upland species likely present due to the drought. In the BSA, mule fat scrub continues upstream within Buck Canyon Creek, and downstream along the banks of an otherwise scoured channel surrounded by upland scrub.



8/23/2018 J:\M:\data\156223\GIS\MapX\2018\Fig 05_Veg Com_Land Use_SSPS.mxd



Source: County of Los Angeles

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Vegetation Communities, Land Uses, and Special-Status Plant Species

Diegan Coastal Sage Scrub

Diegan coastal sage scrub was observed dominating south-facing slopes, with a total of approximately 0.19 acre within the project site (impacts: 0.09 acre permanent / 0.10 acre temporary). Dominant species include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), toyon (*Heteromeles arbutifolia*), deerweed (*Acemisson glaber*), and chaparral yucca (*Hesperoyucca whipplei*). As previously mentioned, several isolated individuals or small groups of coast live oak are scattered throughout the sage scrub and chaparral communities.

Southern Mixed Chaparral

Southern mixed chaparral was observed dominating north-facing slopes, and totals approximately 0.03 acre within the project site (impacts: 0.01 acre permanent / 0.02 acre temporary). Dominants within this vegetation type include scrub oak (*Quercus berberidifolia*), mountain mahogany (*Cercocarpus betuloides*), thicket leaf yerba santa (*Eriodictyon crassifolium*), chamise (*Adenostoma fasciculatum*), and sugar bush (*Rhus ovata*).

Disturbed Habitat

A total of approximately 0.65 acre of disturbed habitat was mapped within the project site (impacts: 0.20 acre permanent / 0.45 acre temporary), which includes areas previously affected areas and therefore now dominated by non-native species such as areas adjacent to Little Tujunga Canyon Road and a proposed staging area east of the road. This vegetation community includes scattered combinations of common ripgut grass, red brome (*Bromus rubens*), smilo grass (*Stipa miliacea*), short-pod mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), and filaree (*Erodium* spp.). Impacts to this vegetation community does not require mitigation.

Bare Ground

Bare ground consists of areas primarily devoid of vegetation, including dirt access roads and the shoulders/turnouts along Little Tujunga Canyon Road, including the other proposed staging area west of the road. There is approximately 0.23 acre of bare ground mapped within the project site (impacts: 0.12 acre permanent / 0.11 acre temporary). Impacts to this land use type does not require mitigation.

Developed

Developed portions of the project site and BSA include the paved, impervious surface of Little Tujunga Canyon Road and the bridge over Buck Canyon Creek. Within the project site, developed areas total approximately 0.33 acre (impacts: 0.33 acre permanent / 0.00 acre [i.e., negligible] temporary). Impacts to this land use type does not require mitigation.

Wildlife

Plant communities provide food sources, nesting and denning sites, and cover and protection from adverse weather or predation. This section provides a discussion of those animal species observed, expected, or not expected to occur on-site. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions in which the survey was conducted. Wildlife observations were based on calls, songs, scat, tracks, burrows and actual sightings of animals. For a complete list of wildlife

species observed during the survey, refer to Appendix B, *Plant and Wildlife Species Observed List*.

Fish

Although surface waters were flowing at the time of the survey, no fish were observed or are expected to occur within the BSA. The nearest water body suitable to support fish species is located over 4 miles south, Big Tujunga Creek.

Amphibians

No amphibians were observed on or within the vicinity of the BSA. Buck Canyon Creek and the surrounding uplands provide habitat suitable to support amphibian species such as tree frogs (*Pseudacris* spp.) and newts and salamanders (Family Salamandridae).

Reptiles

No reptile species were observed in the BSA during the field survey, but likely due to relatively cold weather on the day of the survey and the recent rains, many of which are still aestivating (i.e., in a prolonged state of torpor or dormancy). Nonetheless, the BSA provides habitat suitable to support a number of reptile species, including a number of commonly-occurring snakes and lizards (Order Squamata).

Birds

The plant communities found within the BSA provide suitable nesting and foraging opportunities for a limited variety of resident and migrant avian species. A total of 12 avian species were detected during Michael Baker's biological resources survey, including common raven (*Corvus corax*), western scrub-jay (*Aphelocoma californica*), California towhee (*Melospiza crissalis*), Bewick's wren (*Thryomanes bewickii*), and yellow-rumped warbler (*Setophaga coronata*).

Mammals

Two mammals were detected in the BSA during the field survey via direct observation or via sign: California ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*). Most mammal species are nocturnal and are difficult to observe during a diurnal field survey. Nonetheless, the BSA provides suitable habitat for a number of other mammalian species, including coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), desert cottontail (*Sylvilagus audubonii*), rats and mice (Order Rodentia), and other commonly-occurring species. Further, although no evidence was observed, bats (order Chiroptera) could roost under the overpass and likely forage throughout the BSA.

Jurisdictional Areas

There are three agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Branch regulates discharge of dredge or fill materials into WoUS pursuant to Section 404 of the Federal CWA and Section 10 of the Rivers and Harbors Act. The CDFW regulates alterations to streambed and bank under CFGC Sections 1600 *et seq.*, and the Regional Board regulates discharges into surface waters pursuant to Section 401 of the CWA and Section 13263 of the Porter-Cologne.

There are two drainage features within the project site, Buck Canyon Creek mapped by NWI as freshwater forested/shrub wetland and an unnamed, earthen tributary (Tributary A) mapped by NWI as riverine. Within the BSA, Buck Canyon Creek is an earthen, ephemeral drainage feature (with the exception of the Little Tujunga Canyon Road bridge/abutments and a concrete apron energy dissipater downstream of the bridge). It conveys storm flows in a generally northwest to southeast direction originating over 2 miles to the west, through patches of riparian corridors, the project site, and approximately 0.25-mile further to Little Tujunga Creek located outside of the BSA. Two other earthen, ephemeral tributaries to Buck Canyon Creek (Tributaries B and C) are present within the BSA. Two non-jurisdictional features were observed and mapped south of Little Tujunga Canyon Road, one fed by access road runoff and terminating at Little Tujunga Canyon Road and the other, albeit culverted, showing no evidence of an OHWM before or after the old, primarily buried culvert.

Flows from Buck Canyon Creek, a direct tributary to Little Tujunga Creek, are conveyed to the Hansen Flood Control Basin. In the extraordinary event that the basin capacity is exceeded, flows would be conveyed through a box culvert to Los Angeles River via the concrete-lined portion of remainder of Tujunga Wash. Flows from there are conveyed via the concrete-lined Los Angeles River (RPW), thereby providing a significant nexus to a TNW, the Pacific Ocean.

Within the BSA and OHWM, Buck Canyon Creek and its tributaries are considered non-wetland WoUS subject to Corps and Regional Board jurisdiction pursuant to CWA Sections 404 and 401, respectively. Within the proposed project site, there is approximately 0.05 acre of permanent impacts and 0.11 acre of temporary impacts to non-wetland WoUS (376 linear feet). Further within the BSA, the streambed and active banks of Buck Canyon Creek and its tributaries, and extending to the drip-line of the associated riparian vegetation where present (Buck Canyon Creek only), are subject to CDFW jurisdiction pursuant to CFGC Sections 1600 *et seq.*, within the project site totaling approximately 0.07 acre of permanent impacts and 0.30 acre of temporary impacts to primarily riparian-vegetated streambed.

HABITAT CONNECTIVITY

Habitat linkages provide links between larger undeveloped habitat areas that are separated by development. Wildlife corridors are similar to linkages, but provide specific opportunities for animals to disperse or migrate between areas. A corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species but inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging. Additionally, open space can provide a buffer against both human disturbance and natural fluctuations in resources.

The BSA is relatively undeveloped, thereby limiting the restrictions of wildlife movement, with the bridge allowing for safe, unimpeded crossing under Little Tujunga Canyon Road. The project (bridge replacement and approach improvements) is not expected to affect existing opportunities for wildlife movement.

REGIONAL SPECIES AND HABITATS AND NATURAL COMMUNITIES OF CONCERN

The CNDDDB was queried for reported locations of listed and special-status plant and animal species as well as special-status natural plant communities within a 5-mile radius.

A search of published records of these species within this area was conducted using the CNDDDB Rarefind 5 online software. The CNPS Inventory of Rare and Endangered Plants of California supplied information regarding the distribution of other special-status plants in the vicinity of the BSA. In addition, the IPaC database was searched for special-status wildlife species that USFWS believes may occur within the vicinity of the project site. The habitat assessment was used to assess the potential for the plant communities found on-site to provide suitable habitat for relevant special-status plant and animal species.

The CNDDDB, CNPS, and USFWS literature search identified thirteen (13) special-status plant species and twenty-one (21) special-status animal species as having the potential to occur within the queried area (refer to Appendix E, *Potentially Occurring Special-Status Biological Resources*). Six (6) natural communities of special concern were identified as potentially occurring. Special-status plant and animal species were evaluated for their potential to occur within the project boundaries based on habitat requirements, availability and quality of suitable habitat, and known distributions. Appendix E summarizes conclusions from analysis and field surveys regarding the potential occurrence of listed and special-status plant and animal species within the project site and BSA. No special-status wildlife species were observed within the BSA, whereas special-status plant species and components of special-status vegetation communities are present within the project site and BSA.

Rare Plants

A total of two hundred and five (205) plant species were observed within the BSA during the 2018 rare plant survey, each identified to the lowest taxonomic level necessary to determine rarity or listing status. Of those, approximately 70 percent (143 species) are native; the other 62 species are non-native. Three (3) special-status plant species were observed during the survey (refer to Figure 5): Plummer's mariposa-lily (*Calochortus plummerae*; CRPR 4.2), Lewis' clarkia (*Clarkia lewisii*; CRPR 4.3), and southern California black walnut (*Juglans californica*; CRPR 4.2). A total of five (5) individuals of Lewis' clarkia were observed within the project footprint, one on each side of the bridge within the temporary impact areas above the southern bank of Buck Canyon Creek, and a few others along the western edge of the permanent impact area near the access road. No other individuals of rare plants were observed within the project footprint. Details of the 2018 rare plant survey are presented in Appendix F.

CRITICAL HABITAT

Critical Habitat refers to the specific areas within the geographical area of a species, at the time it is listed, which include those physical or biological features that are essential to the survival and eventual recovery of a species. Maintenance of these physical and biological features requires special management considerations or protection, regardless of whether individuals or the species are present or not.

The BSA is not located within any Federally-designated Critical Habitat; therefore, a Section 7 consultation with the USFWS will not be required for loss or adverse modification of Critical Habitat. The nearest Critical Habitat is located over 3 miles to the south and south east, designated for Santa Ana sucker (*Catostomus santaanae*), with Critical Habitat of coastal California gnatcatcher (*Poliophtila californica californica*) approximately 6 miles to the northwest.

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

HABITATS AND NATURAL COMMUNITIES OF SPECIAL CONCERN

Six (6) natural communities of special concern were identified during the CNDDDB records search as potentially occurring within the BSA: Riversidean alluvial fan sage scrub, southern California arroyo chub/Santa Ana sucker stream, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern mixed riparian forest, and southern sycamore alder riparian woodland. Within the project site are southern willow scrub and mule fat scrub, which were mapped by NWI as freshwater forested/shrub wetland. Further upstream is a patch of oak riparian woodland, with scattered individuals of western sycamore (*Platanus racemosa*) upstream and downstream of the project site, whereas no other areas are mapped within the BSA that fall under the categories listed above. Impacts to southern willow scrub and mule fat scrub will require permits/authorization from Corps, Regional Board, and CDFW, including compensatory mitigation approval as deemed appropriate.

SPECIAL-STATUS PLANT SPECIES

Special-status plant species are considered to be of special concern based on 1) Federal, State, or local laws regulating their development; 2) limited distributions; and/or 3) the presence of habitat required by the special-status plants occurring on-site. A total of thirteen (13) special-status plant species were identified during the CNDDDB, CNPS, and USFWS records search as potentially occurring within the BSA. Based on habitat requirements for specific species, availability and quality of habitats needed by special-status plant species, and known distribution, Plummer's mariposa-lily (*Calochortus plummerae*) was determined to have a high potential to occur within the BSA, while Catalina mariposa lily (*Calochortus catalinae*) and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), were determined to have a moderate potential. There is a low potential for Braunton's milk-vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), and slender-horned spineflower (*Dodecahema leptoceras*), these being State- and/or Federally-listed species, to occur within the project site and BSA as suitable habitat is marginally present; however, the nearest occurrences for these species are over 3 miles from the BSA. All other special-status plant species were determined to either have a low potential (some even less so within the project site) or are not expected to occur within the BSA.

Nonetheless, three (3) special-status plant species were observed during the 2018 rare plant survey: Plummer's mariposa-lily, Lewis' clarkia (*Clarkia lewisii*), and southern California black walnut (*Juglans californica*). No other special-status plant species were observed within the BSA, including Catalina mariposa-lily, Robinson's pepper-grass, Braunton's milk-vetch, Nevin's barberry, San Fernando Valley spineflower, slender-horned spineflower, or any other special-status species.

DISCUSSION OF PLUMMER'S MARIPOSA-LILY, CATLAINA MARIPOSA-LILY, ROBINSON'S PEPPER-GRASS, LEWIS' CLARKIA, AND SOUTHERN CALIFORNIA BLACK WALNUT

Survey Results

None of the aforementioned special-status plant species were observed within the BSA during the 2017 habitat assessment; however, three (3) special-status plant species were observed within the BSA during the 2018 rare plant survey (refer to Appendix F for details). These species all generally prefer coastal sage scrub, chaparral, and oak woodlands that are prevalent throughout the BSA. Habitat within the BSA is suitable to support these species, primarily in areas away from Little Tujunga Canyon Road. The closest available occurrences of these species to the BSA, as determined through CNDDDB, Calflora, or available survey data, are listed below, as well as their presence or potential to occur. Because none of the species below are currently listed under the FESA, there is no designated Critical Habitat for any of them.

- Plummer's mariposa-lily was not detected during the January 25, 2017, field survey; however, the survey was conducted outside its typical blooming period (May through July). The BSA, particularly north-facing slopes, provides chaparral, coastal sage scrub, and oak woodland habitat suitable to support this species; however, suitable habitat is marginally present within the project site. The closest known records for Plummer's mariposa-lily are from 1948 CNDDDB occurrences are located approximately 600 and 645 feet, with several others within a mile, east, southeast, and south of the BSA, and are presumed extant.

During the 2018 rare plant survey, a population of this species, estimated at approximately two hundred (200) individuals, was observed on a moderate, east-facing slope that was severely burned during the recent fire, located approximately 450 feet west of the project site near the edge of the BSA, immediately south of (with a few individuals within) an existing unpaved access road. No individuals were observed within the project site (refer to Figure 5). No other individuals or populations of Plummer's mariposa-lily were observed within the BSA during the survey.

- Catalina mariposa-lily was not detected during the 2017 field survey; however, the survey was conducted outside of this species' typical blooming period (March through May). The BSA's north-facing slopes provide chaparral, coastal sage scrub, and oak woodland habitat, which is marginally present within the project site. No occurrences have been documented by the CNDDDB within 5-miles of the BSA. Nonetheless, CNPS records show the nearest known occurrence (cn413 from 2016; Calflora) approximately 2 miles southeast of the BSA, with next nearest occurrence (JEPS61647 from 1920; Calflora) approximately 2 miles further southeast. Although Catalina mariposa-lily was determined to have a moderate potential to occur within the BSA, and a low potential to occur within the project site, no individuals of Catalina mariposa-lily were observed during the 2018 rare plant survey.
- Robinson's pepper-grass was not detected during the 2017 field survey, which was conducted within the early part of its typical blooming period (January through July). The BSA provides suitable chaparral and coastal sage scrub habitat throughout the BSA, whereas suitable habitat is marginally present within the project site. Multiple CNDDDB occurrences from 1917 are to the north within the east-west Dagger Flat Canyon, the closest approximately 1.25 miles from the BSA.

Further, a CNPS record (cn413 from 2016; Calflora) documents this species approximately 2 miles southeast of the BSA. Although Robinson's pepper-grass was determined to have a moderate potential to occur within the BSA and project site, no individuals of Robinson's pepper-grass were observed during the 2018 rare plant survey.

- Lewis' clarkia is considered synonymous with *C. bottae* (punch bowl clarkia; no CRPR) by the Jepson eFlora (Jepson Flora Project 2018). Multiple occurrences of Lewis'/punch bowl clarkia are recorded throughout the project region by Calflora (Calflora 2018). However, the CNDDDB does not recognize *C. bottae* as a special-status species; rather, it does recognize *C. lewisii*, but with no occurrence records. Therefore, the CNDDDB did not reveal this species during the database records search.

Nonetheless, several individuals of this species, estimated at approximately one hundred (100) individuals (mapped as subpopulations with ten or more, or individually), were observed within the BSA, primarily along the access road west of the project site as mentioned above. Most of these individuals are located outside of the project site, with single individuals observed on each side of the bridge within the temporary impact areas above the southern bank of Buck Canyon Creek, and a few others along the western edge of the permanent impact area near the access road (refer to Figure 5). No other individuals or populations of Lewis' clarkia were observed within the BSA during the survey.

- Southern California black walnut, although not observed during the 2017 general biological resources survey and with no occurrences of this species recorded within 5 miles of the BSA, was observed during the 2018 rare plant survey. Two (2) individuals of this species were observed within the BSA, approximately 150 feet east of the project atop the western bank of Buck Canyon Creek. These individuals, with one being mature and adjacent to the other, had a combined canopy of approximately 25 to 30 feet in diameter (refer to Figure 5). No other individuals of southern California black walnut were observed within the BSA during the survey.

Project Impacts

Three (3) special-status plant species were observed during the 2018 rare plant survey (refer to Figure 5). A population of approximately 200 individuals of Plummer's mariposa-lily was observed within the BSA, but well outside (over 400 feet) of the project site. Two (2) individuals of southern California black walnut were observed approximately 150 feet outside of the project footprint. No other individuals of these species were observed within the BSA; therefore, no impacts to Plummer's mariposa-lily or southern California black walnut are expected as a result of the project. A population of approximately 100 individuals of Lewis' clarkia was observed within the BSA. Although, most of these individuals are located outside of the project site, five (5) individuals of Lewis' clarkia were observed within the project footprint. Impacts to these individuals are expected as a result of project activities unless avoidance is feasible. No other individuals or populations of Lewis' clarkia were observed within the BSA during the survey.

Catalina mariposa-lily and Robinson's pepper-grass are known to occur within the vicinity, and suitable habitat is present throughout the BSA, but very limited within the project site. However, because Catalina mariposa-lily and Robinson's pepper-grass were not observed within the BSA during the 2018 rare plant survey, no impacts to these species are expected as a result of project activities.

Construction of the proposed project has the potential to result in a temporary loss of suitable habitat for these plant species, totaling approximately 0.10 acre of Diegan coastal sage scrub, 0.02 acre of southern mixed chaparral, and 0.02 acre of oak riparian woodland, with a permanent loss of approximately 0.09 acre of Diegan coastal sage scrub and 0.01 acre of southern mixed chaparral. Permanent or temporary indirect impacts to individuals could result from competition with invasive plant species if invasive plant seeds are spread into new areas during construction. Further, exposure to excessive dust could coat plants adjacent to the project site and affect photosynthesis, reducing plant vigor.

Avoidance and Minimization Efforts

The following measures are recommended to mitigate for possible direct and indirect impacts to special-status plant species:

BIO-1: Crews should avoid individuals of Lewis' clarkia and Plummer's mariposa-lily. Prior to construction, a qualified biologist should flag all individuals of these species located within the project footprint for avoidance, if feasible.

If avoidance is not feasible for constructability purposes, removal of these individuals of Lewis' clarkia or Plummer's mariposa-lily should be warranted considering the limited amount of loss relative to the local population size, and that these species are not listed for protection under the California or Federal Endangered Species Acts, rather are CRPR 4 species ("Plants of limited distribution – a Watch List"⁴), thereby affording them no legal protection other than at the discretion of the lead agency, Caltrans.

BIO-2: Construction and access limits shall be clearly staked prior to ground disturbing and vegetation clearing activities, and all equipment and personnel shall remain within the limits of work during all project-related activities.

BIO-3: Fugitive dust shall be contained to the maximum extent possible via the use of an on-site water truck(s). This may require watering areas multiple times per day depending on weather.

BIO-4: All construction equipment, if left off-site, should be thoroughly cleaned of all weed seeds using a pressure washer prior to entering the limits of disturbance.

Compensatory Mitigation

To increase the availability of suitable habitat and general habitat quality within the BSA, and as a standard County Best Management Practice (BMP), all temporarily disturbed areas shall be hydroseeded using a native plant seed mix consistent with pre-project conditions.

Cumulative Impacts

No reasonably foreseeable future projects within the current project's BSA are known at this time. However, the County is proposing the Little Tujunga Canyon Road over Pacoima

⁴ <https://www.cnps.org/rare-plants/cnps-rare-plant-ranks>

Wash Bridge Replacement Project located approximately 2 miles northwest of the project site. Developed properties to the north on the outer edge of the BSA, including the Wildlife WayStation and an SCE tower pad, remain rural. Considering project improvements, traffic on Little Tujunga Canyon Road may increase from lifted restrictions on 16-ton trucks or greater, potentially thereby having limited effects on special-status plant species. The remainder of the BSA is managed by the USFS. Most of the special-status plant species that have the potential to occur in the BSA are reasonably widespread in the region.

SPECIAL-STATUS ANIMAL SPECIES OCCURRENCES

Special-status animal species are considered to be of special concern based on 1) Federal, State, or local laws regulating their development; 2) limited distributions; and/or 3) the habitat requirements of special-status animals occurring on-site. A total of twenty-one (21) special-status animal species were identified by the CNDDDB and USFWS records searches as potentially occurring within the project site. None of the 21 special-status wildlife species were observed within the BSA during the habitat assessment. Based on habitat requirements for specific species, availability and quality of habitats needed by special-status animal species, and known distribution, coastal whiptail (*Aspidoscelis tigris stejnegeri*), silvery legless lizard (*Anniella pulchra pulchra*), Townsend's big-eared bat (*Corynorhinus townsendii*), prairie falcon (*Falco mexicanus*), California condor (*Gymnogyps californianus*) were determined to have a moderate potential to occur within the BSA. There is a low potential for arroyo toad (*Anaxyrus californicus*), Swainson's hawk (*Buteo swainsoni*), coastal California gnatcatcher, and least Bell's vireo (*Vireo bellii pusillus*), these being State- and/or Federally-listed species, to occur within the project site and BSA as suitable habitat is marginally present; however, the nearest occurrences for these species are over 4 miles from the BSA. All other special-status animal species either have a low potential (some even less so within the project site) or are not expected to occur within the BSA.

DISCUSSION OF SILVERY LEGLESS LIZARD, COASTAL WHIPTAIL TOWNSEND'S BIG-EARED BAT, PRAIRIE FALCON, AND CALIFORNIA CONDOR

Survey Results

None of the aforementioned special-status animal species were observed within the BSA during the biological resources survey. Silvery legless lizard and coastal whiptail generally prefer chaparral, oak woodlands, and riparian areas present throughout portions of the BSA. Townsend's big-eared bat is common in multiple habitats, including those found within the BSA, particularly mesic (north-facing) slopes. Prairie falcon and California condor prefer cliffs for nesting that are present within the BSA. Habitat within the BSA is suitable to support all of these species, primarily in areas away from Little Tujunga Canyon Road, the Wildlife WayStation, and SCE tower pad. Of the species mentioned above, only California condor is listed under FESA, which has USFWS-designated Final Critical Habitat, the nearest approximately 28 miles to the west-northwest. The other species are not listed under FESA and therefore do not have designated Critical Habitat. The following are discussions of each species, including the closest CNDDDB occurrences to the BSA and their potential to occur:

- Coastal whiptail was not detected during the January 25, 2017, field survey. The closest known record is from 1988 and over 3.5 miles south of the BSA, along with several other occurrences, at Big Tujunga Creek. However, the BSA and project site provide sparse vegetation and riparian habitat suitable to support this species.

Therefore, there is a moderate potential for coastal whiptail to occur within the project site and BSA.

- Silvery legless lizard was not detected during the field survey. The closest known record is from 2001, but over 4 miles south of the BSA at Big Tujunga Creek. However, the BSA and project site provide areas in chaparral and loose soils in riparian habitat suitable to support this species. Therefore, there is a moderate potential for silvery legless lizard to occur within the project site and BSA.
- Townsend's big-eared bat was not detected during the survey, nor evidence of roosting at the bridge. The BSA provides mesic chaparral slopes and riparian habitat suitable for foraging, with cliffs and the bridge suitable to support roosting bats. The nearest occurrences of this species are from 1940, just over 2 miles to the southwest. Therefore, there is a moderate potential for Townsend's big-eared bat to occur within the project site and BSA.
- Prairie falcon was not detected during the field survey. The BSA provides cliffs potentially suitable to support nesting prairie falcon. Further, habitats throughout the BSA and project site are suitable for foraging. There are two known CNDDDB records within 5 miles of the BSA, both from 1977 approximately 4 miles north of the BSA on Magic Mountain, which are presumed extant. Therefore, there is a moderate potential for prairie falcon to occur within the project site and BSA.
- California condor was not detected during the field survey. Although no CNDDDB records within 5 miles of the BSA, the BSA provides foothill chaparral in mountain ranges of moderate altitude suitable for foraging, with cliff walls potentially suitable for nesting; however, the project site has limited resources to support this species. Nearby Critical Habitat for California condor is centered on the Los Padres National Forest and Tehachapi Mountains, with the nearest Critical Habitat approximately 28 miles to the northwest. Therefore, there is a moderate potential for California condor to occur within the project site and BSA.

Project Impacts

No special-status animals were observed within the BSA during the 2017 field survey. Development of the proposed project has the potential to have both direct and indirect impacts to the above-mentioned five species. Construction disturbance (e.g., access, staging, noise, visual disruptions) primarily during warmer times of the year may directly, but temporarily affect coastal whiptail and silvery legless lizard, both of which are year-round residents in southern California. Potential roosting habitat for Townsend's big-eared bat is present within the project site at the bridge. Although no evidence of bat roosting was observed within the project site, there is a potential for direct impacts to roosting Townsend's big-eared bat if present during construction, with temporary impacts to foraging habitat. Although there is a low potential for prairie falcon and California condor to nest in the cliffs within the BSA, project activities would only have the potential to disturb prairie falcon during late fall, winter, and early spring, as this species is a winter resident in southern California, and California condor if present at the time of construction.

Minimal habitat within the proposed project footprint would be temporarily lost due to project activities, totaling approximately 0.10 acre of Diegan coastal sage scrub, 0.02 acre of southern mixed chaparral, and 0.02 acre of oak riparian woodland, 0.09 acre of southern willow scrub, and 0.14 acre of mule fat scrub, with a permanent loss of approximately 0.09 acre of Diegan coastal sage scrub, 0.01 acre of southern mixed chaparral, 0.02 acre of southern willow scrub, and 0.01 acre of mule fat scrub. Indirect

impacts would be generally restricted to long-term habitat degradation, primarily through the unintended spread of non-native weed seeds within the BSA, which may result in changing plant composition and lower the quality of the on-site natural habitat.

Construction during the avian nesting season (typically January through July for raptors, and February through August for other avian species) has the potential to directly affect nests and/or disrupt nesting behaviors potentially resulting in temporary or permanent nest abandonment, loss of young, or displacement.

Avoidance and Minimization Efforts

Nesting birds are protected pursuant to the MBTA, and CFGC Sections 3503, 3503.3, 3511, and 3513 prohibit the take, possession, or destruction of birds, their nests or eggs). In order to protect migratory bird species, nesting bird clearance surveys need to be conducted prior to any vegetation removal or development that may disrupt the birds during the nesting season. Consequently, if avian nesting behaviors are disrupted, such as nest abandonment and/or loss of reproductive effort, it is considered “take” and is potentially punishable by fines and/or imprisonment.

Habitat throughout the BSA has the potential to provide refuge cover from predators, perching sites, and favorable conditions for avian nesting opportunities that could be affected by project-related activities. Removal of nesting habitat and disturbances associated with the proposed work areas, including noise, vibration, and dust, may result in indirect impacts to these species if project activities occur during active nesting efforts. If construction activities are scheduled during the avian breeding season, the following the following measures should be implemented:

- BIO-5:** Project activities should be conducted outside of the avian breeding season (typically January through July for raptors and February through August for other species). If not practical, a qualified biologist shall conduct a nesting bird survey within three days prior to vegetation clearing and initial ground disturbing activities to determine the presence or absence of nesting birds with the potential to be affected by the project.

If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need to be implemented if active nests are more than the following distances from the nearest work site: a) 500 feet for raptors or listed species; or b) 300 feet for other non-listed species. Any nests occurring within these distances shall have a no-disturbance buffer established around them. This distance may be adjusted only in coordination with the CDFW.

A qualified biologist shall periodically monitor any confirmed active nest(s) during construction. No construction within a buffer shall be allowed until the biologist has determined that the nest is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest).

In addition to BIO-5 above, the following measure is suggested for year-round construction:

BIO-6: Within three days prior to project commencement, a qualified biologist shall conduct a roosting bat survey at the Little Tujunga Canyon Road bridge. If roosting bats are determined present within the project site, appropriate measures in coordination with and as directed by the CDFW shall be implemented.

BIO-7: Before initial vegetation clearing and ground disturbing activities, a qualified biologist shall be present to assist in the avoidance of impacts to wildlife individuals. If individuals are observed within or adjacent the project footprint, the biologist shall be given the opportunity to allow individuals to disperse or move a safe distance away from the project site. For special-status species, coordination with and direction from CDFW is required.

With implementation of the avoidance and minimization measures identified above, the proposed project would not be expected to affect nesting birds or other special-status wildlife species.

Compensatory Mitigation

To increase the availability of suitable habitat and general habitat quality within the BSA, and as a standard County BMP, all temporarily disturbed areas shall be hydroseeded using a native plant seed mix consistent with pre-project conditions.

Cumulative Impacts

No reasonably foreseeable future projects within the current project's BSA are known at this time. However, the County is proposing the Little Tujunga Canyon Road over Pacoima Wash Bridge Replacement Project located approximately 2 miles northwest of the project site. Developed properties to the north on the outer edge of the BSA, including the Wildlife WayStation and an SCE tower pad, remain rural. Considering project improvements, traffic on Little Tujunga Canyon Road may increase resulting from lifted restrictions on 16-ton trucks or greater, thereby having the potential to increase impacts to special-status ground-dwelling species. The remainder of the BSA is managed by the USFS. Most of the special-status animal species that have the potential to occur in the BSA are reasonably widespread in the region.

Chapter 5 – Conclusions and Regulatory Determinations

FEDERAL ENDANGERED SPECIES ACT CONSULTATION SUMMARY

To date there has been no communication with the USFWS or with the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) regarding the FESA. A USFWS Species List was generated from the IPaC database on February 1, 2017. According to the USFWS Species List, Federally-listed species with the potential to be affected by the project include a total of nine (9) wildlife species, one (1) fish species, and three (3) plant species. One (1) additional Federally-listed wildlife species was determined through the CNDDDB query to have the potential to occur within the vicinity of the BSA. No Federally-listed as threatened, endangered, or candidate plant or animal species were observed within the BSA during the 2017 habitat assessment or 2018 rare plant survey. Based on the results of these surveys and the proposed limits of project disturbance, all Federally-listed plant or animal species are either presumed absent from the proposed project footprint and will not be directly or indirectly affected from implementation of the proposed project or have very limited potential to occur within the project site. The project is determined to have no effect on any Federally-listed species identified by the USFWS Species List, CNDDDB, or CNPS. Additionally, the BSA is not located within Federally-designated Critical Habitat. Required consultation with USFWS pursuant to the FESA is not expected.

ESSENTIAL FISH HABITAT CONSULTATION SUMMARY

Designated Essential Fish Habitat is not found within the BSA or immediate area. Consultation with the NMFS will not be required.

CALIFORNIA ENDANGERED SPECIES ACT CONSULTATION SUMMARY

To date there has been no coordination with the CDFW regarding the CESA. According to the CNDDDB and CNPS queries, a total of three (3) State-listed as threatened, endangered, or candidate plant and wildlife species have the potential to occur within the vicinity of the BSA. However, no State-listed plant or animal species were observed with the BSA during the 2017 habitat assessment or 2018 rare plant survey. Based on the results of these surveys and the proposed limits of project disturbance, one (1) State-listed animal species, Townsend's big-eared bat (Candidate for listing as threatened), was determined to have a moderate potential to occur within the BSA. Consultation with CDFW pursuant to the CESA may be required for potential impacts to this or any other State-listed species. If it is determined that State-species will be adversely affected by the project, an Incidental Take Permit will be required pursuant to CFGC Section 2081. In order to obtain such a permit, all impacts to the species in question must be minimized, fully mitigated, and fully funded for implementation and any required monitoring. In this case, project-related impacts to State-listed species would not jeopardize their continued existence.

WETLANDS AND OTHER WATERS COORDINATION SUMMARY

To date there has been no coordination with the Corps, Regional Board, or CDFW. The BSA contains Buck Canyon Creek and portions of three of its tributaries subject to regulatory jurisdiction. Prior to project construction, mitigation to offset impacts must be agreed upon, and the following permits/authorization must be procured:

- Corps CWA Section 404 Nationwide Permit 14 – *Linear Transportation Projects* for impacts associated with dredge and fill material to non-wetland WoUS;
- Regional Board CWA Section 401 Water Quality Certification for impacts associated with dredge and fill material to WoUS; and
- CDFW CFGC Section 1602 Lake or Streambed Alteration Agreement (or other approval such as an Operation by Law letter or Letter of Non-Substantial Impact) for impacts/alteration to streambed/banks and associated riparian vegetation.

It is highly recommended that the Jurisdictional Delineation Report (Appendix C) be forwarded to each of regulatory agency for their concurrence as part of the regulatory permitting process for the proposed project.

INVASIVE SPECIES

Noxious weed species include species designated as Federal noxious weeds by USDA, species listed by the California Department of Food and Agriculture, and other exotic pest plants designated by the California Invasive Plant Council. Invasive plant species are abundant throughout much of the disturbed areas of the BSA. Some of the more commonly occurring exotic plants in the BSA include common ripgut grass, fountaingrass (*Pennisetum setaceum*), short-pod mustard, cheeseweed (*Malva parviflora*), Russian thistle, tree tobacco (*Nicotiana glauca*), and filaree. Prior to implementation of the proposed project, all construction equipment will be inspected and cleaned prior to use in the proposed project footprint to minimize the importation of non-native plant material.

BIRD PROTECTION

In accordance with the applicable provisions of the MBTA and CFGC, implementation of Mitigation Measure BIO-5 above will provide the avoidance measures necessary for protecting nesting birds if project activities are conducted during the bird breeding season.

Chapter 6 – References

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Appendix A – United States Fish and Wildlife Service Species List

IPaC resource list

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

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

Location

Los Angeles County, California



Local office

Carlsbad Fish And Wildlife Office

☎ (760) 431-9440

📠 (760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

<http://www.fws.gov/carlsbad/>

Endangered species

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

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

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

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

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

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

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

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

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

Birds

NAME

STATUS

<p>California Condor <i>Gymnogyps californianus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8193</p>	Endangered
<p>Coastal California Gnatcatcher <i>Polioptila californica californica</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8178</p>	Threatened
<p>Least Bell's Vireo <i>Vireo bellii pusillus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/5945</p>	Endangered
<p>Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/6749</p>	Endangered

Amphibians

NAME	STATUS
<p>Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/3762</p>	Endangered

Fishes

NAME	STATUS
<p>Santa Ana Sucker <i>Catostomus santaanae</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/3785</p>	Threatened

Flowering Plants

NAME	STATUS
<p>Braunton's Milk-vetch <i>Astragalus brauntonii</i></p> <p>There is final critical habitat for this species. Your location is outside the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/5674</p>	Endangered

Nevin's Barberry *Berberis nevinii* Endangered
There is **final** critical habitat for this species. Your location is outside the critical habitat.
<https://ecos.fws.gov/ecp/species/8025>

Slender-horned Spineflower *Dodecahema leptoceras* Endangered
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/4007>

Critical habitats

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

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

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

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

Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

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

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
<p>Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637</p>	Breeds Feb 1 to Jul 15
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Jan 1 to Aug 31
<p>Black Swift <i>Cypseloides niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878</p>	Breeds Jun 15 to Sep 10
<p>Black-chinned Sparrow <i>Spizella atrogularis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447</p>	Breeds Apr 15 to Jul 31
<p>California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jan 1 to Jul 31

Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Dec 31
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Costa's Hummingbird <i>Calypte costae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511	Breeds elsewhere
Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656	Breeds Mar 15 to Jul 15

<p>Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002</p>	Breeds elsewhere
<p>Song Sparrow <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Feb 20 to Sep 5
<p>Spotted Towhee <i>Pipilo maculatus clementae</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/4243</p>	Breeds Apr 15 to Jul 20
<p>Tricolored Blackbird <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910</p>	Breeds Mar 15 to Aug 10
<p>Whimbrel <i>Numenius phaeopus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483</p>	Breeds elsewhere
<p>White Headed Woodpecker <i>Picoides albolarvatus</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9411</p>	Breeds May 1 to Aug 15
<p>Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 10

Probability of Presence Summary

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

Probability of Presence (■)

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

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

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

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

Breeding Season (■)

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

Survey Effort (|)

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

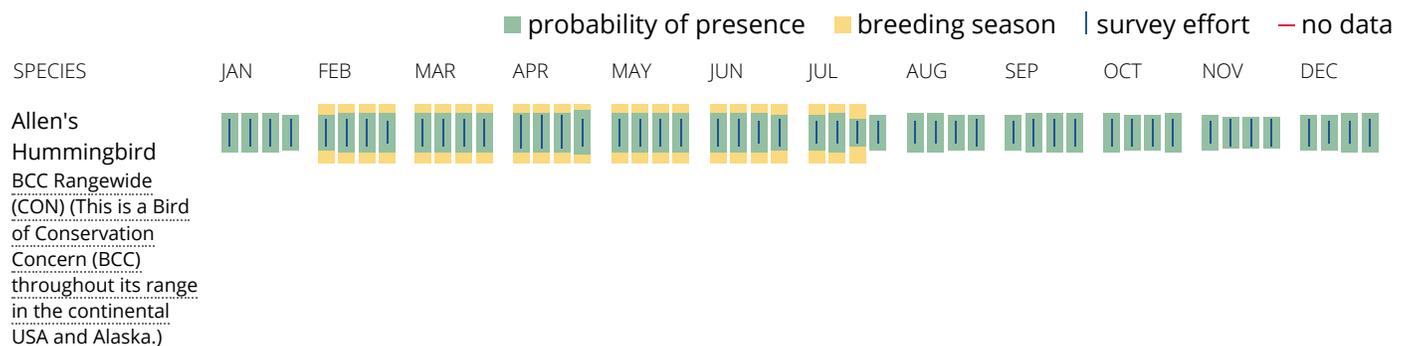
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

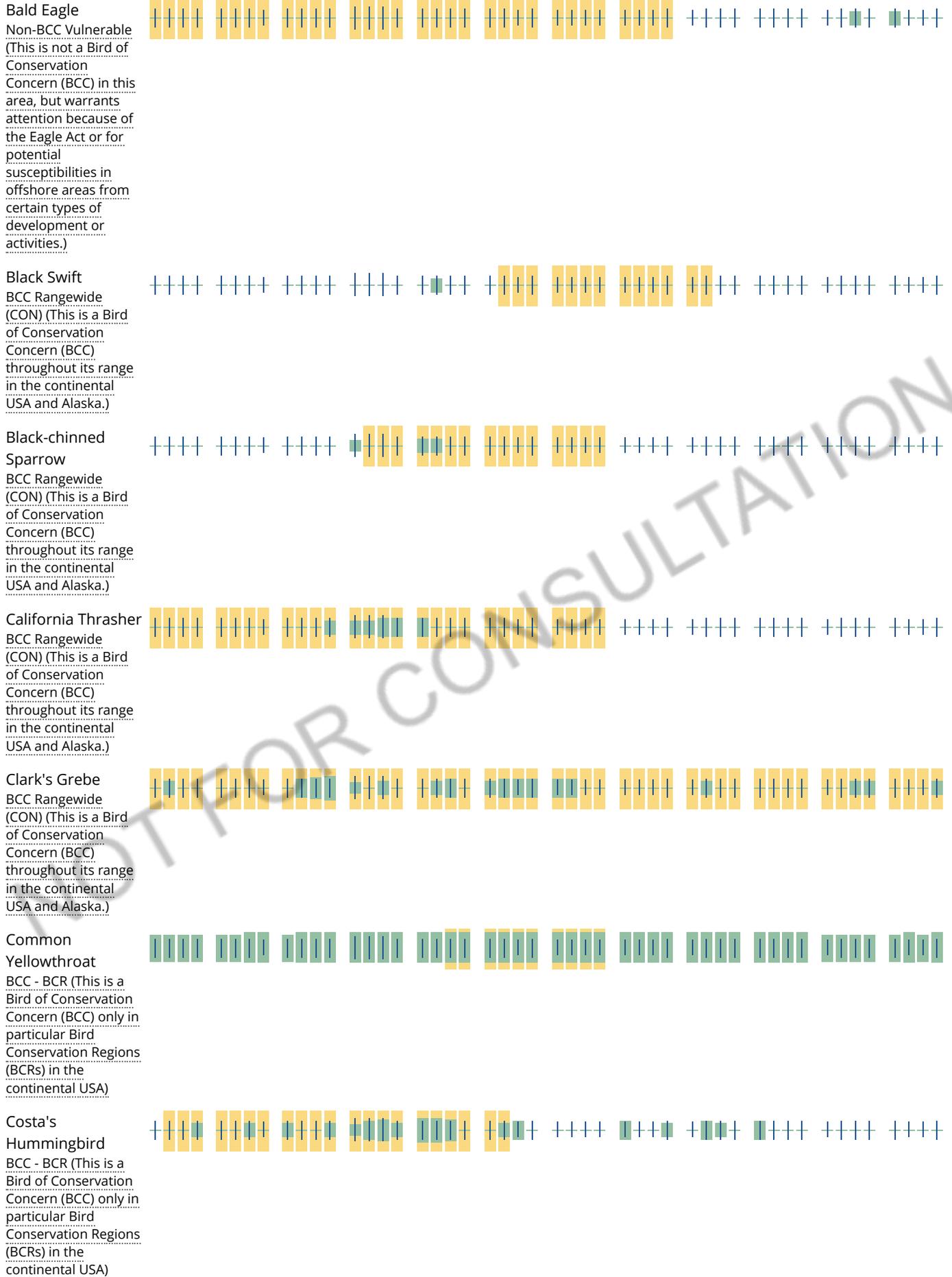
No Data (—)

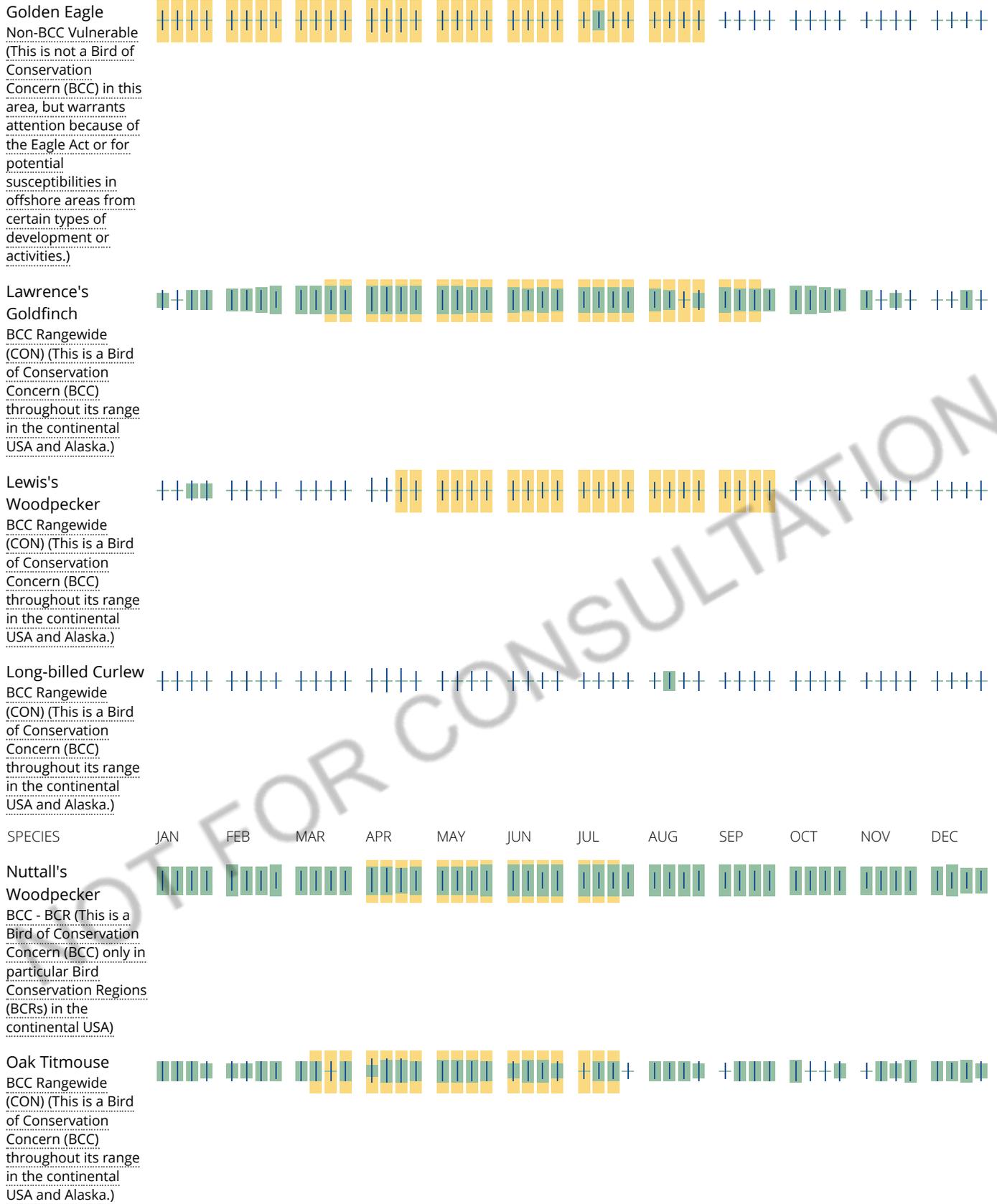
A week is marked as having no data if there were no survey events for that week.

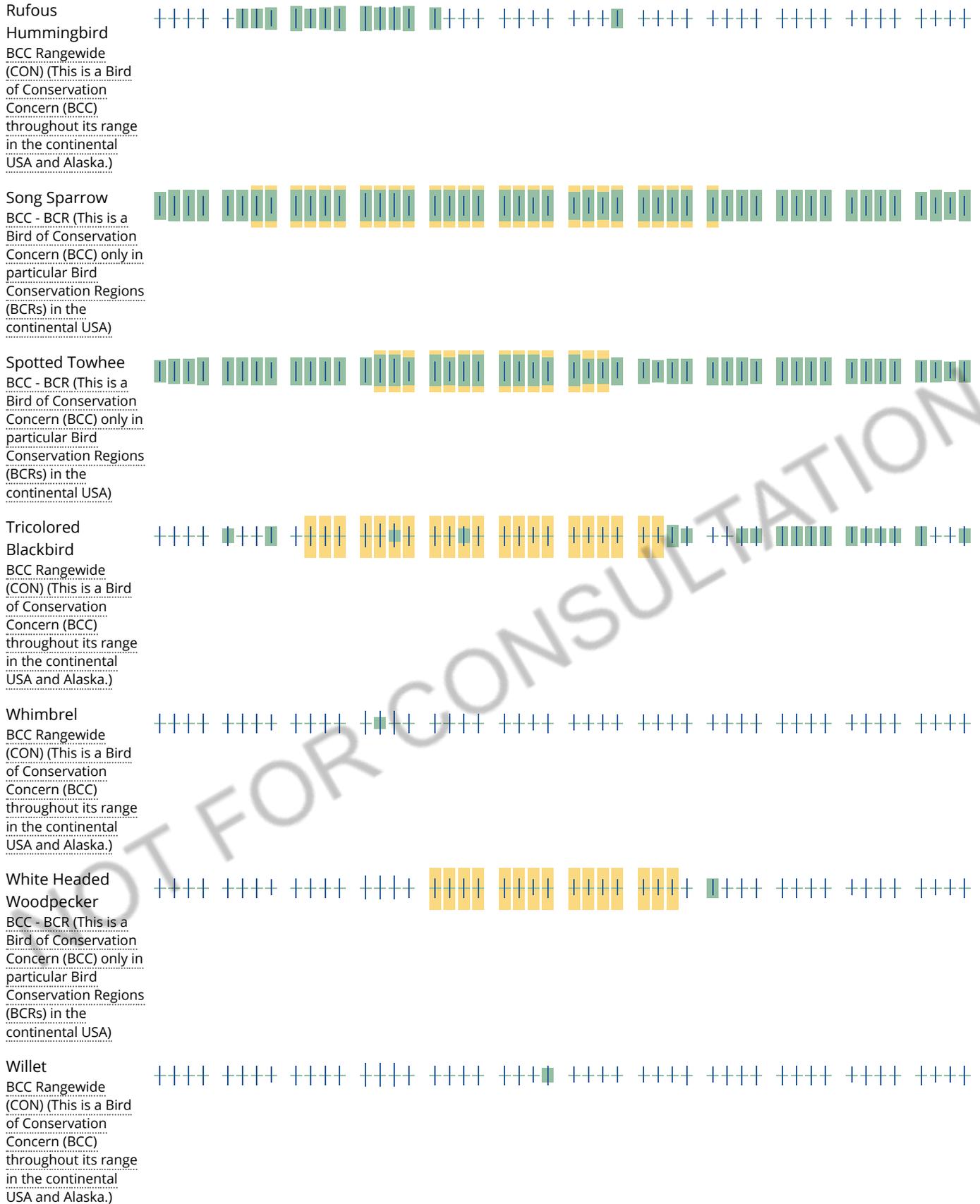
Survey Timeframe

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

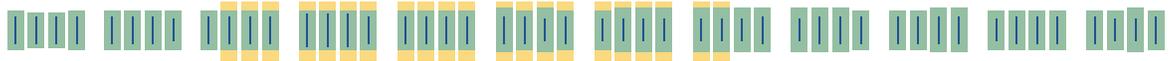








Wrentit
 BCC Rangewide
 (CON) (This is a Bird
 of Conservation
 Concern (BCC)
 throughout its range
 in the continental
 USA and Alaska.)



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

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

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

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

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

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

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

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

[PFO/SSC](#)

RIVERINE

[R4SBA](#)

[R3UBF](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Appendix B – 2017 Plant and Wildlife Species Observed List

Table B-1: Plant Species

PLANT SPECIES	
Scientific Name	Common Name
<i>Acmispon glaber</i>	deerweed
<i>Adenostoma fasciculatum</i>	chamise
<i>Ambrosia acanthicarpa</i>	annual bursage
<i>Arundo donax</i> *	giant reed
<i>Artemisia californica</i>	California sagebrush
<i>Artemisia douglasiana</i>	California mugwort
<i>Atriplex canescens</i>	fourwing saltbush
<i>Atriplex semibaccata</i> *	Australian saltbush
<i>Baccharis salicifolia</i>	mule fat
<i>Brickellia californica</i>	California brickellbush
<i>Bromus diandrus</i> *	common ripgut grass
<i>Bromus rubens</i> *	red brome
<i>Ceanothus megacarpus</i>	big pod ceanothus
<i>Centaurea melitensis</i> *	toçalote
<i>Cercocarpus betuloides</i>	mountain mahogany
<i>Clarkia purpurea</i>	purple clarkia
<i>Clematis lasiantha</i>	chaparral clematis
<i>Corethrogyne filaginifolia</i>	common sandaster
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Datura wrightii</i>	jimsonweed
<i>Dudleya lanceolata</i>	lanceleaf liveforever
<i>Elymus condensatus</i>	giant wild rye
<i>Ericameria pinifolia</i>	pine bush
<i>Eriodictyon crassifolium</i>	thickleaf yerba santa
<i>Eriogonum elongatum</i>	longstem buckwheat
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriophyllum confertiflorum</i>	golden yarrow
<i>Erodium botrys</i>	longbeak filaree
<i>Erodium cicutarium</i> *	redstem filaree
<i>Eucrypta chrysanthemifolia</i>	spotted hideseed
<i>Eulobus californicus</i>	California primrose
<i>Gutierrezia californica</i>	matchweed
<i>Hazardia squarrosa</i>	sawtooth goldenbush
<i>Helianthus annuus</i>	common sunflower
<i>Hesperoyucca whipplei</i>	chaparral yucca
<i>Heteromeles arbutifolia</i>	toyon
<i>Heterotheca grandiflora</i>	telegraph weed
<i>Hirschfeldia incana</i> *	short-pod mustard
<i>Keckiella cordifolia</i>	heartleaf keckiella
<i>Lonicera subspicata</i> var. <i>denudata</i>	southern honeysuckle
<i>Lupinus succulentus</i>	arroyo lupine
<i>Lupinus truncatus</i>	truncate leaf lupine
<i>Malacothrix saxatilis</i>	cliff aster
<i>Malosma laurina</i>	laurel sumac
<i>Marah macrocarpa</i>	wild cucumber
<i>Malva parviflora</i> *	cheeseweed
<i>Medicago polymorpha</i> *	bur clover
<i>Mimulus aurantiacus</i>	bush monkeyflower
<i>Mirabilis laevis</i>	wishbone bush
<i>Nerium oleander</i> *	oleander
<i>Nicotiana glauca</i> *	tree tobacco

Table B-1: Plant Species

PLANT SPECIES	
Scientific Name	Common Name
<i>Pellaea andromedifolia</i>	coffee fern
<i>Pennisetum setaceum</i> *	fountaingrass
<i>Phacelia ramosissima</i>	branching phacelia
<i>Pinus sp.</i> *	ornamental pine tree
<i>Plantago lanceolata</i> *	English plantain
<i>Platanus racemosa</i>	western sycamore
<i>Prunus ilicifolia</i>	holly leaf cherry
<i>Quercus agrifolia</i>	coast live oak
<i>Quercus berberidifolia</i>	inland scrub oak
<i>Pseudognaphalium biolettii</i>	two-color rabbit-tobacco
<i>Rhamnus ilicifolia</i>	hollyleaf redberry
<i>Rhus ovata</i>	sugar bush
<i>Rhus aromatica</i>	fragrant sumac
<i>Ribes aureum</i>	golden currant
<i>Ricinus communis</i> *	castor bean
<i>Salix exigua</i>	sandbar willow
<i>Salix lasiolepis</i>	arroyo willow
<i>Salsola tragus</i> *	Russian thistle
<i>Salvia mellifera</i>	black sage
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry
<i>Schinus terebinthifolius</i> *	Brazilian pepper tree
<i>Schismus barbatus</i> *	Mediterranean grass
<i>Schoenoplectus acutus</i>	common tule
<i>Sisymbrium altissimum</i> *	tumble mustard
<i>Spartium junceum</i> *	Spanish broom
<i>Stipa miliacea</i> *	smilo grass
<i>Stipa lepida</i>	foothill needle grass
<i>Stipa pulchra</i>	purple needle grass

* non-native

Table B-2: Wildlife Species

WILDLIFE SPECIES	
Scientific Name	Common Name
AVES	BIRDS
<i>Aphelocoma californica</i>	western scrub-jay
<i>Buteo jamaicensis</i>	red-tailed hawk
<i>Calypte anna</i>	Anna's hummingbird
<i>Chamaea fasciata</i>	wrentit
<i>Colaptes auratus</i>	northern flicker
<i>Corvus brachyrhynchos</i>	American crow
<i>Corvus corax</i>	common raven
<i>Melospiza crissalis</i>	California towhee
<i>Pipilo maculatus</i>	spotted towhee
<i>Sayornis nigricans</i>	black phoebe
<i>Setophaga coronata</i>	yellow-rumped warbler
<i>Thryomanes bewickii</i>	Bewick's wren
MAMMALIA	MAMMALS
<i>Otospermophilus beecheyi</i>	California ground squirrel
<i>Procyon lotor</i>	raccoon

Appendix C – Jurisdictional Delineation Report

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT

Angeles National Forest, Sylmar Area,
Los Angeles County, California

JURISDICTIONAL DELINEATION REPORT

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March 2017
Revised November 2017
JN 156721

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT

ANGELES NATIONAL FOREST, SYLMAR AREA,
LOS ANGELES COUNTY, CALIFORNIA

Jurisdictional Delineation Report

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of jurisdictional wetland and non-wetland "waters of the U.S.," "waters of the State," and streambed/banks and associated riparian vegetation delineation for the above-referenced project.



Dan Rosie
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Natural Resources/Regulatory Permitting



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March 2017
Revised November 2017

Executive Summary

On behalf of the County of Los Angeles Department of Public Works, Michael Baker International (Michael Baker) has prepared this Jurisdictional Delineation Report for the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement project (project). The project and Biological Study Area (BSA) are located in the San Gabriel Mountains of the Angeles National Forest, approximately 3 miles east of Sylmar, in an unincorporated portion of the County of Los Angeles, California.

This report documents the field work conducted by Michael Baker on January 25, 2017, to identify and delineate hydrological features within the Biological Study Area (BSA) that are potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Federal Clean Water Act (CWA), Regional Water Quality Control Board (Regional Board) pursuant to CWA Section 401 and/or Section 13263 of the California Porter-Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) pursuant to Sections 1600 *et seq.* of the California Fish and Game Code (CGFC). Delineation methods followed the most recent, acceptable guidelines for conducting a jurisdictional delineation in this region. This report presents Michael Baker's professional opinion for determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdiction.

According to the Federal Emergency Management Agency, the project site and surrounding area are not located within the 100-year flood zone. Buck Canyon Creek is the only jurisdictional hydrological feature within the project site, with three smaller tributaries to Buck Canyon Creek to the north that include portions within the BSA. Buck Canyon Creek within the project site consists of approximately 0.16 acre of non-wetland waters of the U.S. (WoUS) subject to Corps and Regional Board jurisdiction and approximately 0.37 acre of streambed/banks and associated riparian vegetation subject to CDFW jurisdiction. No wetland WoUS were observed within the project site.

The table below provides a breakdown of total acreages of jurisdictional resources within Buck Canyon Creek and its tributaries located within the project site and the BSA as they relate to each regulatory agency.

Jurisdictional Limits within the Project Site / BSA

Feature	Jurisdictional Limits (acres) [impacts: permanent / temporary]		
	Linear Feet (project site)	Corps/Regional Board Non-wetland WoUS	CDFW Streambed/Banks and Riparian Vegetation
Buck Canyon Creek	237	0.15 / 0.69 [0.05 / 0.10]	0.37 / 2.46 [0.07 / 0.30]
Tributary A	109	0.01 / 0.03 [0.00 / 0.00]]	0.01 / 0.07 [0.00 / 0.00]
Tributary B	30	0.00 / 0.01 [-- / 0.00]	0.00 / 0.01 [-- / 0.00]
Tributary C	--	-- / 0.03 [-- / --]	-- / 0.05 [-- / --]
TOTAL	376	0.16 / 0.77 [0.05 / 0.11]	0.37 / 2.60 [0.07 / 0.30]

* Totals may not equal to sum due to rounding.

The following regulatory permits/authorizations will be required prior to commencement of any project-related activities (i.e., placement of fill material and/or feature alteration) within the identified jurisdictional features:

1. Corps CWA Section 404 Nationwide Permit 14 – *Linear Transportation Projects* for impacts associated with dredge and fill material to non-wetland WoUS;
2. Regional Board CWA Section 401 Water Quality Certification for impacts associated with dredge and fill material to WoUS; and
3. CDFW CGFC Section 1602 Lake or Streambed Alteration Agreement (or other approval such as an Operation by Law letter or Letter of Non-Substantial Impact) for impacts/alteration to streambed/banks and associated riparian vegetation.

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LIST OF ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
amsl	above mean sea level
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
County DPW	County of Los Angeles Department of Public Works
CFR	Code of Federal Regulations
CGFC	California Fish and Game Code
Corps	United States Army Corps of Engineers
CWA	Federal Clean Water Act
dBA	A-weighted decibels (noise level)
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	Geographic Information System
GPS	Global Positioning System
HA	Hydrologic Area
HSA	Hydrologic Subarea
HU	Hydrologic Unit
JD	Jurisdictional Delineation
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OHW	Ordinary High Water Mark
Michael Baker	Michael Baker International
PCN	Pre-Construction Notification
Porter-Cologne project	California Porter-Cologne Water Quality Control Act Little Tujunga Canyon Road over Buck Canyon Bridge Replacement
Rapanos	Rapanos v. U.S. court case
Regional Board	Regional Water Quality Control Board
Regional Supplement	Corps Wetland Delineation Manual: Arid West Region, Version 2.0
RPW	Relatively Permanent Waters
SWANCC	Solid Waste Agency of Northern Cook County v. Corps court case
TNW	Traditionally Navigable Waters
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service
WoUS	Waters of the U.S.
WQC	Water Quality Certification
1987 Manual	1987 Corps Wetland Delineation Manual

Section 1 Introduction

On behalf of County of Los Angeles (County) Department of Public Works (DPW), Michael Baker International (Michael Baker) has prepared this Jurisdictional Delineation (JD) Report to document Michael Baker's JD efforts to map and quantify hydrological and features located within the Biological Study Area (BSA) for the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement project (project).

This report describes the regulatory setting, methodologies, and results of the jurisdictional delineation, including recommendations for any proposed impacts to potentially jurisdictional hydrological and aquatic resources. This report presents our best effort at determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies; however, only the regulatory agencies can make a final determination of jurisdictional boundaries.

1.1 PROJECT LOCATION

The 1.71-acre project site is located in the San Gabriel Mountains of the Angeles National Forest approximately 4 miles north of Interstate 210 and approximately 3 miles east of Sylmar, along Little Tujunga Canyon Road at Buck Canyon Creek, in an unincorporated portion of Los Angeles County, California (Figure 1, *Regional Vicinity*). Specifically, the project is located within the northeast portion of Section 21 of Township 3 North, Range 14 West, of the U.S. Geological Survey (USGS) *Sunland, California* 7.5-minute topographic quadrangle map (Figure 2, *Site Vicinity*).

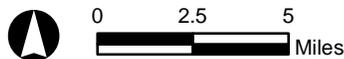
The project site (Figure 3, *Project Site*) consists of Little Tujunga Canyon Road (and bridge) and the relatively natural areas surrounding Buck Canyon Creek. The BSA consists of the project site, including a 500-foot buffer encompassing Buck Canyon to the east and west, and relatively undeveloped hills to the north and south surrounding the winding Little Tujunga Canyon Road. Approximately 0.25-mile further to the north is the Wildlife WayStation, which consists of an animal sanctuary within a small rural area.

1.2 PROJECT DESCRIPTION

The County of Los Angeles has proposed the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement Project in order to meet current bridge design standards, and improve the safety for pedestrians, bicyclists, and vehicle users in the project area. The existing Little Tujunga Canyon Road Bridge structure was built in 1928, and has undergone one widening in 1959. It is a timber A-frame bridge supported by timber pile abutments and substandard travel lanes (a 12-foot lane and 1-foot shoulder in each direction). The existing bridge is classified as



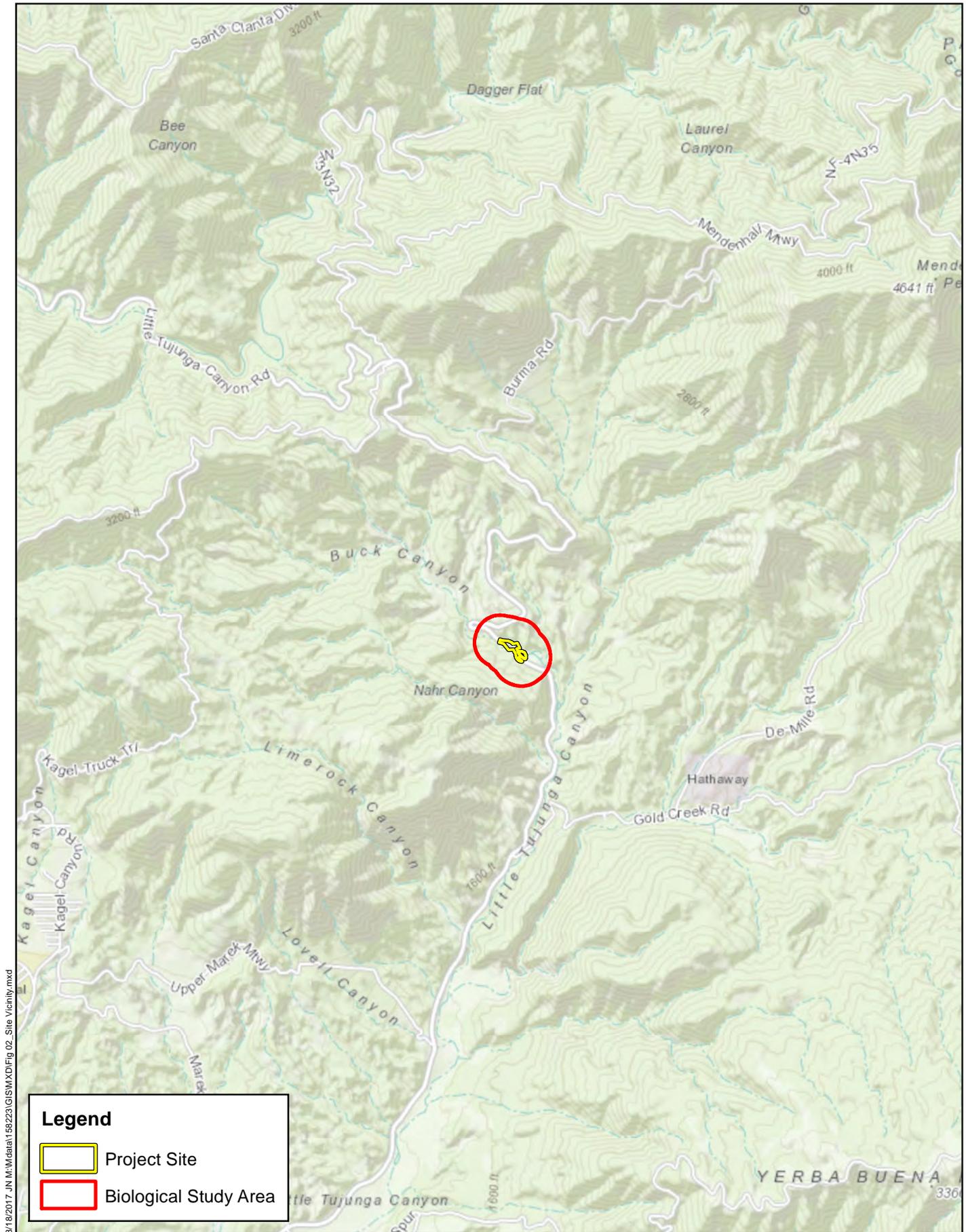
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LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Regional Vicinity

Source: ArcGIS Online

Figure 1



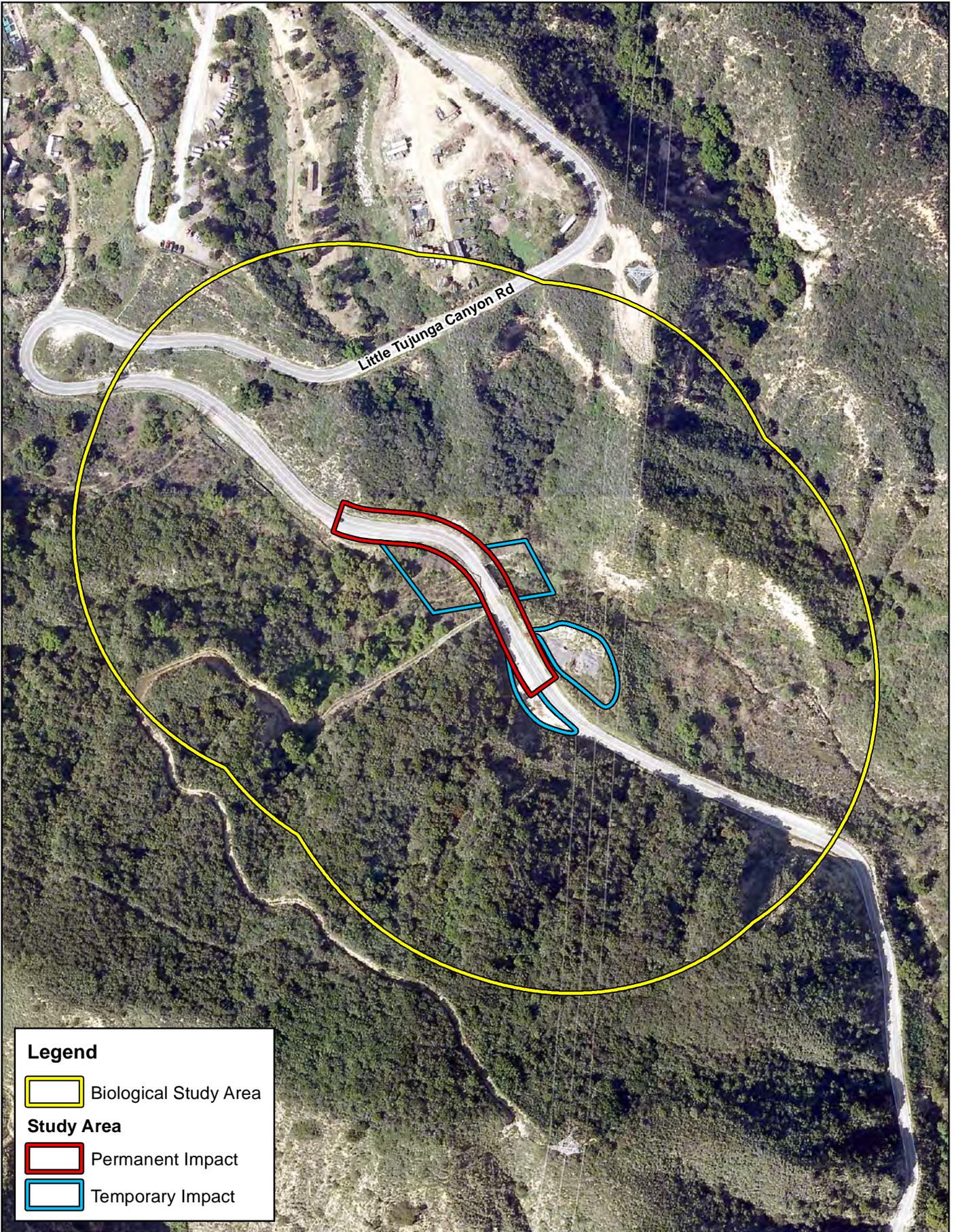
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LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Site Vicinity

Figure 2

0 0.25 0.5
 Miles

Source: ArcGIS Online



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Legend

- Biological Study Area

Study Area

- Permanent Impact
- Temporary Impact



LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Project Site

Figure 3

functionally obsolete and 16-ton trucks and greater are prohibited from traveling on the bridge. The proposed project would replace the existing bridge with a new bridge to meet current engineering standards, improving safety for all users of the bridge in the area.

The proposed project would implement the replacement of the existing bridge and reconstruction of the adjacent roadway to improve operations and safety in the project area. The new bridge would be a 65-foot-long, 42-foot-wide single-span precast, pre-stressed concrete I-girder structure supported by abutments on deep pile foundations across Buck Canyon Creek. The new bridge would consist of a 12-foot lane and 5-foot shoulder in each direction. Concrete barriers with tubular handrails would be installed on both sides of the bridge. New wingwalls would be constructed; the top of the new concrete deck is expected to be approximately one foot above the existing deck.

The project would also include approximately 385 feet of roadway reconstruction, including approximately 235 feet on the north side of the bridge and 150 feet on the south side of the bridge. The reconstructed roadway width would vary from the existing 26 feet to 34 feet, in order to accommodate the new travel lane and shoulder widths on the bridge. Metal beam guardrails would be installed at the approach corners.

The project would be constructed in two phases in order to keep the bridge open to the public throughout the construction period. It should be noted that access to the project site would occur from points within the project footprint. Phase 1 construction would occur at the east side of the existing bridge, and one-way traffic would be maintained on the west side of the bridge. Phase 2 construction would occur at the west side and one-way traffic would be maintained on the east side of the bridge.

Section 2 Summary of Regulations

Three agencies regulate activities within inland streams, wetlands, and riparian areas in California. The U.S. Army Corps of Engineers (Corps) Regulatory Division regulates activities pursuant to Section 404 of the Federal Clean Water Act (CWA). Of the State agencies, the California Department of Fish and Wildlife (CDFW) regulates activities under the California Fish and Game Code (CFGC) Sections 1600 *et seq.*, and the Regional Water Quality Control Board (Regional Board) regulates activities pursuant to Section 401 of the CWA on behalf of the U.S. Environmental Protection Agency (EPA) and/or Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne).

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and EPA have jointly regulated discharges of dredged or fill material into WoUS, including wetland and non-wetland hydrological features, pursuant to Section 404 of the CWA. WoUS, defined under 33 Code of Federal Regulations (CFR) Section 328.3(a), are founded on the findings of a significant nexus (or connection) between the hydrological feature in question and interstate commerce via Relatively Permanent Waters (RPW), and ultimately Traditional Navigable Waters (TNW). The Corps typically regulates as WoUS any hydrological feature displaying an ordinary high water mark (OHWM), or beyond the OHWM to the limit of any adjacent wetlands, if present (33 CFR 328.4). The OHWM is defined as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area.” Wetlands, a subset of jurisdictional waters, jointly described by the Corps and EPA (33 CFR Section 328.3[b]), are defined as “Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions.”

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Applicants for a Federal license or permit for activities that may discharge to WoUS must seek a CWA Section 401 Water Quality Certification from the State, or Native American tribe with jurisdiction.¹ Such Certification is based on a finding that the discharge will meet water quality standards and other applicable requirements. In California, there are nine (9) Regional Boards that issue or deny Certification for discharges within their geographical jurisdiction. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which are defined as numeric and narrative objectives in each Regional Board’s Basin Plan. Where applicable, the State Water Resources Control Board has this

¹ Title 33, United States Code, Section 1341; Clean Water Act Section.

responsibility for projects affecting waters within multiple Regional Boards. The Regional Board's jurisdiction extends to all WoUS, including wetlands.

Additionally, Porter-Cologne gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. Porter-Cologne has become an important tool in the regulatory environment following the *Solid Waste Agency of Northern Cook County v. United States Corps of Engineers*² (SWANCC) and *Rapanos v. United States*³ (Rapanos) court cases with respect to California's authority over otherwise isolated and insignificant waters. Generally, in the event that there is no Section 404/401-nexus, any person proposing to discharge waste into a water body that could affect its water quality must file a Report of Waste Discharge. Although "waste" is partially defined as any waste substance associated with human habitation, the Regional Board also interprets this to include fill discharged into water bodies.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

CFGF Sections 1600 *et seq.* establish a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not adversely affect fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided.

CFGF Section 1602 applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State, as defined in the CDFW *Mapping Episodic Stream Activity (MESA) Field Guide* (2014), and requires any person, State, or local governmental agency or public utility to notify CDFW before beginning any activity that will do one or more of the following:

- (1) substantially obstruct or divert the natural flow of a river, stream, or lake;
- (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or
- (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

² Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

³ Rapanos v. United States, 547 U.S. 715 (2006)

Section 3 Methodology

Review of relevant literature and materials often aids in preliminary identification of areas that potentially fall under an agency's jurisdiction. Topographic, National Wetlands Inventory (NWI; U.S. Fish and Wildlife Service [USFWS] 2016), and USDA Soils maps were used as reference. In addition, a timeline of aerial photography (Google Earth Pro 2016) was reviewed to identify changing conditions within the recent drought (refer to Section 7.0 for a complete list of references used during the course of this delineation).

The analysis presented in this document is supported by field surveys and verification of current conditions within the BSA conducted by Michael Baker biologists Dan Rosie and Stephen Anderson on January 25, 2017. The BSA was surveyed by walking throughout accessible areas, including areas not steep-sloped and/or densely vegetated, varying depending upon visibility given the vegetative structure, and by making general observations from a dirt access road to the west and Little Tujunga Canyon Road using binoculars to maximize visual coverage. Data were collected using the ESRI ArcGIS Collector application on an Apple iPad connected via Bluetooth to an iSX Blue II+ GNSS Global Positioning System (GPS) unit with sub-meter accuracy for recording and identifying soil pits, picture locations, and the jurisdictional limits of hydrological and aquatic features. A Garmin GPS Map62 unit was also used to record and identify soil pits and drainage features. These data were then transferred as shapefiles, added to the jurisdictional map of the project, and measurements calculated using Geographic Information System (GIS) software on 1 inch = 80 feet scale aerial imagery, with an inset of the BSA at a scale of 1 inch = 400 feet.

Classification of the on-site vegetation communities and other land uses is based on the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), with modifications to better represent existing conditions in the field using the *Draft Vegetation Communities of San Diego County* (Oberbauer et al. 2008), an expanded vegetation classification system based on Holland (1986). Plant species nomenclature and taxonomy follow *The Jepson Manual: Vascular Plants of California, second edition* (Baldwin et al. 2012).

Drought conditions have developed over the past four years in California. Evaluation of temporal shifts in vegetation and periodic lack of hydrology indicators during periods of below-normal rainfall, drought conditions, and unusually low-winter snowpack is considered during the field review. To the extent possible, the hydrophytic vegetation decision is based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year. The evaluation of hydrology considers the timing of the site visit in relation to normal seasonal and annual hydrologic variability, and whether the amount of rainfall prior to the site visit has been normal. In drought conditions, direct observation of plants and hydrology indicators may be misleading or problematic, so other methods of making wetland decisions may be appropriate. In general, wetland determinations on difficult or problematic sites must be

based on the best information available to the field inspector, interpreted in light of his or her professional experience and knowledge of the ecology of wetlands in the region. Wetland determinations are based on a preponderance of all available information, including in many cases remote sensing and longer-term data, not just the field data collected under drought conditions.⁴

3.1 WATERS OF THE U.S.

3.1.1 Non-wetland Waters of the U.S.

In the absence of wetlands (i.e., non-wetland WoUS), the limits of Corps and Regional Board jurisdiction in non-tidal waters extend to the OHWM. Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008a). An OHWM can be determined by, but not limited to, the observation of benches, breaks in bank slope, particle size distribution, sediment deposits, drift, litter, and/or changes in plant communities.

3.1.2 Wetland Waters of the U.S.

Corps jurisdictional wetland WoUS are delineated following the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Regional Supplement; Corps 2008b). The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region, one of a series of Regional Supplements to the 1987 Corps Wetland Delineation Manual (1987 Manual; Environmental Laboratory 1987). According to the 1987 Manual, identification of wetlands is based on a three-parameter approach involving the predominance or prevalence of hydrophytic vegetation, and indicators of hydric soils and wetland hydrology. Hydrophytic vegetation (plants that are typically found occurring 33 percent or more in wetland conditions) is based on designations provided in *The National Wetland Plant List: 2016 wetland ratings*. (Lichvar et al. 2016). Hydric soils are those permanently or seasonally saturated by water resulting in anaerobic conditions. Hydric soils mapped by the USDA, NRCS are listed on the *National Hydric Soils List 2015* (USDA, NRCS 2015), which were used for reference. Hydric soils on-site, identified examining soil profile characteristics using *Munsell Soil Color Charts* (Munsell Color 2009) are those that meet hydric soil indicators as defined in the Regional Supplement. Wetland hydrology is present upon identifying at least one primary or two secondary indicators, as provided in the Regional Supplement. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three parameters.

Where wetlands were suspect (i.e., areas where wetland vegetation and hydrology were evident), soil samples are examined by excavating a soil pit. If wetlands are determined present, areas with similar vegetation and hydrological consistency are extrapolated. Where there are

⁴ Corps Sacramento District, Public Notice SPK-2014-00005, *Guidance on Delineations in Drought Conditions*, February 2014.

changes in vegetation and/or hydrology, additional pits are examined to identify the boundaries between wetland and upland. Vegetation, soils, and hydrology data are then documented on the Corps *Wetland Determination Data Form – Arid West Region*.

3.2 WATERS OF THE STATE

Hydrological features lacking a nexus to (i.e., isolated from) adjacent or downstream waters, and/or particular hydrological features that Corps does not take as jurisdictional, are considered waters of the State. Currently for this region (Los Angeles Regional Board), Regional Board jurisdiction coincides with Corps jurisdiction by defining an OHWM and utilizing the three-parameter approach for wetlands.

3.3 STREAMBED/BANKS AND ASSOCIATED RIPARIAN VEGETATION

CDFW jurisdiction applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State of California. CDFW regulatory authority extends to include riparian habitat (including adjacent wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils or saturated soil conditions. Generally, CDFW jurisdiction is mapped to the top of the active bank of the stream or to the outer drip line of the associated riparian vegetation, whichever is greater. For Notification of Lake or Streambed Alteration purposes, riparian vegetated and non-riparian vegetated streambed are distinguished.

Section 4 Project Setting

The project site is located within the San Gabriel Mountains in the Southwestern California region of the California Floristic Province. Specifically, the site consists of Little Tujunga Canyon Road and its bridge at Buck Canyon Creek. The local area that the project site is situated in consists of steep hills to moderate slopes dominated primarily by a mosaic of Diegan coastal sage scrub and southern mixed chaparral, with portions of Buck Canyon Creek lined with oak riparian woodland and patches of mule fat scrub and southern willow scrub. Development is limited to roadways and a few rural neighborhoods. Canyons consist of ephemeral stream courses partially lined with southern will scrub vegetation. Refer to Appendix A, *Site Photographs* for representative photos of the project site and BSA.

4.1 WATERSHED REVIEW

The project site is located within the Los Angeles River Watershed (Hydrologic Unit Code 18070105), Los Angeles River Hydrologic Unit (HU 12.00), San Fernando Hydrologic Area (HA 12.20), and Tujunga Hydrologic Subarea (HSA 12.23) of the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. The Los Angeles River Watershed covers a land area of 834 square miles, with eastern portions spanning from the Santa Monica Mountains to the Simi Hills and in the west from the Santa Susana Mountains to the San Gabriel Mountains. Major tributaries to the river in the San Fernando Valley are the Pacoima Wash, Tujunga Wash (both drain portions of the Angeles National Forest in the San Gabriel Mountains), Burbank Western Channel, and Verdugo Wash (both drain the Verdugo Mountains). The River conveys flows eastward to the northern corner of Griffith Park and turns southward through the Glendale Narrows before it flows across the coastal plain and into San Pedro Bay near Long Beach.

Tujunga Wash is a 13-mile-long ephemeral stream course providing about a fifth of Los Angeles River flow, its watershed draining approximately 225 square miles. Buck Canyon Creek conveys storm flows east to Little Tujunga Creek, a southerly tributary to Big Tujunga Creek, joining at the Hansen Flood Control Basin before Tujunga Wash channels south primarily concrete-lined through Glendale and the Los Angeles Basin to Long Beach and the Pacific Ocean.

4.2 LOCAL CLIMATE

The project site, located in the foothills of the San Gabriel Mountains east of Sylmar and north of Lake View Terrace (both communities within the City of Los Angeles), has a climate characterized as Mediterranean, with cool, mild winter rains and hot, dry summers. The Los Angeles Area is generally hot and dry through most of the year, with highs averaging 78 degrees Fahrenheit (°F) in the summer and lows averaging 51 °F in the winter. Average annual precipitation for the Los Angeles, California, area is nearly 19 inches (U.S. Climate Data 2017).

Table 1 below provides a monthly and annual precipitation and temperature averages summary, summer, and lower flows during the dry season.

Table 1: Climate Summary

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Maximum Temperature (°F)	67	67	67	69	70	73	77	79	78	75	71	67	71.7
Average Minimum Temperature (°F)	51	51	51	53	56	58	62	62	62	59	55	51	55.9
Average Total Precipitation (inches)	3.98	5.08	2.83	.098	0.31	0.12	0.04	0.04	0.24	0.91	1.38	2.76	18.67

4.3 USGS TOPOGRAPHIC QUADRANGLE

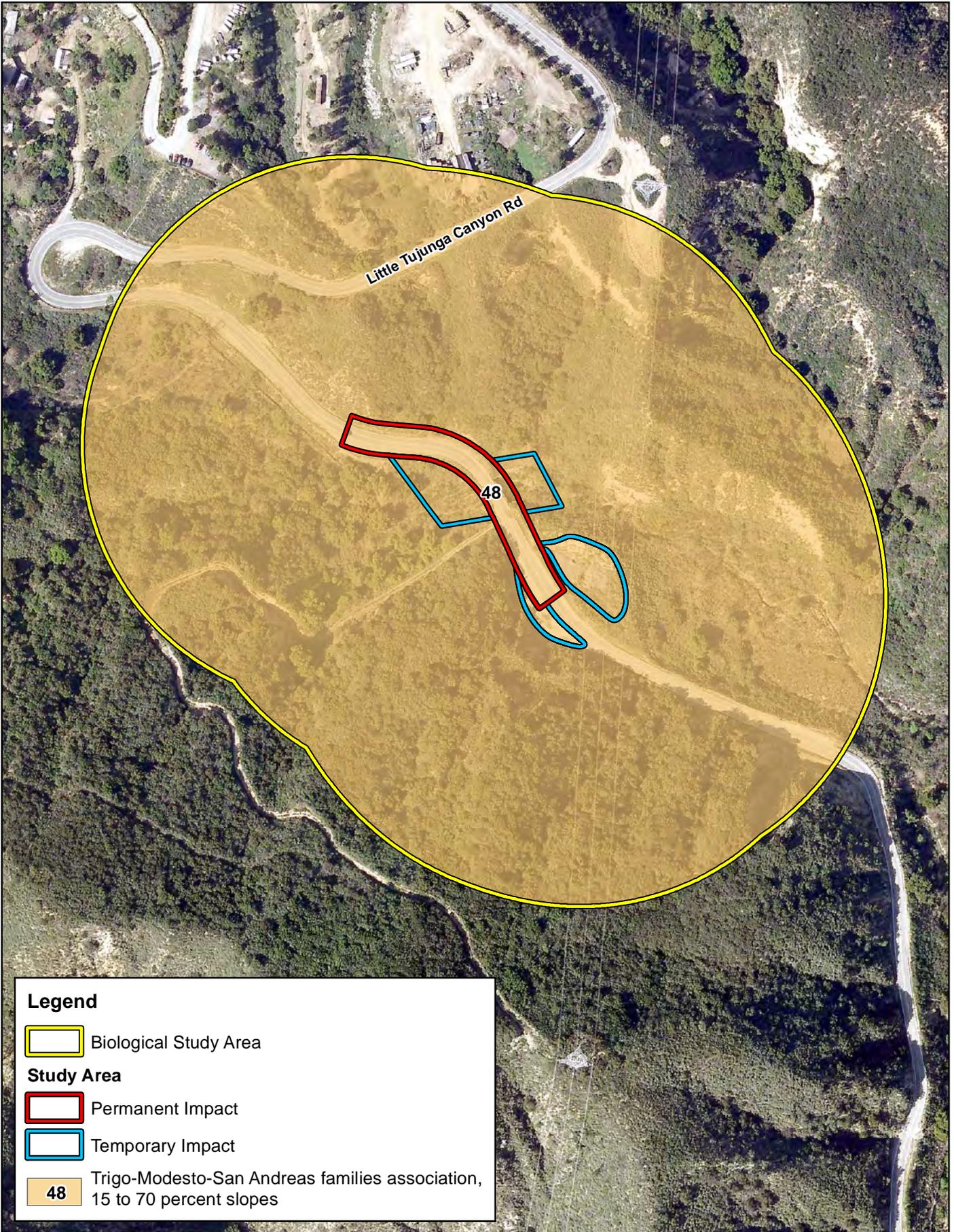
The project site is located within Section 21 of Township 3 North, Range 14 West, of the USGS *Sunland, California* 7.5-minute topographic quadrangle map. Elevations within the project site range from approximately 1,845 feet above mean sea level (amsl) at the north end on Little Tujunga Canyon Road to approximately 1,805 feet amsl at the downstream end of Buck Canyon Creek, and vary between approximately 2,095 and 1,765 feet amsl within the BSA. The majority of the project site and surrounding areas consist of undeveloped lands managed by the U.S. Forest Service. Two blue line streams, Buck Canyon Creek and an unnamed tributary to Buck Canyon Creek (Tributary C; discussed further in Chapter 5), are also shown crossing through the BSA. Refer to Figure 2 for a depiction of the project site and BSA on topographical map.

4.4 AERIAL PHOTOGRAPH

Michael Baker reviewed a timeline of aerial photographs of the project site and BSA on Google Earth Pro (2017), with images dated between May 1994 and July 2016. The BSA consists of the paved two-lane Little Tujunga Canyon Road surrounded mostly by undeveloped land, with the exception of the Wildlife WayStation to the north. Evident throughout the BSA is Buck Canyon Creek. Further, the blue-line tributary mentioned above is evident in the southeastern portion of the BSA.

4.5 SOIL SURVEY

On-site and adjoining soils were reviewed prior to the field visit using the U.S. Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) *Soil Survey of the Angeles National Forest Area, California* (USDA, NRCS 1987). Encompassing the entire project site and BSA is one mapped soil type: Trigo-Modesto-San Andreas families association, 15 to 70 percent slopes (see Figure 4, *USDA Soils*, and Appendix B, *USDA Soil Resources Report*).



8/18/2017 J:\M:\data\158223\GIS\WXDFig 04 USDA Soils.mxd

Legend

- Biological Study Area

Study Area

- Permanent Impact
- Temporary Impact
- 48 Trigo-Modesto-San Andreas families association, 15 to 70 percent slopes



Source: County of Los Angeles

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
USDA Soils

Figure 4

4.6 HYDRIC SOILS LIST OF CALIFORNIA

Michael Baker reviewed the National Hydric Soils List (USDA, NRCS 2015) to determine if soils mapped within the project site are considered hydric. It should be noted that lists of hydric soils along with soil survey maps are good off-site ancillary tools to assist in wetland determinations, but they are not a substitute for on-site investigations. According to the soils list, the Trigo-Modesto-San Andreas complex and individual Soil Series are not considered hydric.

4.7 NATIONAL WETLANDS INVENTORY

Michael Baker reviewed the USFWS NWI (2017) maps online. One feature, Buck Canyon Creek, has been mapped within the project site as Freshwater Forested/Shrub Wetland (PFO/SSC: Palustrine, Forested, Scrub-Shrub, and Seasonally Flooded), with tributaries and further upstream and downstream of Buck Canyon Creek described as Riverine (R3UBF: Riverine, Upper Perennial, Unconsolidated Bottom, and Semipermanently Flooded) (refer to Appendix C, *National Wetlands Inventory Map*). These mapped areas were used as reference while documenting all potentially jurisdictional features as observed on-site during the JD.

4.8 FLOOD ZONE

Michael Baker searched the Federal Emergency Management Agency (FEMA) – 100 Year Flood Zones for flood data within the project site (ArcGIS 2017). Based on the FEMA – 100 Year Flood Zones map, Buck Canyon Creek and upper Little Tujunga Creek where the project is situated are not located within the 100-year flood zone (refer to Appendix D, *FEMA 100 Year Flood Zone Map*).

Section 5 Results

Michael Baker visited the BSA and project site from approximately 7:30 a.m. to 2:00 p.m. on January 25, 2017, to document existing biological resources and jurisdictional features within the project site and BSA. The temperature ranged from approximately 45 to 65 °F, winds ranged approximately 0 to 1 mile per hour from the west, and skies were clear. Two Sample Points (SP1 and SP2) within the project site were examined for wetland indicators (hydrophytic vegetation, hydric soils, and wetland hydrology) where a prevalence of hydrophytic vegetation warranted an investigation, one within mule fat scrub upstream and the other within southern willow scrub downstream. Refer to Appendix E, *Wetland Determination Data Forms* for complete analyses necessary to confirm the limits of jurisdictional boundaries.

The following is a description of existing site conditions and jurisdictional features within the project site and BSA (see Figure 5, *Jurisdictional Resources Map*). Refer to Appendix A, *Site Photographs* for representative photos of the project site and BSA.

5.1 BUCK CANYON

Within the BSA, Buck Canyon Creek is an earthen, ephemeral drainage feature (with the exception of the Little Tujunga Canyon Road bridge/abutments and a concrete apron energy dissipater downstream of the bridge). It conveys storm flows in a generally northwest to southeast direction originating over 2 miles to the west, through patches of riparian corridors, the project site, and approximately 0.25-mile further to Little Tujunga Creek located outside of the BSA. The BSA includes three smaller, earthen, ephemeral tributaries to Buck Canyon Creek, Tributaries A, B, and C. Native shrublands dominate the uplands.

5.2.1 Vegetation

Buck Canyon Creek within the project site (mapped as a freshwater forested/shrub wetland feature by the NWI), to the west of the bridge, consists of sparse mule fat scrub vegetation dominated by mule fat (*Baccharis salicifolia*), with southern willow scrub vegetation dominated by sandbar willow (*Salix exigua*) along the northern terrace. Scattered upland vegetation including California sagebrush (*Artemisia californica*) and sparse non-native grasses, including red brome (*Bromus rubens*), common ripgut grass (*B. diandrus*), and smilo grass (*Stipa miliacea*) are scattered throughout, likely a result of the prolonged drought. Further upstream within the BSA are patches of southern willow scrub dominated by arroyo willow (*S. lasiolepis*) and oak riparian woodland dominated by coast live oak (*Quercus agrifolia*). Below the bridge, the creek is devoid of vegetation. East of the bridge are patches of southern willow scrub dominated by arroyo willow, and to a lesser extent, mule fat, California mugwort (*Artemisia douglasiana*), common ripgut grass, and smilo grass. Downstream portions of Buck Canyon Creek within the BSA primarily consist of unvegetated streambed and deeply scoured banks, with scattered mule fat throughout. A few mature, widespread individuals of western sycamore

(*Platanus racemosa*) are present within the floodplain of Buck Canyon Creek. Tributaries of Buck Canyon Creek within the BSA are surrounded by upland scrub.

SP1 consists of approximately 50% cover of mule fat (i.e., a dominant), a facultative wetland species (FAC; 33-66% found in wetlands), less than 5% cover each of upland (UPL) species (i.e., not dominants), California sagebrush, smilo grass, and horehound (*Marrubium vulgare*). Nonetheless, a predominance of hydrophytic vegetation is confirmed with mule fat being the only dominant. SP2 consists of approximately 70% cover (dominant) of arroyo willow (FACW; 66-99% found in wetlands), approximately 10% cover (not a dominant) of mule fat, and less than 5% cover each (not dominants) of upland (UPL) species, California sagebrush, common riggut grass, smilo grass, and California mugwort (FAC), again confirming a predominance of hydrophytic vegetation with arroyo willow being the only dominant.

Further surrounding Buck Canyon Creek is a mosaic and/or various combinations of Diegan coastal sage scrub and southern mixed chaparral. Dominant Diegan coastal sage scrub species observed on-site include California sagebrush, California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), toyon (*Heteromeles arbutifolia*), deerweed (*Acemison glaber*), and chaparral yucca (*Hesperoyucca whipplei*). Southern mixed chaparral on-site is dominated by scrub oak (*Quercus berberidifolia*), mountain mahogany (*Cercocarpus betuloides*), thicketleaf yerba santa (*Eriodictyon crassifolium*), chamise (*Adenostoma fasciculatum*), and sugar bush (*Rhus ovata*). Disturbed areas surrounding road shoulders include common riggut grass, red brome, smilo grass, short-pod mustard (*Hirschfeldia incana*), totalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), and filaree (*Erodium* spp.).

5.2.2 Soils

Soils observed on-site were generally consistent with those mapped by the Soil Survey. Two sampling points were examined where a predominance of vegetation was present and wetlands were most likely suspect within the project site.

SP1 consists of silty clay loam within the top 1 inch, with a Munsell soil color of 10YR 3/3, and silty loam between 1 inch and 10 inches from the soil surface, with a Munsell soil color of 10YR 3/6. SP2 consists of silty clay loam within the top 10 inches, with a Munsell soil color of 10YR 3/3. Further, no redoximorphic features were observed within these locations, which did not meet any hydric soil indicators. Therefore, hydric soils were not observed within the project site.

5.2.3 Hydrology

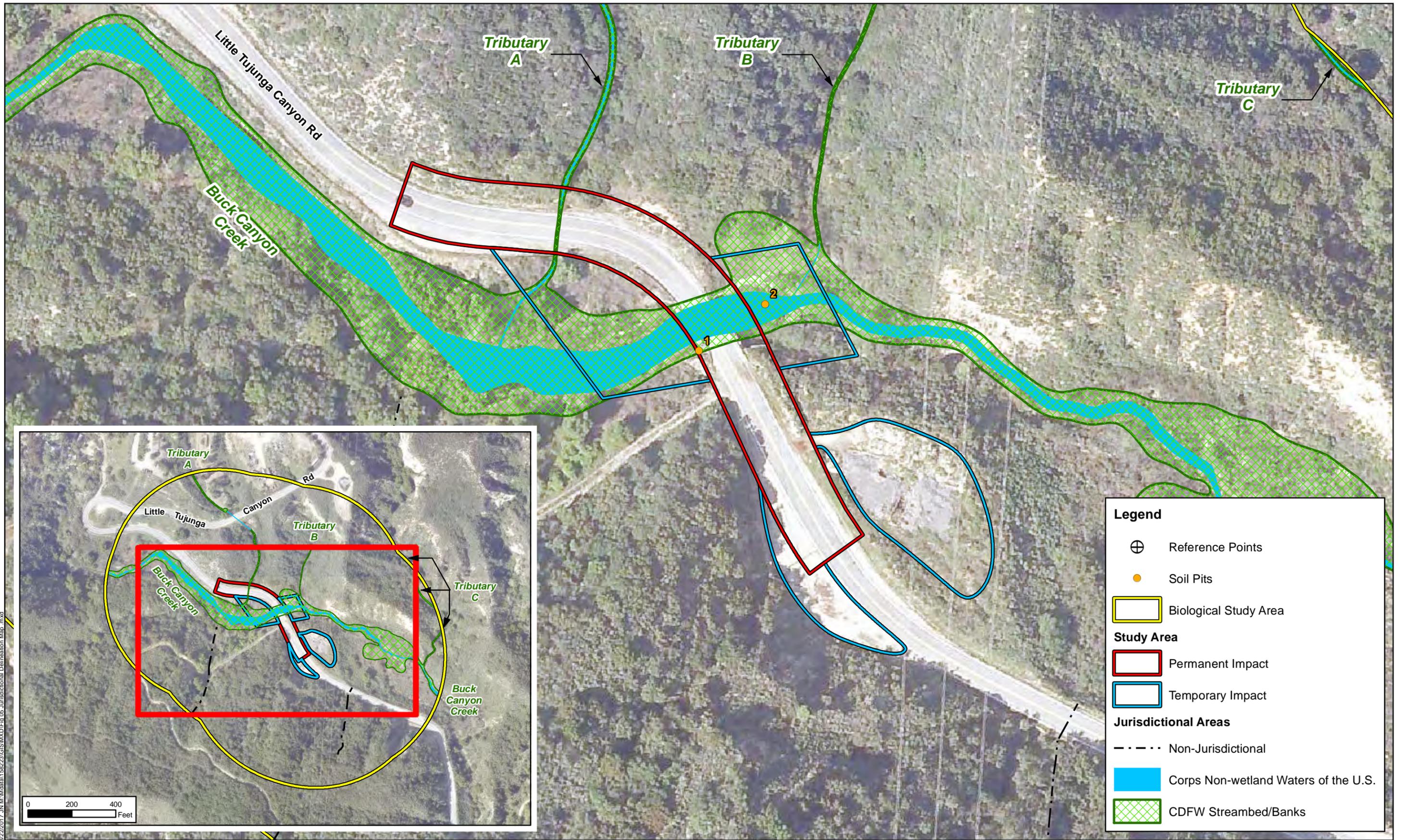
A series of significant rain events had occurred for several days, ending two to three days prior to the site visit. Ordinary surface flows were prevalent within Buck Canyon Creek and the blue-line tributary (Tributary C) in the southeastern portion of the BSA, with extraordinary surface flows from previous days evident along associated terraces where present. Within Buck Canyon

Creek and the project site, the OHWM averages approximately 30 feet wide, with the riparian vegetation extending between approximately 50 and 100 feet wide.

At SP1, Surface Water, primary wetland hydrology indicator A1, was present with a depth of up to 3 inches in addition to several other hydrology indicators. SP2 was examined within an island terrace absent of surface water or saturated soils, yet showed secondary wetland hydrology indicators, Sediment Deposits (B2) and Drift Deposits (B3). Wetland hydrology was observed at both locations.

5.2.4 Significant Nexus Determination

Flows from Buck Canyon Creek, a direct tributary to Little Tujunga Creek, are conveyed to the Hansen Flood Control Basin. In the extraordinary event that the basin capacity is exceeded, flows would be conveyed through a box culvert to Los Angeles River via the concrete-lined portion of remainder of Tujunga Wash. Flows from there are conveyed via the concrete-lined Los Angeles River (RPW), thereby providing a significant nexus to a TNW, the Pacific Ocean.



8/22/2017 11:14:11 AM Data: 582231615MXD\Fig 05 Jurisdictional Delineation Map.mxd

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
Jurisdictional Delineation Map



Source: County of Los Angeles

Figure 5

Section 6 Conclusions and Recommendations

This JD Report has been prepared for the County DPW in order to delineate the Corps, Regional Board, and CDFW jurisdictional authority within the project site and BSA. This report presents Michael Baker's professional opinion for determining the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. However, as with any jurisdictional delineation, only the regulatory agencies can make a final determination of jurisdictional boundaries within a project site/property.

The following is a summary of the total area of potential jurisdiction for each regulatory agency (refer to Figure 5, *Jurisdictional Resources Map*, for an illustration of on-site jurisdictional areas) and the various permits/authorizations required before any temporary or permanent impacts to jurisdictional areas may occur. Table 2 below provides a breakdown of these areas.

Table 2. Jurisdictional Limits within the Project Site / BSA

Feature	Jurisdictional Limits (acres) [impacts: permanent / temporary]		
	Linear Feet (project site)	Corps/Regional Board Non-wetland WoUS	CDFW Streambed/Banks and Riparian Vegetation
Buck Canyon Creek	237	0.15 / 0.69 [0.05 / 0.10]	0.37 / 2.46 [0.07 / 0.30]
Tributary A	109	0.01 / 0.03 [0.00 / 0.00]]	0.01 / 0.07 [0.00 / 0.00]
Tributary B	30	0.00 / 0.01 [-- / 0.00]	0.00 / 0.01 [-- / 0.00]
Tributary C	--	-- / 0.03 [-- / --]	-- / 0.05 [-- / --]
TOTAL	376	0.16 / 0.77 [0.05 / 0.11]	0.37 / 2.60 [0.07 / 0.30]

* Totals may not equal to sum due to rounding.

6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

6.1.1 Non-Wetland Determination

The Corps regulates discharges of dredged or fill materials into WoUS pursuant to Section 404 of the CWA. A total of approximately 0.16 acre of potential non-wetland WoUS associated with Buck Canyon Creek have been mapped within the project site (impacts: 0.05 acre permanent / 0.11 acre temporary), with a total of approximately 0.77 acre within the BSA (inclusive of the

project site). Permit authorization will be required from the Corps prior to commencement of any construction activities (i.e., dredge or fill) within the Corps delineated jurisdictional areas. It is anticipated that a Pre-Construction Notification (PCN) for Nationwide Permit (NWP) 14 – *Linear Transportation Projects* would be appropriate to address impacts to WoUS. No fees are associated with processing a PCN.

6.1.2 Wetland Determination

Because the three-parameter criteria was not met at either location (SP1 and SP2) that were most suspect of wetlands within the project site, no wetland WoUS were observed within the project site. There is a potential for wetlands to occur upstream within the BSA, but outside of the project limits.

6.2 REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The Regional Board regulates discharges to surface waters with a nexus to a TNW pursuant to CWA Section 401, and Porter-Cologne Section 13263 for those that do not. Because all features within the survey area have a significant nexus to downstream WoUS, the total acres jurisdictional under the Regional Board mirrors that of the Corps (approximately 0.16 acre of non-wetland WoUS within the project; 0.77 acre within the BSA). For a Corps permit (e.g., NWP) to be authorized, a Water Quality Certification (WQC) issued from the Regional Board will be required. The Regional Board also requires that California Environmental Quality Act (CEQA) compliance be obtained prior to obtaining the WQC. A Regional Board application fee is required with the application package, which is calculated based on the acreage and linear feet of jurisdictional impacts.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The CDFW regulates the alteration of streambeds and associated riparian vegetation pursuant to CFGC Sections 1600 *et seq.* On-site, Bear Creek and its tributaries exhibited evidence of streambed and active banks. These features are considered jurisdictional to CDFW, totaling approximately 0.37 acre within the project site (impacts: 0.07 acre permanent / 0.30 acre temporary), with a total of approximately 2.60 acres within the BSA. The CDFW must be notified, and a Streambed Alteration Agreement (or other approval such as an Operation by Law letter or Letter of Non-Substantial Impact) issued from the CDFW would be required prior to commencement of any construction activities within the CDFW jurisdictional areas. A CDFW application fee is required with the application package, which is calculated based on project costs.

6.4 GLOBAL RECOMMENDATIONS

It is highly recommended that the JD Report be forwarded to each of regulatory agency for their concurrence as part of the regulatory permitting process for the proposed project.

Section 7 References

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Appendix A Site Photographs



Photograph 1: Overview of the Biological Study Area (BSA) (bridge in view right-center of photo), facing east.



Photograph 2: View of the Little Tujunga Canyon Road Bridge over Buck Canyon Creek, facing northwest.



Photograph 3: Overview of the project site showing staging areas in the background, facing southeast.



Photograph 4: View of the proposed access route (left, just right of coast live oak tree) from north of Buck Canyon Creek and the temporary work zone west of the bridge, facing north.



Photograph 5: View of the temporary work zone east of the bridge, facing southwest.



Photograph 6: View of Sampling Point 1 upstream of the bridge showing ordinary flows of Buck Canyon Creek following a recent storm event, facing southwest.



Photograph 7: View of Sampling Point 2 downstream of the bridge showing the ordinary flows on both sides, facing west.



Photograph 8: Representative view of a small tributary to Buck Canyon Creek in the southeastern portion of the BSA (this, the only one with surface flows), facing north.

Appendix B Soil Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Angeles National Forest Area, California

Little Tujunga Canyon Road Over Buck Canyon Bridge Replacement



January 21, 2017

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

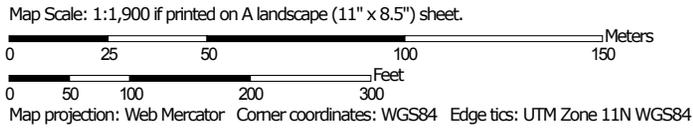
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map (Little Tujunga and Buck Canyon)



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Angeles National Forest Area, California
 Survey Area Data: Version 10, Sep 28, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 3, 2010—Aug 31, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend (Little Tujunga and Buck Canyon)

Angeles National Forest Area, California (CA776)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
48	Trigo-Modesto-San Andreas families association, 15 to 70 percent slopes	16.4	100.0%
Totals for Area of Interest		16.4	100.0%

Map Unit Descriptions (Little Tujunga and Buck Canyon)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

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landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Angeles National Forest Area, California

48—Trigo-Modesto-San Andreas families association, 15 to 70 percent slopes

Map Unit Setting

National map unit symbol: hm7g
Elevation: 1,230 to 3,180 feet
Mean annual precipitation: 18 to 30 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 200 to 320 days
Farmland classification: Not prime farmland

Map Unit Composition

Trigo family and similar soils: 35 percent
Modesto family and similar soils: 20 percent
San andreas family and similar soils: 20 percent
Modesto family and similar soils: 20 percent
Modesto family and similar soils: 20 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Trigo Family

Setting

Landform: Mountain slopes
Parent material: Residuum weathered from sandstone

Typical profile

A - 0 to 8 inches: silt loam
C - 8 to 16 inches: gravelly silt loam
Cr - 16 to 26 inches: bedrock

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: About 16 inches to paralithic bedrock
Natural drainage class: Somewhat excessively drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Modesto Family

Setting

Landform: Terraces
Landform position (two-dimensional): Footslope

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Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Residuum weathered from schist

Typical profile

A1 - 0 to 3 inches: loam
A2 - 3 to 8 inches: loam
Bt1 - 8 to 22 inches: clay loam
Bt2 - 22 to 46 inches: clay loam
R - 46 to 56 inches: bedrock

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: About 46 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of San Andreas Family

Setting

Landform: Mountain slopes
Parent material: Colluvium

Typical profile

A - 0 to 16 inches: loam
Bw - 16 to 32 inches: loam
C - 32 to 60 inches: sandy loam
Cr - 60 to 70 inches: bedrock

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: 60 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B

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Hydric soil rating: No

Description of Modesto Family

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Description of Modesto Family

Properties and qualities

Slope: 15 to 70 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Osito family

Percent of map unit: 3 percent
Landform: Mountain slopes
Hydric soil rating: No

Caperton family

Percent of map unit: 3 percent
Landform: Mountain slopes
Hydric soil rating: No

Hanford family

Percent of map unit: 3 percent
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Hydric soil rating: No

Vista family

Percent of map unit: 3 percent

Landform: Mountain slopes

Hydric soil rating: No

Calleguas family

Percent of map unit: 3 percent

Landform: Mountain slopes

Hydric soil rating: No

Calcic haploxerepts, moderately deep

Percent of map unit: 3 percent

Landform: Mountain slopes

Hydric soil rating: No

Haploxerolls, warm

Percent of map unit: 3 percent

Landform: Mountain slopes

Hydric soil rating: No

Escarpments

Percent of map unit: 2 percent

Landform: Mountain slopes

Hydric soil rating: No

Typic xerorthents

Percent of map unit: 2 percent

Landform: Mountain slopes

Hydric soil rating: No

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Appendix C National Wetlands Inventory Map



Little Tujunga Canyon Road Over Buck Canyon Bridge Replacement



January 21, 2017

- | | | |
|--------------------------------|-----------------------------------|----------|
| Estuarine and Marine Deepwater | Freshwater Forested/Shrub Wetland | Other |
| Estuarine and Marine Wetland | Freshwater Pond | Riverine |
| Freshwater Emergent Wetland | Lake | |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix D FEMA 100 Year Flood Zone Map

FEMA 100 Year Flood Zones in the U.S.A-Bay County

This map service represents Flood Insurance Rate Map (FIRM) data important for floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP).



USDA FSA, Microsoft | Esri, HERE, Garmin, iPC | Federal Emergency Management Agency (FEMA)



Appendix E Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Little Tujunga Canyon Road Bridge Replacement of Buck Cyn. Co. City/County: Uninc Sylmar / Los Angeles Sampling Date: 1/25/17
 Applicant/Owner: County of Los Angeles Dept. Public Works State: CA Sampling Point: 1
 Investigator(s): D. Rosik, S. Anderson Section, Township, Range: Section 21, T3N, R14W
 Landform (hillslope, terrace, etc.): channel Local relief (concave, convex, none): concave Slope (%): 1
 Subregion (LRR): C Lat: 34°19'42.96" N Long: 118°20'28.65" W Datum: _____
 Soil Map Unit Name: Trigo-Modesto-San Andreas NWI classification: PFO/SSC
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>Sampling Point examined in most suspect wetlands setting in mule fat adjacent to surface flows (ordinary water mark)</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Baccharis salicifolia</u>	<u>50</u>	<u>Y</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Artemisia californica</u>	<u><5</u>	<u>N</u>	<u>UPL</u>	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species _____ x 3 = _____
5. _____	_____	_____	_____	FACU species _____ x 4 = _____
<u>50+</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: _____ (A) _____ (B)
				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Stipa miliacea</u>	<u><5</u>	<u>N</u>	<u>UPL</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Marrubium vulgare</u>	<u><5</u>	<u>N</u>	<u>UPL</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
<u><5</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>45</u> % Cover of Biotic Crust _____				
Remarks: <u>Upland species most likely established during prolonged drought.</u>				

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/3						SCL	
1-10	10YR 3/6						SL	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Water Marks (B1) (Riverine)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No _____ Depth (inches): 3

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

Saturation Present? Yes No _____ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes _____ No _____

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

Remarks: Sampled following significant storm event.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/3						SCL	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes No _____

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

Remarks: *Following significant storm event.*

Appendix D – Site Photographs



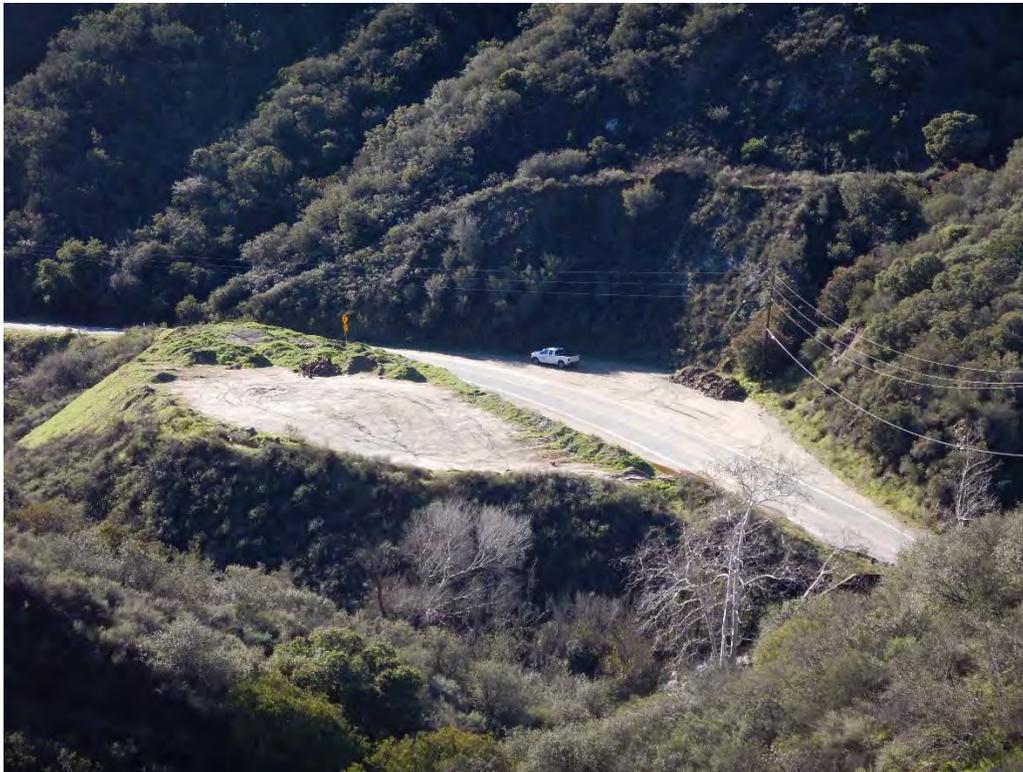
Photograph 1: Overview of the Biological Study Area (bridge in view right-center), facing east.



Photograph 2: View of the Little Tujunga Canyon Road Bridge over Buck Canyon Creek, facing northwest.



Photograph 3: Overview of the project site, facing southeast.



Photograph 4: View of the staging areas south of the bridge, adjacent to Little Tujunga Canyon Road, facing south.



Photograph 5: View of the southern approach roadway reconstruction area to accommodate the width of the new bridge, facing north.



Photograph 6: View of the northern approach roadway reconstruction area to accommodate the width of the new bridge, facing northwest.



Photograph 7: View of the proposed access route (left) from north of Buck Canyon Creek and the temporary work zone west of the bridge, facing north.



Photograph 8: View of the temporary work zone east of the bridge, facing southwest.

Appendix E – Potentially Occurring Special-Status Biological Resources

Potentially Occurring Special-Status Biological Resources

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
SPECIAL-STATUS WILDLIFE SPECIES				
<i>Anaxyrus californicus</i> arroyo toad	Fed: END CA: SSC	Inhabits washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores, oaks, and cottonwoods. Has extremely specialized habitat needs, which include exposed sandy streambanks 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.	No	Low. Suitable habitat (exposed sandy streambanks with stable terraces) is marginally present within the project site and BSA. Further, there are no CNDDB occurrences within 5 miles of the BSA.
<i>Anniella pulchra pulchra</i> silvery legless lizard	Fed: None CA: SSC	Occurs primarily in areas with sandy or loose loamy soils under sparse vegetation of beaches, chaparral, or pine-oak woodland; or near sycamores, oaks, or cottonwoods that grow on stream terraces. Often found under or in the close vicinity of logs, rocks, old boards, and the compacted debris of woodrat nests.	No	Moderate. Suitable habitat (sandy or loose loamy soils under sparse chaparral and riparian vegetation) is present within the project site and BSA, but the nearest occurrence is over 4 miles to the south.
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	Fed: None CA: SSC	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	No	Moderate. Suitable habitat (semiarid areas with sparse vegetation, riparian areas) is present within the project site and BSA, but the nearest occurrence is over 3 miles to the south.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Buteo swainsoni</i> Swainson's hawk	Fed: None CA: THR	Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.	No	Low. Suitable nesting habitat (riparian areas) is marginally present within the project site and BSA. This species may forage in the area,; however, the nearest occurrence is from circa 1900 approximately 5 miles southwest.
<i>Catostomus santaanae</i> Santa Ana sucker	Fed: THR CA: None	Endemic to Los Angeles Basin south coastal perennial streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	No	Not Expected. Suitable habitat (perennial streams) is not present within the project site and BSA.
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	Fed: THR CA: END	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian juggles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	No	Not Expected. Suitable habitat (riparian forests) is not present within the project site and BSA.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	Fed: None CA: CTHR SSC	Now considered uncommon in California. Details of its distribution are not well known. This species is found in all but subalpine and alpine habitats, and may be found at any season throughout its range. Most abundant in mesic habitats. Roosts in the open on walls and ceilings.	No	Moderate. Suitable roosting habitat (mesic habitats, cliff walls, bridge) is present within the project site and BSA, with foraging habitat (mesic habitats) throughout.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	Fed: END CA: END	Occurs in broad riparian woodlands in southern California. Typically requires large areas of willow thickets in broad valleys and canyon bottoms, or around ponds and lakes. These areas typically have standing or running water, or are at least moist.	No	Not Expected. Suitable habitat (broad riparian woodlands) is not present within the project site and BSA.
<i>Emys marmorata</i> western pond turtle	Fed: None CA: SCC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches, usually found with aquatic vegetation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 kilometers from water for egg-laying. Found between 0 and 6,000 feet amsl in elevation.	No	Not Expected. Suitable habitat (ponding, open waters) is not present within the project site and BSA.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Falco mexicanus</i> prairie falcon	Fed: None CA: WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs in Great Basin grassland, Great Basin scrub, Mojavean desert scrub, Sonoran desert scrub, and valley and foothill grassland. Forages far afield, even to marshlands and ocean shores, wintering in coastal southern California.	No	Moderate. Suitable nesting habitat (cliffs) is present within the BSA (but, outside of the project site), with foraging habitat present throughout the BSA.
<i>Gila orcuttii</i> arroyo chub	Fed: None CA: SSC	Found in slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	No	Not Expected. Suitable habitat (perennial streams) is not present within the project site and BSA.
<i>Gymnogyps californianus</i> California condor	Fed: END CA: END (FP)	Requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Occurs in deep canyons containing clefts in the rocky walls that provide nesting sites. Forages up to 100 miles from roost/nest.	No	Moderate. Suitable nesting habitat (cliffs) is present within the BSA (but, outside of the project site), with foraging habitat present throughout the BSA.
<i>Lasiurus cinereus</i> hoary bat	Fed: None CA: None	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	No	Low. Suitable roosting habitat (trees) is present within the project site and BSA, with foraging habitat (habitat mosaics) throughout. However, perennial water sources are not.
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	Fed: None CA: SSC	Found in intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges. Occurs in coastal sage scrub habitats in Southern California.	No	Low. Suitable habitat (open shrub habitats) is marginally present within the project site and BSA.
<i>Onychomys torridus ramona</i> southern grasshopper mouse	Fed: None CA: SSC	Feeds almost exclusively on arthropods, especially scorpions and <i>Orthopteran</i> insects. Found in desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	No	Not Expected. Suitable habitat (desert areas with low to moderate shrub cover) is not present within the project site and BSA.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Phrynosoma blainvillii</i> coast horned lizard	Fed: None CA: SSC	Occurs in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (i.e. fire, floods, roads, grazing, and fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited canopy for basking and low, but relatively dense shrubs for refuge.	No	Low. Suitable habitat (coastal sage scrub, chaparral, oak and riparian woodlands) is present within the project site and BSA; however, open microhabitats and an abundance of native ants were not observed.
<i>Polioptila californica californica</i> coastal California gnatcatcher	Fed: THR CA: SSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet amsl in Southern California. Occurs in low, coastal sage scrub in arid washes, and on mesas, bowls, and slopes lacking tall perching vegetation. Not all areas classified as coastal sage scrub are occupied.	No	Low. Suitable habitat (coastal sage scrub lacking tall perching vegetation) is marginally present within the project site and BSA. Further, the nearest occurrence is approximately 4 miles to the south.
<i>Rana muscosa</i> southern mountain yellow-legged frog	Fed: END CA: END	Federal listing refers to populations in the San Gabriel, San Jacinto, and San Bernardino Mountains (southern DPS). Always encountered within a few feet of water. Tadpoles may require 2-4 years to complete their aquatic development.	No	Not Expected. Suitable habitat (perennial streams) is not present within the project site and BSA.
<i>Rhinichthys osculus ssp. 3</i> Santa Ana speckled dace	Fed: None CA: SSC	Found at the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 °C. Usually inhabits shallow cobble and gravel riffles	No	Not Expected. Suitable habitat (perennial streams) is not present within the project site and BSA.
<i>Thamnophis hammondi</i> two-striped garter snake	Fed: None CA: SSC	Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth. Found along coastal California from the vicinity of Salinas to northwest Baja California. Found between 0 and 7,000 feet amsl in elevation.	No	Not Expected. Suitable habitat (perennial streams) is not present within the project site and BSA.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Vireo bellii pusillus</i> least Bell's vireo	Fed: END CA: END	Primarily occupies riverine riparian habitats that typically feature dense cover within 1 -2 meters of the ground and a dense, stratified canopy. Typically, it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodlands, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses, 2,000 feet amsl elevation in the interior.	No	Low. Suitable habitat (riverine riparian habitats) is marginally present within the project site and BSA. Further, the nearest occurrence is over 4 miles to the south and west.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
SPECIAL-STATUS PLANT SPECIES				
<i>Astragalus brauntonii</i> Braunton's milk-vetch	Fed: END CA: None CNPS: 1B.1	Perennial herb. Blooms January through August. Occurs in chaparral and Tecate cypress woodland. The seeds germinate following fire or physical disturbance. Known elevations ranging from 655 to 2,135 feet amsl.	No	Low. Suitable habitat (chaparral) is marginally present within the project site, while present throughout the BSA. However, there are no occurrences of this species within 5 miles.
<i>Berberis nevinii</i> Nevin's barberry	Fed: END CA: END CNPS: 1B.1	Shrub. Blooms March through June. Occurs in a wide variety of vegetation types including chaparral, cismontane woodland, coastal scrub, and riparian scrub. Found on steep, north facing slopes or in low grade sandy washes within elevations ranging from 195 to 5,200 feet amsl.	No	Low. Suitable habitat (steep, north facing slopes, low grade sandy washes) is present within the BSA. However, this perennial shrub species was not observed during the survey.
<i>Calochortus catalinae</i> Catalina mariposa lily	Fed: None CA: None CNPS: 4.2	Perennial herb (bulb). Blooms March through June. Typically occurs in heavy soils, open slopes, and openings in brush within valley and foothill grassland, chaparral, coastal scrub, and cismontane woodland habitats. Known elevations range from 15 to 2,300 feet amsl.	No	Moderate. Suitable habitat (chaparral, coastal scrub, and cismontane woodland) is present within the BSA, but not within the project site.
<i>Calochortus plummerae</i> Plummer's mariposa-lily	Fed: None CA: None CNPS: 4.2	Perennial herb (bulb). Blooms May through July. Found in a wide variety of vegetation types including coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. Occurs on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after a fire. Found between 200 and 8,200 feet amsl in elevation.	Yes	Present. A population of approximately 200 individuals was observed within the BSA, but well outside of the project site.
<i>Centromadia parryi ssp. australis</i> southern tarplant	Fed: None CA: None CNPS: 1B.1	Annual herb. Blooms May through November. Often in disturbed sites near the coast at marsh edges; also, in alkaline soils sometimes with saltgrass. Also found in valley grassland, foothill grassland, and sometimes on vernal pool margins. Found between 0 and 3,200 feet amsl in elevation.	No	Low. Suitable habitat (disturbed sites near water) is marginally present within the project site and BSA.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Chorizanthe parryi</i> var. <i>fernandina</i> San Fernando Valley spineflower	Fed: None CA: END CNPS: 1B.1	Annual herb. Blooms April through July. Found on sandy soils in coastal sage scrub and valley and foothill grassland. Occurs in sandy soils between 50 and 3,300 feet in elevation.	No	Low. Suitable habitat (sandy soils in coastal sage scrub) is marginally present within the project site and BSA.
<i>Clarkia lewisii</i> Lewis' clarkia	Fed: None CA: None CNPS: 4.3	Annual herb. Blooms May through July. Occurs in coastal scrub, chaparral, cismontane woodland, broadleaved upland forest, and closed-cone coniferous forest. Known elevations range from 0 to 2,070 feet amsl.	Yes	Present. A population of approximately 100 individuals was observed within the BSA, with a minimum of 5 individuals within the project site.
<i>Dodecahema leptoceras</i> slender-horned spineflower	Fed: END CA: END CNPS: 1B.1	Annual herb. Blooms April through June. Primarily occupies flood deposited terraces and washes within chaparral, cismontane woodland, and coastal scrub (alluvial fan sage scrub). Associated plant species include <i>Encelia</i> , <i>Dalea</i> , <i>Lepidospartum</i> , etc. Found in sandy soils between 650 and 2,700 feet amsl in elevation.	No	Low. Suitable habitat (flood deposited terraces in coastal scrub and chaparral) is marginally present within the project site and BSA. Nearest occurrence is over 3 miles to the west.
<i>Heuchera caespitosa</i> urn-flowered alumroot	Fed: None CA: None CNPS: 4.3	Perennial herb. Blooms May through August. Occurs on rocky sites in lower montane coniferous forest, upper montane coniferous forest, cismontane woodland, and riparian forest. Known elevations range from 3,640 to 9,515 feet amsl.	No	Not Expected. Suitable habitat (cismontane woodland) is marginally present within the BSA. However, the project site is outside of the species known elevation range.
<i>Hulsea vestita</i> ssp. <i>gabrielensis</i> San Gabriel Mountains sunflower	Fed: None CA: None CNPS: 4.3	Perennial herb. Blooms May through July. Found on rocky sites in lower montane coniferous forest and upper montane coniferous forest. Known elevations range from 4,200 to 9,185 feet amsl.	No	Not Expected. Suitable habitat (coniferous forest) is not present within the project site and BSA. Further, the project site is outside of the species known elevation range.

Scientific Name Common Name	Status	Habitat	Observed On-site	Potential to Occur
<i>Juglans californica</i> southern California black walnut	Fed: None CA: None CNPS: 4.2	Tree. Blooms March through June. Found on slopes, in canyons, and alluvial habitats in chaparral, coastal scrub, and cismontane woodland. Known elevations range from 160 to 4,890 feet amsl.	Yes	Present. Two individuals were observed within the BSA, but well outside of the project site.
<i>Lepidium virginicum var. robinsonii</i> Robinson's pepper-grass	Fed: None CA: None CNPS: 4.3	Annual herb. Blooms January through July. Found in chaparral and coastal sage scrub. Occurs in dry soils and shrubland between 0 and 4,400 feet amsl in elevation.	No	Moderate. Suitable habitat (dry soils in chaparral and coastal sage scrub) is present within the project site and BSA.
<i>Malacothamnus davidsonii</i> Davidson's bush-mallow	Fed: None CA: None CNPS: 1B.2	Shrub. Blooms June through January. Occurs in a wide variety of vegetation types including coastal scrub, riparian woodland, chaparral, and cismontane woodland. Also occurs in sandy washes between 450 and 6,000 feet amsl in elevation.	No	Low. Suitable habitat (coastal scrub, riparian woodland, chaparral, and cismontane woodland; sandy washes) is marginally present within the project site, while present throughout the BSA. However, this perennial shrub species was not observed during the survey.
<i>Phacelia hubbyi</i> Hubby's phacelia	Fed: None CA: None CNPS: 4.2	Annual herb. Blooms April through June. Found on gravelly, rocky areas and talus slopes in chaparral, coastal scrub, and valley and foothill grassland. Known elevation range from 0 to 3,280 feet amsl.	No	Low. Suitable habitat (chaparral and coastal scrub) is marginally present within the project site, but throughout the BSA.
<i>Symphotrichum greatae</i> Greata's aster	Fed: None CA: None CNPS: 1B.3	Perennial herb (rhizomatous). Blooms June through October. Occurs in mesic canyons in a wide variety of vegetation types, including chaparral, cismontane woodland, broadleaved upland forest, lower montane coniferous forest, and riparian woodland. Occurs in between 1,000 and 6,700 feet amsl in elevation.	No	Low. Suitable habitat (mesic canyons in chaparral, cismontane woodland, and riparian woodland) is marginally present within the project site, while present throughout the BSA.

LEGEND

U.S. Fish and Wildlife Service (USFWS) - Federal

END- Federal Endangered

THR- Federal Threatened

California Department of Fish and Wildlife (CDFW) - California

END- California Endangered

THR- California Threatened

CTHR - Candidate California Threatened

SSC- Species of Special Concern

WL- Watch List

California Native Plant Society (CNPS)

California Rare Plant Rank

1B Plants Rare, Threatened, or Endangered in California and Elsewhere

2B Plants Rare, Threatened, or Endangered in California, but More Common Elsewhere

3 Plants About Which More Information is Needed

4 Plants of Limited Distribution

Threat Ranks

0.1- Seriously threatened in California

0.2- Moderately threatened in California

0.3- Not very threatened in California

Appendix F – 2018 Rare Plant Survey Results

August 9, 2018

County of Los Angeles Department of Public Works

Programs Development Division
Attn: Ebigalle Voigt
900 South Fremont Avenue
DPW Headquarters, Eleventh Floor
Alhambra, California 91803

SUBJECT: 2018 Rare Plant Survey Results for the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement Project, Angeles National Forest, Los Angeles County, California

Dear Ms. Voigt:

On behalf of the County of Los Angeles (County) Department of Public Works (DPW), Michael Baker International (Michael Baker) has prepared this report to document the results of the 2018 rare plant survey conducted by Michael Baker within the 37.65-acre Biological Study Area (BSA: project site, including a 500-foot buffer) of the Little Tujunga Canyon Road over Buck Canyon Bridge Replacement project (project).

Project Location

The 1.71-acre project site is located in the San Gabriel Mountains of the Angeles National Forest approximately 4 miles north of Interstate 210 and approximately 3 miles east of Sylmar, along Little Tujunga Canyon Road at Buck Canyon Creek, in an unincorporated portion of Los Angeles County, California (Figure 1, *Regional Vicinity*; all figures are included at the end of this report). Specifically, the project site is located within the southwest portion of Section 22 of Township 3 North, Range 14 West, of the U.S. Geological Survey (USGS) *Sunland, California 7.5-minute* topographic quadrangle map (Figure 2, *Site Vicinity*).

Project Description

The proposed project would implement improvements to replace the existing Little Tujunga Canyon Road bridge over Buck Canyon Creek, and construct adjacent roadway improvements to improve operations in the project area. These improvements would address existing deficiencies and implement improvements consistent with the General Plan Mobility Element. The existing bridge is classified as functionally obsolete. A new bridge would meet current design and safety standards and provide resistance to fire damage, facilitate large vehicle access, and improve roadway safety. For project description details, refer to Chapter 1 of the Natural Environment Study (NES) prepared by Michael Baker (March 2017; revised November 2017).

Existing Conditions

The BSA primarily consists of undeveloped lands of the Angeles National Forest comprised of natural plant communities, with Little Tujunga Canyon Road and the associated bridge crossing over Buck Canyon Creek generally bisecting the BSA. Five (5) native plant communities were observed and mapped within the boundaries of the BSA during the early 2017 field survey: oak

riparian woodland, southern willow scrub, mule fat scrub, Diegan coastal sage scrub, and southern mixed chaparral. For details regarding existing conditions as documented within the project site and BSA in early 2017, refer to Chapters 3 and 4 of the NES. Figures 4 and 5 of the NES depict U.S. Department of Agriculture (USDA) Soils and Vegetation Communities and Land Uses within the BSA, respectively.

In early December 2017 during the Creek Fire, portions of the project site and BSA were burned to varying degrees. This 2018 rare plant survey was conducted in response to the California Department of Transportation (Caltrans) comments following the revised November 2017 NES, requiring surveys for special-status species, particularly those with affinities to post-fire conditions.

Survey Methodology

Prior to conducting the 2018 rare plant survey, during the 2017 NES analysis, Michael Baker conducted a database records search for special-status biological resources documented within the vicinity of the BSA. Previously recorded occurrences of special-status plant species¹ within a 5-mile radius of the project footprint were determined through a query of the CDFW California Natural Diversity Database (CNDDDB) Rarefind 5 in conjunction with ArcGIS software. The California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California was queried within the USGS *Sunland, California* 7.5-minute quadrangle. In addition, a Species List was generated from the U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPaC) online system.

Literature detailing biological resources previously observed in the vicinity of the BSA and historical land uses were reviewed to understand the extent of disturbances to the habitats on-site. Standard field guides and texts on special-status and non-special-status biological resources were reviewed for habitat requirements, as well as the USDA/Natural Resource Conservation Service (NRCS) *Soil Survey of the Angeles National Forest Area, California*; and USFWS Critical Habitat designations for Threatened and Endangered Species. Michael Baker is not aware of any field reviews conducted at or near the proposed project site prior to the biological resources survey and jurisdictional delineation conducted on January 25, 2017, nor thereafter.

The 2018 rare plant survey was conducted using systematic field techniques in all habitats of the project site (disturbance footprint) to ensure thorough coverage of potential impact areas, while traversing steep, densely vegetated slopes where accessible and practical (and using binoculars otherwise) within other portions of the BSA. The survey was floristic in nature, meaning that all plant taxon observed on-site was identified to the lowest taxonomic level necessary to determine rarity or listing status. Rare plant observations of individuals or populations were recorded using a Garmin GPSMAP 64 Global Positioning System (GPS), transferred as shapefiles, and mapped using Geographic Information System (GIS) software. Table 1, below, provides the dates of the field visits, names of field investigators, and total field hours spent on-site during the field visits.

¹ As used in this report, “special-status” refers to plant species that are Federally or State listed, proposed, or candidates, and those that have been designated a CNPS California Rare Plant Rank (CRPR).

Table 1. Survey Dates, Times, and Personnel

2018 Survey Date	Time (hours)	Personnel
April 18	0830 - 1600	Dan Rosie and Ryan Phaneuf
May 16	0630 - 1200	Dan Rosie and Ryan Phaneuf
June 15	0700 - 1200	Dan Rosie and Linda Nguyen

The field visits were conducted during the peak blooming periods for many plant species, but particularly for those with the potential to occur on-site based on the database reviews, known habit preferences and distribution, and subsequent determination of potential for occurrence (refer to the Special-Status Species Table, Appendix E of the NES). Plummer's mariposa-lily (*Calochortus plummerae*; blooms March through August) was determined to have a high potential to occur within the BSA, while Catalina mariposa-lily (*Calochortus catalinae*; blooms March through June) and Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*; blooms January through July), were determined to have a moderate potential. There is a low potential for Braunton's milk-vetch (*Astragalus brauntonii*; blooms January through August), Nevin's barberry (*Berberis nevinii*; blooms March through June), San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*; blooms April through July), and slender-horned spineflower (*Dodecahema leptoceras*; blooms April through June), all State- and/or Federally-listed species, to occur within the project site and/or BSA as suitable habitat is marginally present; however, the nearest occurrences for these species are over 3 miles from the BSA. All other special-status plant species were either determined to have a low potential (some even less so within the project site) or are not expected to occur within the BSA due to a lack of suitable habitat and/or the project site is outside of known elevation ranges for these species.

Survey Results

A total of two hundred and five (205) plant species were observed within the BSA during the 2018 rare plant survey, each identified to the lowest taxonomic level necessary to determine rarity or listing status. Of those, approximately 70 percent (143 species) are native; the other 62 species are non-native. Three (3) special-status plant species were observed during the survey, as follows (refer to Figure 3, *Rare Plant Species Observations*):

- Plummer's mariposa-lily (CRPR 4.2): A population of this species, estimated at approximately two hundred (200) individuals, was observed on a moderate, east-facing slope that was severely burned during the recent fire, located approximately 450 feet west of the project site near the edge of the BSA, immediately south of (with a few individuals within) an existing unpaved access road. Near center of this population is at 34°19'41.12" N, 118°20'35.72" W. No other individuals or populations of Plummer's mariposa-lily were observed within the BSA during the survey.
- Lewis' clarkia (*Clarkia lewisii*; CRPR 4.3): It should be noted that *C. lewisii* is considered synonymous with *C. bottae* (punch bowl clarkia; no CRPR) by the Jepson eFlora (December 2017). Multiple occurrences of Lewis'/punch bowl clarkia are recorded throughout the project region by Calflora (2018). However, the CNDDDB does not recognize *C. bottae* as a special-status species; rather, it does recognize *C. lewisii*, but with no

occurrence records. Therefore, the CNDDDB did not reveal this species during the database records search.

Nonetheless, several individuals of this species, estimated at approximately one hundred (100) individuals (mapped as subpopulations with ten or more, or individually), were observed within the BSA, primarily along the access road west of the project site as mentioned above. Most of these individuals are located outside of the project site, with single individuals observed on each side of the bridge within the temporary impact areas above the southern bank of Buck Canyon Creek, and a few others along the western edge of the permanent impact area near the access road. Near center of this population is at 34°19'41.24" N, 118°20'31.62" W. No other individuals or populations of Lewis' clarkia were observed within the BSA during the survey.

- Southern California black walnut (*Juglans californica*; CRPR 4.2): Two (2) individuals of this species were observed within the BSA, approximately 150 feet east of the project atop the western bank of Buck Canyon Creek. These individuals, with one being mature and adjacent to the other, had a combined canopy of approximately 25 to 30 feet in diameter. Near center of them is at 34°19'42.26" N, 118°20'24.05" W. No other individuals of Southern California black walnut were observed within the BSA during the survey.

No individuals of Catalina mariposa-lily, Robinson's pepper-grass, Braunton's milk-vetch, Nevin's barberry, San Fernando Valley spineflower, slender-horned spineflower, or any other special-status species were observed within the BSA during the 2018 rare plant survey.

Project Impacts

Based on the project footprint, direct impacts to a few individuals of Lewis' clarkia are anticipated to occur as a result of the proposed project. Two individuals of this species are located within temporary impact areas (bridge replacement access for equipment and personnel), with three others located along the western edge of the permanent impact boundary (bridge replacement and road approach improvements). The locations of the individuals observed and documented within the project site are provided in Table 2, below.

Table 2. Proposed Impacts to Lewis' Clarkia

Impact	Latitude / Longitude
Temporary workspace west of the bridge	34°19'42.73" N / 118°20'29.68" W
Temporary workspace east of the bridge	34°19'43.11" N / 118°20'27.47" W
Permanent roadway improvements	34°19'42.20" N / 118°20'28.19" W
Permanent roadway improvements	34°19'42.16" N / 118°20'28.18" W
Permanent roadway improvements	34°19'42.68" N / 118°20'28.51" W

No other impacts to special-status plant species, including Plummer's mariposa-lily and Southern California black walnut, are expected as a result of project implementation.

Conclusions and Recommendations

Although project impacts to a few individuals of Lewis' clarkia are anticipated, these impacts are anticipated to be relatively minor since an estimated 100 individuals were observed within the BSA. The following measures are recommended to avoid or minimize impacts to special-status plants as a result of the project:

- Crews should avoid individuals of Lewis' clarkia. Prior to construction, a qualified biologist should flag all individuals of this species located within the project footprint for avoidance, if feasible.
- If avoidance is not feasible for constructability purposes, removal of these individuals should be warranted considering the limited amount of loss relative to the local population size, and that Lewis' clarkia is not listed for protection under the California or Federal Endangered Species Acts, rather is a CRPR 4.3 species ("Plants of limited distribution - a Watch List; Not very threatened in California [less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known]"²), thereby affording it no legal protection other than at the discretion of the lead agency, Caltrans.

Please contact me at (949) 472-3407 or at dan.rosie@mbakerintl.com with any questions you may have regarding the results and/or recommendations of this 2018 rare plant survey.

Sincerely,



Dan Rosie
Ecologist
Natural Resources/Regulatory Permitting

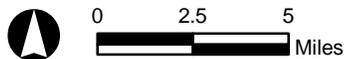
Figures: 1. Regional Vicinity
 2. Site Vicinity
 3. Rare Plant Species Observations

Attachments: A. Plant Species Observed List
 B. Site Photographs
 C. CNDDDB Forms

² <https://www.cnps.org/rare-plants/cnps-rare-plant-ranks>



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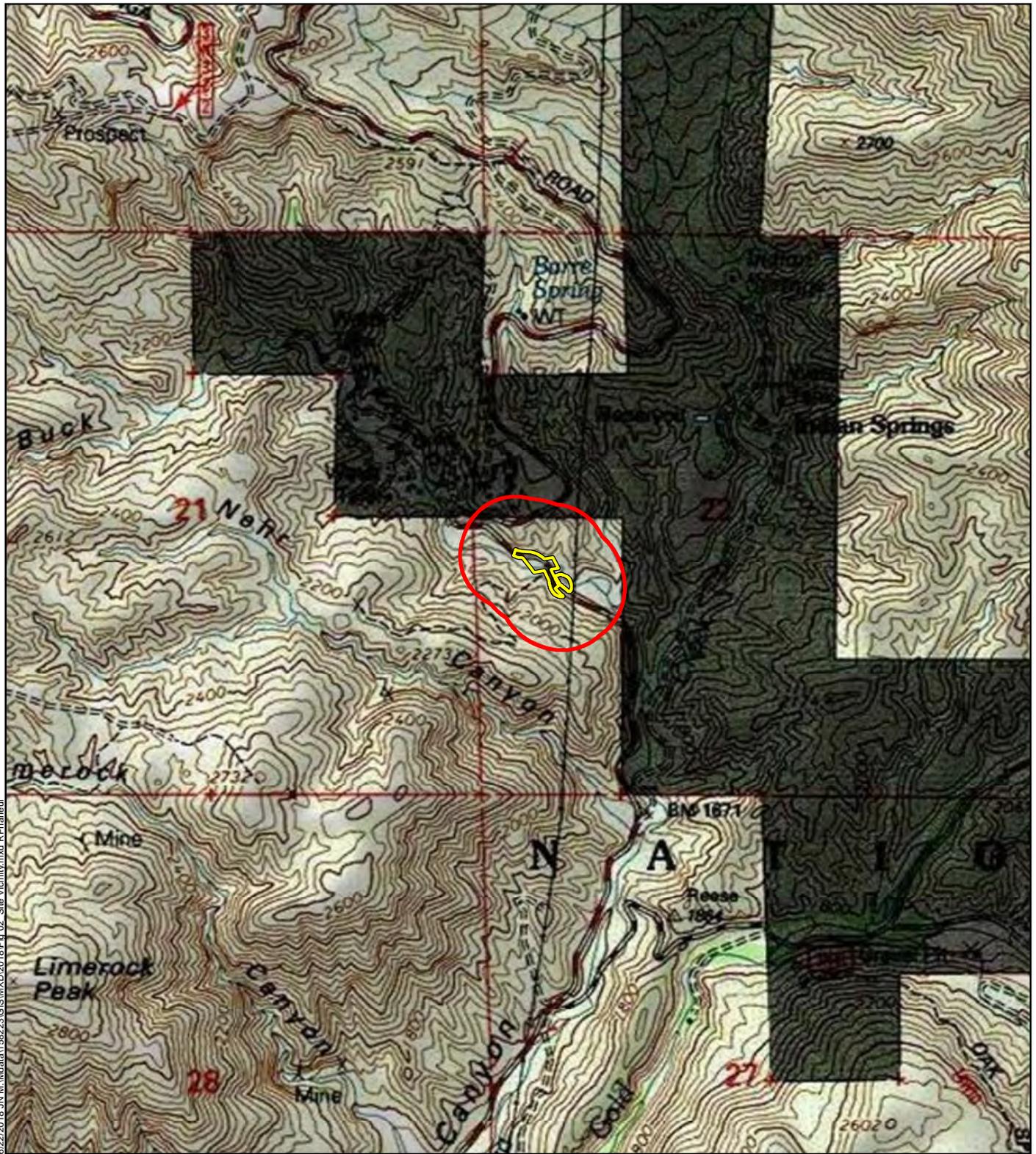


LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
2018 RARE PLANT SURVEY RESULTS

Regional Vicinity

Source: ArcGIS Online

Figure 1



Legend

- Project Site
- Biological Study Area

USGS 7.5 Minute topographic quadrangle: Sunland, California (1995)



Source: ArcGIS Online

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
RARE PLANT SURVEY RESULTS

Site Vicinity

Figure 2



6/22/2018, J:\M\Mapata\158223\SIMXD\2018\Fr_03 Rare Plant Species Observations.mxd RPhaneuf

Legend		Rare Plant Populations	Rare Plant Individuals
	Biological Study Area		
	Permanent Impact		Lewis' clarkia (total included in population count)
	Temporary Impact		
		Lewis' clarkia (appx. 100 individuals total)	
		Plummer's mariposa-lily (appx. 200 individuals)	
		Southern California black walnut (2 individuals)	

LITTLE TUJUNGA CANYON ROAD OVER BUCK CANYON BRIDGE REPLACEMENT
2018 RARE PLANT SURVEY RESULTS

Rare Plant Species Observations



Source: ArcGIS Online

Figure 3

Attachment A: Plant Species Observed List

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
Plants		
<i>Acmispon americanus</i>	Spanish lotus	
<i>Acmispon glaber</i>	deerweed	
<i>Acmispon strigosus</i>	strigose lotus	
<i>Medicago sativa</i> *	alfalfa	
<i>Acourtia microcephala</i>	sacapellote	
<i>Adenostoma fasciculatum</i>	chamise	
<i>Adiantum jordanii</i>	California maidenhair	
<i>Allophylum glutinosum</i>	sticky false gilia	
<i>Amaranthus albus</i> *	pigweed	
<i>Ambrosia acanthicarpa</i>	annual bursage	
<i>Amsinckia menziesii</i>	small flowered fiddleneck	
<i>Amsinckia intermedia</i>	common fiddleneck	
<i>Antirrhinum coulterianum</i>	Coulter's snapdragon	
<i>Antirrhinum kelloggii</i>	climbing snapdragon	
<i>Artemisia californica</i>	California sagebrush	
<i>Artemisia douglasiana</i>	California mugwort	
<i>Arundo donax</i> *	giant reed	High
<i>Atriplex canescens</i>	fourwing saltbush	
<i>Atriplex semibaccata</i> *	Australian saltbush	Moderate
<i>Avena fatua</i> *	wild oat	Moderate
<i>Baccharis salicifolia</i>	mule fat	
<i>Brickellia californica</i>	California brickellbush	
<i>Brickellia nevinii</i>	Nevin's brickellbush	
<i>Bromus diandrus</i> *	common ripgut grass	Moderate
<i>Bromus grandis</i>	tall brome	
<i>Bromus hordeaceus</i> *	soft chess	Limited
<i>Bromus rubens</i> *	red brome	High
<i>Bromus tectorum</i> *	cheatgrass	High
<i>Calochortus plummerae</i>	Plummer's mariposa-lily	CRPR 4.2
<i>Calystegia macrostegia</i>	island morning glory	
<i>Camissoniopsis bistorta</i>	California sun cup	
<i>Camissoniopsis intermedia</i>	intermediate sun cups	
<i>Capsella bursa-pastoris</i> *	shepherd's purse	
<i>Carduus pycnocephalus</i> *	Italian thistle	Moderate
<i>Carex alma</i>	sturdy sedge	

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
<i>Castilleja foliolosa</i>	woolly Indian paintbrush	
<i>Ceanothus crassifolius</i>	hoaryleaf ceanothus	
<i>Ceanothus oliganthus</i>	hairy ceanothus	
<i>Centaurea melitensis</i> *	totalote	Moderate
<i>Cercocarpus betuloides</i>	mountain mahogany	
<i>Chaenactis artemisiifolia</i>	white pincushion	
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	yellow pincushion	
<i>Chenopodium album</i> *	lamb's quarters	
<i>Chenopodium murale</i> *	nettle leaf goosefoot	
<i>Cirsium occidentale</i> var. <i>californicum</i>	cobweb thistle	
<i>Cirsium vulgare</i> *	bull thistle	Moderate
<i>Clarkia lewisii</i>	Lewis' clarkia	CRPR 4.3
<i>Clarkia purpurea</i>	purple clarkia	
<i>Claytonia parviflora</i> ssp. <i>parviflora</i>	narrow leaved miner's lettuce	
<i>Clematis lasiantha</i>	chaparral clematis	
<i>Corethrogyne filaginifolia</i>	common sandaster	
<i>Cotula australis</i> *	Australian brass buttons	
<i>Cryptantha micromeres</i>	minute-flowered cryptantha	
<i>Cryptantha intermedia</i>	common cryptantha	
<i>Cuscuta californica</i>	California dodder	
<i>Cynodon dactylon</i> *	Bermuda grass	Moderate
<i>Cyperus eragrostis</i>	tall flatsedge	
<i>Datisca glomerata</i>	Durango root	
<i>Datura wrightii</i>	jimsonweed	
<i>Deinandra fasciculata</i>	fascicled tarweed	
<i>Dichelostemma capitatum</i>	wild hyacinth	
<i>Diplacus aurantiacus</i>	bush monkeyflower	
<i>Diplacus brevipes</i>	wide throated yellow monkeyflower	
<i>Dryopteris arguta</i>	California wood fern	
<i>Dudleya lanceolata</i>	lanceleaf liveforever	
<i>Dysphania botrys</i> *	Jerusalem oak goosefoot	
<i>Elymus condensatus</i>	giant wild rye	
<i>Emmenanthe penduliflora</i>	whispering bells	
<i>Epilobium canum</i>	California fuchsia	
<i>Epilobium ciliatum</i>	slender willow herb	
<i>Ericameria arborescens</i>	golden fleece	
<i>Ericameria pinifolia</i>	pine bush	
<i>Erigeron canadensis</i>	Canada horseweed	

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
<i>Eriodictyon crassifolium</i>	thickleaf yerba santa	
<i>Eriogonum elongatum</i>	longstem buckwheat	
<i>Eriogonum fasciculatum</i>	California buckwheat	
<i>Eriophyllum confertiflorum</i>	golden yarrow	
<i>Erodium botrys</i> *	longbeak filaree	
<i>Erodium cicutarium</i> *	redstem filaree	Limited
<i>Erodium moschatum</i> *	whitestem filaree	
<i>Erythranthe cardinalis</i>	cardinal monkey flower	
<i>Erythranthe guttata</i>	seep monkey flower	
<i>Erythranthe floribunda</i>	many flowered monkey flower	
<i>Eucrypta chrysanthemifolia</i>	spotted hideseed	
<i>Eulobus californicus</i>	California primrose	
<i>Festuca myuros</i> *	rattail fescue	Moderate
<i>Galium angustifolium</i>	narrow leaved bedstraw	
<i>Galium aparine</i>	cleavers	
<i>Galium nuttallii</i>	climbing bedstraw	
<i>Gutierrezia californica</i>	matchweed	
<i>Hazardia squarrosa</i>	sawtooth goldenbush	
<i>Hedypnois cretica</i> *	Crete weed	
<i>Helianthus annuus</i>	common sunflower	
<i>Helianthus gracilentus</i>	slender sunflower	
<i>Hesperoyucca whipplei</i>	chaparral yucca	
<i>Heteromeles arbutifolia</i>	toyon	
<i>Heterotheca grandiflora</i>	telegraph weed	
<i>Heterotheca sessiflora</i> cf. ssp. <i>fastigiata</i>	erect golden aster	
<i>Hirschfeldia incana</i> *	short-pod mustard	Moderate
<i>Hordeum murinum</i> *	foxtail barley	Moderate
<i>Hypochaeris glabra</i> *	smooth cat's ear	Limited
<i>Iris pseudacorus</i> *	horticultural iris	Limited
<i>Juglans californica</i>	Southern California black walnut	CRPR 4.2
<i>Juncus mexicanus</i>	Mexican rush	
<i>Juncus xiphioides</i>	iris leaved rush	
<i>Keckiella cordifolia</i>	heartleaf keckiella	
<i>Lactuca serriola</i> *	prickly lettuce	
<i>Lathyrus vestitus</i>	Pacific pea	
<i>Thysanocarpus laciniatus</i>	narrow leaved fringe pod	
<i>Logfia filaginoides</i>	California cottonrose	
<i>Logfia gallica</i> *	narrowleaf cottonrose	
<i>Lomatium lucidum</i>	shiny lomatium	

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
<i>Lonicera subspicata</i> var. <i>denudata</i>	southern honeysuckle	
<i>Lotus corniculatus</i> *	bird's foot trefoil	
<i>Lupinus bicolor</i>	miniature lupine	
<i>Lupinus hirsutissimus</i>	stinging lupine	
<i>Lupinus succulentus</i>	arroyo lupine	
<i>Lupinus truncatus</i>	truncate leaf lupine	
<i>Malacothamnus fasciculatus</i>	chaparral bush mallow	
<i>Malacothrix saxatilis</i> var. <i>tenuifolia</i>	short leaved cliff aster	
<i>Malosma laurina</i>	laurel sumac	
<i>Malva parviflora</i> *	cheeseweed	
<i>Marah macrocarpa</i>	wild cucumber	
<i>Marrubium vulgare</i> *	horehound	Limited
<i>Matricaria discoidea</i>	pineapple weed	
<i>Medicago polymorpha</i> *	bur clover	Limited
<i>Melica imperfecta</i>	coast range melic	
<i>Melilotus albus</i> *	white sweetclover	
<i>Melilotus indicus</i> *	yellow sweetclover	
<i>Mentzelia micrantha</i>	small flowered stickleaf	
<i>Mirabilis laevis</i>	wishbone bush	
<i>Muilla maritima</i>	common muilla	
<i>Nerium oleander</i> *	oleander	
<i>Nicotiana glauca</i> *	tree tobacco	Moderate
<i>Oenothera elata</i>	evening primrose	
<i>Oxalis pes-caprae</i> *	Bermuda buttercup	Moderate
<i>Paeonia californica</i>	California peony	
<i>Pellaea andromedifolia</i>	coffee fern	
<i>Pennisetum setaceum</i> *	fountaingrass	Moderate
<i>Pentagramma triangularis</i>	goldenback fern	
<i>Persicaria lapathifolia</i>	common knotweed	
<i>Phacelia brachyloba</i>	shortlobe phacelia	
<i>Phacelia cicutaria</i>	caterpillar phacelia	
<i>Phacelia minor</i>	California bluebell	
<i>Phacelia ramosissima</i>	branching phacelia	
<i>Phacelia tanacetifolia</i>	tansy leafed phacelia	
<i>Pinus</i> sp.*	ornamental pine tree	
<i>Plantago arenaria</i> *	Indian plantain	
<i>Plantago lanceolata</i> *	English plantain	Limited
<i>Plantago major</i> *	common plantain	
<i>Platanus racemosa</i>	western sycamore	
<i>Poa secunda</i>	one sided blue grass	

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
<i>Polygonum aviculare</i> *	prostrate knotweed	
<i>Polypogon monspeliensis</i> *	rabbitsfoot grass	Limited
<i>Polypogon viridis</i>	water beard grass	
<i>Populus fremontii</i>	Fremont cottonwood	
<i>Portulaca oleracea</i> *	common purslane	
<i>Prunus ilicifolia</i>	holly leaf cherry	
<i>Pseudognaphalium biolettii</i>	two-color rabbit-tobacco	
<i>Pseudognaphalium californicum</i>	ladies' tobacco	
<i>Pseudognaphalium microcephalum</i>	Wright's cudweed	
<i>Pseudognaphalium luteoalbum</i> *	Jersey cudweed	
<i>Pteridium aquilinum</i>	western brackenfern	
<i>Pterostegia drymarioides</i>	woodland threadstem	
<i>Quercus agrifolia</i>	coast live oak	
<i>Quercus berberidifolia</i>	inland scrub oak	
<i>Rhamnus crocea</i>	spiny redberry	
<i>Rhamnus ilicifolia</i>	hollyleaf redberry	
<i>Rhus aromatica</i>	skunk brush	
<i>Rhus ovata</i>	sugar bush	
<i>Ribes aureum</i>	golden currant	
<i>Ricinus communis</i> *	castor bean	Limited
<i>Rumex salicifolius</i>	willow dock	
<i>Rumex crispus</i> *	curly dock	Limited
<i>Salix exigua</i>	sandbar willow	
<i>Salix lasiolepis</i>	arroyo willow	
<i>Salsola tragus</i> *	Russian thistle	Limited
<i>Salvia columbariae</i>	chia sage	
<i>Salvia mellifera</i>	black sage	
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	
<i>Schinus terebinthifolius</i> *	Brazilian pepper tree	Limited
<i>Schismus barbatus</i> *	Mediterranean grass	Limited
<i>Schoenoplectus acutus</i>	common tule	
<i>Selaginella bigelovii</i>	Bigelow's spike moss	
<i>Senecio flaccidus</i>	shrubby ragwort	
<i>Senecio vulgaris</i> *	common groundsel	
<i>Silene gallica</i> *	common catchfly	
<i>Sisymbrium altissimum</i> *	tall tumble mustard	
<i>Sisymbrium irio</i> *	London rocket	Moderate
<i>Solanum americanum</i>	common nightshade	
<i>Solanum xanti</i>	chaparral nightshade	

Scientific Name *	Common Name	Cal-IPC Rating** Special-Status***
<i>Solidago velutina</i>	threenerve goldenrod	
<i>Sonchus asper</i> *	prickly sowthistle	
<i>Sonchus oleraceus</i> *	common sowthistle	
<i>Spartium junceum</i> *	Spanish broom	High
<i>Stipa coronata</i>	crested needle grass	
<i>Stipa lepida</i>	foothill needle grass	
<i>Stipa miliacea</i> *	smilo grass	
<i>Stipa pulchra</i>	purple needle grass	
<i>Taraxacum officinale</i>	common dandelion	
<i>Toxicodendron diversilobum</i>	poison oak	
<i>Trifolium hirtum</i> *	rose clover	Limited
<i>Typha latifolia</i>	broadleaf cattail	
<i>Uropappus lindleyi</i>	silver puffs	
<i>Veronica anagallis-aquatica</i> *	water speedwell	

* Non-native species

** **California Invasive Plant Council (Cal-IPC) Ratings**

- High These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.
- Moderate These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.
- Limited These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

*** **California Rare Plant Rank (CRPR)**

- 1A Plants presumed extirpated in California and either rare or extinct elsewhere
- 1B Plants rare, threatened, or endangered in California and elsewhere
- 2A Plants presumed extirpated in California, but common elsewhere
- 2B 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

Threat Ranks

- .1 Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)
- .3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)



Photo 1 – Overview of the project site following the Creek Fire of early December 2017 as observed on May 16, 2018, facing south.



Photo 2 – View of the area occupied by a Plummer's mariposa-lily population as observed on May 16, 2018, facing northwest.



Photo 3 – Plummer’s mariposa-lily individuals prior to blooming as observed on May 16, 2018.



Photo 4 – View of the northern portions of the Plummer’s mariposa-lily population located approximately 400 feet west of the project site, confirmed on June 15, 2018, facing northeast.



Photo 5 – Diagnostic view of Plummer’s mariposa-lily as observed on June 15, 2018.



Photo 6 – View of the general area of the Lewis’ clarkia population located up to 400 feet west of the project site along the edges of the existing unpaved access road, facing west.



Photo 7 –Diagnostic view of Lewis' clarkia as observed on May 16, 2018.



Photo 8 – Representative view of Lewis' clarkia as observed on June 15, 2018.

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 06/15/2018

California Native Species Field Survey Form

Clear Form Print Form

Scientific Name: Calochortus plummerae

Common Name: Plummer's mariposa-lily

Species Found? Yes No _____ If not found, why?
Total No. Individuals: 200 Subsequent Visit? Yes No
Is this an existing NDDDB occurrence? 52 No Unk.
Yes, Occ. #
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Dan Rosie
Address: 660 Anchor Way
Carlsbad, CA 92008
E-mail Address: danieljrosie@gmail.com
Phone: 760-637-7600

Plant Information
Phenology:
100 33 0
% vegetative % flowering % fruiting

Animal Information
adults # juveniles # larvae # egg masses # unknown
 wintering breeding nesting rookery burrow site lek other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
South of and adjacent to an existing unpaved access road approximately 400 feet west of Little Tujunga Canyon Road at Buck Canyon Creek.
County: Los Angeles Landowner / Mgr: U.S. Forest Service Angeles National Forest
Quad Name: Sunland, California Elevation: 1,975 to 2,000 amsl
T 3N R 14W Sec 21, NW 1/4 of SW 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: Garmin GPSMAP 64
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: 0 to 12 feet meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 **OR** Geographic (Latitude & Longitude)
Coordinates: Near center of population: 34°19'41.12" N, 118°20'35.72" W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Southern mixed chaparral on a moderate east-facing slope dominated by scrub oak (Quercus berberidifolia), mountain mahogany (Cercocarpus betuloides), thickleaf yerba santa (Eriodictyon crassifolium), chamise (Adenostoma fasciculatum), and sugar bush (Rhus ovata). Specific area burned during Creek Fire in early December 2017. Plummer's mariposa-lily co-dominant recovery species alongside island morning glory (Calystegia macrostegia), needle grass (Stipa ssp.), deerweed (Acmispon glaber), slender sunflower (Helianthus gracilentus), and fascicled tarweed (Deinandra fasciculata).
Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
Immediate AND surrounding land use: Undeveloped land managed by the Angeles National Forest
Visible disturbances: Unpaved access road to the north
Threats: Indirect impacts from use of adjacent access road
Comments:

Determination: (check one or more, and fill in blanks)
 Keyed (cite reference): Jepson Flora Project
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (check one or more)
Slide Print Digital
Plant / animal
Habitat
Diagnostic feature
May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 06/15/2018

California Native Species Field Survey Form

Clear Form Print Form

Scientific Name: Clarkia lewisii

Common Name: Lewis' clarkia

Species Found? Yes No _____ If not found, why? _____
Total No. Individuals: 100 Subsequent Visit? Yes No
Is this an existing NDDDB occurrence? _____ No Unk.
Yes, Occ. # _____
Collection? If yes: _____
Number _____ Museum / Herbarium _____

Reporter: Dan Rosie
Address: 660 Anchor Way
Carlsbad, CA 92008
E-mail Address: danieljrosie@gmail.com
Phone: 760-637-7600

Plant Information
Phenology:
100 33 66
% vegetative % flowering % fruiting

Animal Information
adults # juveniles # larvae # egg masses # unknown
 wintering breeding nesting rookery burrow site lek other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
Primarily along an unpaved access road up to approximately 400 feet west of Little Tujunga Canyon Road at Buck Canyon Creek.

County: Los Angeles Landowner / Mgr: U.S. Forest Service Angeles National Forest
Quad Name: Sunland, California Elevation: 1,815 to 1,950 amsl
T 3N R 14W Sec 21, NW 1/4 of SW 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS
T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: Garmin GPSMAP 64
DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: 0 to 12 feet meters/feet
Coordinate System: UTM Zone 10 UTM Zone 11 **OR** Geographic (Latitude & Longitude)
Coordinates: Near center of population: 34°19'41.24" N, 118°20'31.62" W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*
Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*
Southern mixed chaparral on a moderate east-facing slope dominated by scrub oak (Quercus berberidifolia), mountain mahogany (Cercocarpus betuloides), thickleaf yerba santa (Eriodictyon crassifolium), chamise (Adenostoma fasciculatum), and sugar bush (Rhus ovata). Area subjected to the Creek Fire in early December 2017. Lewis' clarkia co-dominant recovery species alongside recovering southern mixed chaparral vegetation and disturbance species associated with the access road.
Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor
Immediate AND surrounding land use: Undeveloped land managed by the Angeles National Forest
Visible disturbances: Unpaved access road and Little Tujunga Canyon Road
Threats: Indirect impacts from use of adjacent access road and Little Tujunga Canyon Road
Comments: Direct impact to few individuals are expected as a result of bridge replacement project.

Determination: (check one or more, and fill in blanks)
 Keyed (cite reference): Jepson Flora Project
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (check one or more)
Slide Print Digital
Plant / animal
Habitat
Diagnostic feature
May we obtain duplicates at our expense? yes no

Mail to:
California Natural Diversity Database
California Dept. of Fish & Wildlife
1416 9th Street, Suite 1266
Sacramento, CA 95814
Fax: (916) 324-0475 email: CNDDDB@wildlife.ca.gov

For Office Use Only

Source Code: _____ Quad Code: _____
Elm Code: _____ Occ No.: _____
EO Index: _____ Map Index: _____

Date of Field Work (mm/dd/yyyy): 06/15/2018

California Native Species Field Survey Form

Clear Form Print Form

Scientific Name: Juglans californica

Common Name: Souther California black walnut

Species Found? Yes No _____ If not found, why? _____

Total No. Individuals: 2 Subsequent Visit? Yes No

Is this an existing NDDDB occurrence? _____ No Unk. Yes, Occ. # _____

Collection? If yes: _____ Number _____ Museum / Herbarium _____

Reporter: Dan Rosie

Address: 660 Anchor Way
Carlsbad, CA 92008

E-mail Address: danieljrosie@gmail.com

Phone: 760-637-7600

Plant Information Phenology: % vegetative: <u>100</u> % flowering: <u>0</u> % fruiting: <u>0</u>	Animal Information # adults _____ # juveniles _____ # larvae _____ # egg masses _____ # unknown _____ <input type="checkbox"/> wintering <input type="checkbox"/> breeding <input type="checkbox"/> nesting <input type="checkbox"/> rookery <input type="checkbox"/> burrow site <input type="checkbox"/> lek <input type="checkbox"/> other
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Location Description (please attach map AND/OR fill out your choice of coordinates, below)
Approximately 200 feet east of Little Tujunga Canyon Road atop the western bank of Buck Canyon Creek.

County: Los Angeles Landowner / Mgr: U.S. Forest Service Angeles National Forest

Quad Name: Sunland, California Elevation: 1,790 amsl

T 3N R 14W Sec 21, NW 1/4 of SW 1/4, Meridian: H M S Source of Coordinates (GPS, topo. map & type): GPS

T _____ R _____ Sec _____, _____ 1/4 of _____ 1/4, Meridian: H M S GPS Make & Model: Garmin GPSMAP 64

DATUM: NAD27 NAD83 WGS84 Horizontal Accuracy: 0 to 12 feet meters/feet

Coordinate System: UTM Zone 10 UTM Zone 11 **OR** Geographic (Latitude & Longitude)

Coordinates: Near center of two: 34°19'42.26" N, 118°20'24.05" W

Habitat Description (plants & animals) *plant communities, dominants, associates, substrates/soils, aspects/slope:*

Animal Behavior *(Describe observed behavior, such as territoriality, foraging, singing, calling, copulating, perching, roosting, etc., especially for avifauna):*

Isolated individuals between recovering mule fat scrub associated with Buck Canyon Creek and recovering Diegan coastal sage scrub associated with the upland terrace. Area subjected to the Creek Fire in early December 2017.

Please fill out separate form for other rare taxa seen at this site.

Site Information Overall site/occurrence quality/viability (site + population): Excellent Good Fair Poor

Immediate AND surrounding land use: Undeveloped land managed by the Angeles National Forest

Visible disturbances: Little Tujunga Canyon Road

Threats: Indirect impacts from use of Little Tujunga Canyon Road

Comments:

Determination: (check one or more, and fill in blanks) <input checked="" type="checkbox"/> Keyed (cite reference): <u>Jepson Flora Project</u> <input type="checkbox"/> Compared with specimen housed at: _____ <input type="checkbox"/> Compared with photo / drawing in: _____ <input type="checkbox"/> By another person (name): _____ <input type="checkbox"/> Other: _____	Photographs: (check one or more) Plant / animal <input type="checkbox"/> Slide <input type="checkbox"/> Print <input type="checkbox"/> Digital Habitat <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Diagnostic feature <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> May we obtain duplicates at our expense? <input type="radio"/> yes <input checked="" type="radio"/> no
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