

**BIOLOGICAL RESOURCES
TECHNICAL REPORT**

**SoCalGas
NORTH-SOUTH PROJECT
RIVERSIDE AND SAN BERNARDINO COUNTIES, CALIFORNIA**

PREPARED FOR

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Acronym	Definition
ACOE	U.S. Army Corps of Engineers
msl	mean sea level
APM	Applicant Proposed Measures
BMP	Best Management Practices
Caltrans	California Department of Transportation
Cal-IPC	California Invasive Plant Council
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
Cells	Criteria cells
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CRPR	California Rare Plant Rank
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CVAG	Coachella Valley Association of Governments
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationships Life History Accounts
dBA	A-weighted decibel
DBH	diameter at breast height
Eagle Act	Bald and Golden Eagle Protection Act
EIR	environmental impact report
EIS	environmental impact statement
ESA	Establish Environmentally Sensitive Areas
FAC	facultative
FACW	facultative wetland
FACU	facultative upland
FE	Federal Endangered
FESA	Federal Endangered Species Act
FT	Federal Threatened
GIS	geographic information system
GNSS	Global Navigation Satellite System
GPS	global positioning system
HCP	habitat conservation plan
HDD	horizontal directional drilling
HMANA	Hawk Migration Association of North America
I-	Interstate
ITP	incidental take permit

List of Acronyms and Abbreviations	
Acronym	Definition
L _{eq}	equivalent sound level over a given time period
LMP	Land Management Plan
MBTA	Migratory Bird Treaty Act
MOU	Memoranda of Understanding
NCCP	Natural Community Conservation Plan
NCCP Act	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NSR	NatureServe Heritage Program Status Rank
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OBL	obligate
OHWM	Ordinary High Water Mark
PEA	Proponent's Environmental Assessment
PSE	Participating Special Entity
RCA	Riparian Conservation Areas
RCHCA	Riverside County Habitat Conservation Agency
RNA	Research Natural Areas

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1.0 **INTRODUCTION**

1.1 **BIOLOGICAL RESOURCE TECHNICAL REPORT STRUCTURE**

This document contains an analysis of potential effects to plant and wildlife resources from SoCalGas' Proposed North-South Project (Proposed Project). It is composed of seven Sections:

- **Section 1** is the Proposed Project introduction, which includes the project description and location.
- **Section 2** includes a discussion of the regulatory authority of federal, State, regional, and local agencies associated with the Proposed Project.
- **Section 3** describes applicant proposed measures that would be implemented before, during, and after construction of the Proposed Project to avoid, minimize, or mitigate impacts.
- **Section 4** includes a discussion of the biological resource studies conducted for the Proposed Project, including literature review, vegetation mapping, jurisdictional delineation, and focused surveys for special status species/resources in the vicinity of the Proposed Project.
- **Section 5** describes the general environmental setting and existing biological resources occurring within the defined Proposed Project study areas, including: vegetation types, classified by the dominant plant species present; common wildlife species observed or expected to occur; wildlife movement patterns expected to occur in the vicinity of the Proposed Project alignment; and, documented special status resource occurrences.
- **Section 6** discloses potential impacts, including a discussion of the threshold criteria used to evaluate impacts relative to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The level of impact to each resource has been quantified, followed by a consideration of the severity of each impact relative to the proposed applicant proposed measures.
- **Section 7** includes cited references.

1.2 **PROJECT DESCRIPTION AND LOCATION**

The primary components of the Proposed Project include the construction and installation of a 36-inch-diameter natural gas transmission pipeline and the rebuilding of the Adelanto Compressor Station. The pipeline will be primarily constructed and installed within existing public and private rights-of-way. The Proposed Project also includes installation of additional pressure-limiting equipment at the Moreno, Whitewater, and Shaver Summit Pressure Limiting Stations and upgrades to the existing pressure-limiting equipment at the Desert Center Compressor Station.

The approximate 65-mile-long Proposed Project alignment begins at the Adelanto Compressor Station in the City of Adelanto and proceeds in a southerly direction through unincorporated San Bernardino County and the City of Victorville. The alignment then runs along Interstate (I) 15 through the Cajon Pass and the San Bernardino National Forest (SBNF) and terminates at the Moreno Pressure Limiting Station in the City of Moreno Valley (Exhibit 1; all exhibits are located in Appendix A of this report).

2.0 REGULATORY AUTHORITY

This section summarizes the federal, State, regional, and local agencies that have regulatory jurisdiction over activities that have a potential to impact biological resources.

2.1 FEDERAL

2.1.1 National Environmental Policy Act

NEPA (*United States Code* [USC], Title 42, 4321 et seq.), enacted in 1970, declared a continuing federal policy that directs “a systematic, interdisciplinary approach” to planning and decision-making and requires environmental statements for “major Federal actions significantly affecting the quality of the human environment”. The Council on Environmental Quality’s (CEQ’s) Implementing Regulations (*Code of Federal Regulations* [CFR], Title 40, Parts 1500–1508) require federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and that will avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should therefore be seen as an overall framework for the environmental evaluation of federal actions. The U.S. Forest Service (USFS) is the Lead Agency under NEPA for the Proposed Project.

2.1.2 Clean Water Act

Pursuant to Section 404 of the Clean Water Act (CWA; 33 USC 1251 et seq.), enacted in 1972, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and/or fill material into “waters of the U.S.” As defined in the *Code of Federal Regulations* (33 CFR 328.3), “waters of the U.S.” include navigable coastal and inland waters, lakes, rivers, streams, and their tributaries; interstate waters and their tributaries; wetlands adjacent to such waters; intermittent streams; and other waters that could affect interstate commerce.

The term “wetlands” (a subset of waters) is 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 for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 CFR 328.3[b]).

The discharge of dredge or fill material into “waters of the U.S.,” including wetlands, requires authorization from the USACE prior to impacts. For impacts to “waters of the U.S.” or wetlands under USACE jurisdiction, either an Individual Permit or a Nationwide Permit (NWP) is required in accordance with Section 404 of the CWA. If a project fails to comply with the terms and regulations specified in the Nationwide Permit guidelines, then an Individual Permit must be prepared and submitted to the USACE.

2.1.3 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (FESA; 16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species and by the National Oceanic and Atmospheric Administration’s (NOAA’s) National Marine Fisheries Service (NMFS) for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which Endangered and Threatened species depend and to provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. The FESA defines an Endangered species as “any species that is in danger of

extinction throughout all or a significant portion of its range,” while a Threatened species is defined as “any species that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.” Under the FESA, it is unlawful to take, without a permit, any listed wildlife species, and “take” is defined as, “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

The FESA allows for the issuance of incidental take permits (ITPs) for listed species under Section 7 for projects that also require other federal agency permits or other approvals. Section 10 of the law authorizes incidental take with the completion of a Habitat Conservation Plans (HCP) for projects on private property without any other federal agency involvement. Upon development of an approved HCP, the USFWS can issue ITPs for listed species.

2.1.4 Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), enacted in 1918, (MBTA; 16 USC 703 et seq.) regulates and prohibits the taking, killing, possession of, or harm to, migratory bird species as listed in 50 CFR 10.13. This international treaty for the conservation and management of bird species that migrate through more than one country is enforced in the United States by the USFWS. Some common, introduced species not covered under the MBTA, include the European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), and rock pigeon (*Columba livia*), as well as various game species such as grouse, turkey, and ptarmigan. Section 3513 of the *California Fish and Game Code* states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. The Code provides the California Department of Fish and Wildlife (CDFW) with enforcement authority for project-related impacts that would result in the take of bird species protected under the MBTA. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

2.1.5 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (Eagle Act) (16 USC 668–668c), enacted in 1940 and amended several times since, prohibits any person, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Eagle Act imposes criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle . . . [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” The Eagle Act further defines “disturb” to mean “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle; (2) a decrease in its productivity by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.” In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle’s return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment. Pursuant to federal regulations set forth in 50 CFR Section 22.26, the USFWS can issue permits to take bald eagles and golden eagles where the taking is associated with, but not the purpose of, the activity and cannot practically be avoided.

2.1.6 San Bernardino National Forest Land Management Plan

A Land Management Plan (LMP) for the San Bernardino National Forest (SBNF) was published by the U.S. Department of Agriculture, Forest Service (USFS) in 2005. As stated in Part 2 of the LMP, the SBNF's resources are divided into six programs: wildlife, fish, rare plants, and invasive species; vegetation; soil, geology, water, and air; land ownership and adjustment; specially designated areas (including wilderness); and heritage resources. It also includes managing the data of these resources.

The Wildlife, Fisheries, and Plant Program manages habitat to help meet the needs of Threatened, Endangered, and special status species, along with other species such as black bear (*Ursus americanus*), mule deer (*Odocoileus hemionus*), and rainbow trout (*Oncorhynchus mykiss*). Management includes prevention and eradication efforts to reduce the effects of invasive nonnative species within these habitats.

The Invasive Species Program seeks to protect forest and rangeland ecosystems by preventing the introduction and spread of invasive nonnative species across the SBNF. Priority locations for eradication are riparian habitats, as well as the habitats of Threatened, Endangered, Proposed, Candidate, and special status species; roadsides; fuel treatment areas; and areas within the SBNF that have been disturbed by wildland fire and fire-suppression activities. The SBNF plans to survey and map the locations of invasive species and to implement eradication measures on approximately one to two miles per year of riparian habitat and approximately five to 100 acres per year of upland habitat.

Vegetation management is carried out to reduce hazardous fuel loads, to maintain or enhance habitat, and to recover burned or otherwise damaged vegetation. The Forest Restoration Program incorporates an integrated set of vegetation management actions designed to meet multiple objectives including restoration of forest health and community protection.

Also, in 2005, a USFS Handbook Supplement, FSH 2509.22-2005-1, Soil and Water Conservation Practices Handbook, established guidance for the delineation and management of Riparian Conservation Areas in the SBNF.

2.1.7 Executive Order 13112 – Invasive Species

Executive Order 13112 was signed in February 1999 and established the National Invasive Species Council. This Order requires agencies to prevent the introduction of invasive species; to provide for their control; and, to minimize the economic, ecological, and human health impacts that invasive species cause to the extent practicable and permitted by law.

2.1.8 Executive Order 11990 – Protection of Wetlands

This order, given in 1977, established a national policy to avoid adverse impacts to wetlands whenever there is a practicable alternative.

2.1.9 Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act (16 USC 661–666), enacted in 1934, applies to any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. Project proponents are required to consult with the USFWS and the appropriate State wildlife agency. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term “wildlife” includes both animals and plants. Provisions of the Act are implemented through the NEPA process and Section 404 permit process.

2.2 STATE

2.2.1 California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by State and local public agencies. State law (*California Fish and Game Code*, Section 1802) confers upon the CDFW the responsibility and authority as trustee to the public trust resource of wildlife in California. The CDFW may play various roles under the CEQA process. By State law, the CDFW has jurisdiction over the conservation, protection, and management of the wildlife, native plants, and habitat necessary to maintain biologically sustainable populations. The CDFW is responsible for consulting with CEQA lead agency and responsible agencies, as well as it providing the requisite biological expertise to review and comment upon environmental documents and impacts arising from project activities.

As a trustee agency, the CDFW has jurisdiction over certain resources held in trust for the people of California. Trustee agencies are generally required to be notified of CEQA documents relevant to their jurisdiction, whether or not these agencies have actual permitting authority or approval power over aspects of the underlying project (14 *California Code of Regulations* [CCR], Section 15386). The CDFW, as a trustee agency, must be notified of CEQA documents regarding projects involving fish and wildlife of the state, as well as Rare and Endangered native plants, wildlife areas, and ecological reserves. Although the CDFW, as a trustee agency, cannot approve or disapprove a project, it is statutory protocol that other CEQA lead and responsible agencies are required to consult with the CDFW. The CDFW, as the trustee agency, has the authority to make recommendations regarding those resources held in trust for the people of California (*California Fish and Game Code*, Section 1802).

2.2.2 California Endangered Species Act

The California Endangered Species Act (CESA) (CESA, *California Fish and Game Code*, Section 2050 et seq.) defines an Endangered species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.” The CESA defines a Threatened species as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the California Fish and Game Commission (Fish and Game Commission) as rare on or before January 1, 1985, is a threatened species.” A Candidate species is defined as “a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to either list.” The CESA does not list invertebrate species.

The CDFW administers the CESA, which prohibits the take, without a permit, of plant and animal species designated by the Fish and Game Commission as Endangered or Threatened in the State of California. Under Section 86 of CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” Section 2053 of the CESA stipulates that State agencies may not approve projects that will “jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy.”

The CESA authorizes the taking of Threatened, Endangered, or Candidate species if take is incidental to an otherwise lawful activity and if specific criteria are met. These provisions also require that the CDFW coordinate consultations with the USFWS for actions involving federally listed species that are also State-listed species. In certain circumstances, the Act allows the CDFW to adopt a FESA Incidental Take Authorization as satisfactory for CESA purposes based on a finding that the FESA permit adequately protects the species and is consistent with State law.

2.2.3 California Fish and Game Code

Sections 3503, 3503.5, and 3513

Section 3503 of the *California Fish and Game Code* states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 of the *California Fish and Game Code* protects all birds of prey (raptors) and their eggs and nests. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the MBTA. These regulations could require that elements of a project (particularly vegetation removal or construction near nesting substrates) be reduced or eliminated during critical phases of the nesting cycle unless surveys by a qualified biologist demonstrate that nests, eggs, or nesting birds will not be disturbed, subject to approval by the CDFW and/or the USFWS.

Sections 3511, 4700, 5050, and 5515

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the *California Fish and Game Code* designate certain species as “fully protected.” Fully protected species, or parts thereof, may not be taken or possessed at any time except as part of an approved Natural Community Conservation Plan (NCCP) that treats such species as “covered species” or in connection with statutory-specified actions pursuant to the “Quantification Settlement Agreement” involving water transfer from the Imperial Irrigation District to the Metropolitan Water District of Southern California. The California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFW.

Sections 1600–1616

Sections 1600–1616 of the *California Fish and Game Code* require a State, local governmental agency, or public utility to notify the CDFW before beginning construction on a project that will (1) divert, obstruct, or change the natural flow or the bed, bank, channel, or bank of any river, stream, or lake; (2) use materials from a streambed; or (3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. When an existing fish or wildlife resource may be substantially adversely affected, the CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement (SAA) that becomes part of the plans, specifications, and estimates documents for a project.

The term “stream,” which includes creeks and rivers, is defined in the CCR as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. Stream-dependent riparian habitat is defined in the *California Fish and Game Code* (Section 2785) as “lands which contain habitat

which grows close to and which depends upon soil moisture from a nearby freshwater source”. Removal of stream-dependent riparian vegetation may also require a Streambed Alteration Agreement from the CDFW.

California Natural Community Conservation Planning Act

The California Natural Community Conservation Planning Act (NCCP Act) (*California Fish and Game Code*, Sections 2800–2835), enacted in 1991, provides for regional planning to conserve listed and Candidate species, their habitats, and natural communities through habitat-based conservation measures while allowing economic growth and development. The initial application of the NCCP Act was in coastal sage scrub habitat in Southern California. The NCCP Act has subsequently been applied to other areas throughout the state. The Southern California coastal sage scrub NCCP region consists of 11 subregions that have been further divided into subareas corresponding to the boundaries of participating jurisdictions or landowners. In each subregion and subarea, landowners, environmental organizations, and local agencies participate in a collaborative planning effort to develop a conservation plan acceptable to the USFWS and the CDFW. The NCCP Act requires that impacts be mitigated to a level that contributes to the recovery of listed species rather than just avoiding jeopardy.

California Native Plant Protection Act

The Native Plant Protection Act (NPPA; *California Fish and Game Code*, Sections 1900–1913) of 1977 directed the CDFW to carry out the Legislature’s intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave the California Fish and Game Commission the power to designate native plants as “Endangered” or “Rare” and to protect Endangered and Rare plants from take. The CESA expanded on the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the *California Fish and Game Code*. To align with federal regulations, CESA created the categories of “Threatened” and “Endangered” species. It converted all “Rare” animals in the Act as Threatened species, but did not do so for Rare plants. Thus, there are three listing categories for plants in California: Rare, Threatened, and Endangered. Because Rare plants are not included in CESA, mitigation measures for impacts to Rare plants are specified in a formal agreement between the CDFW and the project proponent.

2.2.4 California Water Code

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act (*California Water Code*, Division 7), enacted in 1969, the State Water Resources Control Board (SWRCB) has the ultimate authority over State water rights and water quality policy. However, the Porter-Cologne Act also establishes nine Regional Water Quality Control Boards (RWQCBs) to oversee water quality on a day-to-day basis at the local/regional level. One of the most important functions of these boards is to prepare and periodically update Water Quality Control Plans (known as “Basin Plans”). Each Basin Plan establishes beneficial uses of water designated for each waterbody to be protected, water quality standards — also known as water quality objectives — for both surface water and groundwater, and actions necessary to maintain these standards in order to control non-point and point sources of pollution to the state’s waters. Permits issued to control pollution must implement Basin Plan requirements (i.e., water quality standards), taking into consideration beneficial uses to be protected. In addition, any person proposing to discharge waste in any region must file a report of waste discharge with the appropriate regional board. No discharge may take place until the Regional Board issues waste discharge requirements or a waiver of the waste discharge requirements and 120 days have passed since complying with reporting requirements.

2.3 REGIONAL

2.3.1 Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (Western Riverside County MSHCP) serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA and as an NCCP under the NCCP Act of 2001. Permittees in the Western Riverside County MSHCP include the cities of Banning, Beaumont, Calimesa, Canyon Lake, Corona, Eastvale, Hemet, Jurupa Valley, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Norco, Perris, Riverside, San Jacinto, Temecula, and Wildomar, and the County of Riverside, Riverside County Flood Control and Water Conservation District, Riverside County Regional Parks and Open Space District, Riverside County Transportation Commission, and the California Department of Transportation (Caltrans).

The Western Riverside County MSHCP includes a specific provision for non-permittees to obtain take of covered species and their habitat should a project proponent choose to become a Participating Special Entity (PSE). The benefits of becoming a PSE in the Western Riverside County MSHCP include providing a streamlined environmental review process; providing long-term conservation of native species and their habitats; conserving land to provide additional public recreational opportunities; managing newly designated conservation lands and existing conservation lands together by permittees operating under the same guidelines and processes; and, enhancing the predictability of future federal, State, and local regulations.

2.3.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA, and it received a California Endangered Species Permit pursuant to Section 2081 of the *California Fish and Game Code*. The Riverside County Habitat Conservation Agency (RCHCA), a Joint Powers Agreement agency, oversees the planning, acquisition, and management of habitat for the Stephens' kangaroo rat (*Dipodomys stephensi*) under the SKR HCP. The RCHCA is composed of the County of Riverside and the cities of Corona, Hemet, Lake Elsinore, Moreno Valley, Murrieta, Perris, Riverside, and Temecula.

The SKR HCP area falls primarily within the Western Riverside County MSHCP area, meaning there is some geographical overlap between the two HCPs. Where there is no overlap, the Western Riverside County MSHCP provides coverage for incidental take of Stephens' kangaroo rat. Where overlap does occur between the two HCPs, incidental take coverage for Stephens' kangaroo rat, if needed, may be obtained through the SKR HCP. However, the SKR HCP does not offer a PSE or related provision as a mechanism for private utilities to obtain incidental take. In special cases, a private utility may be able to obtain incidental take for Stephens' kangaroo rat through a letter agreement with the RCHCA and concurrence by USFWS and CDFW.

2.3.3 Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the FESA and as an NCCP under the NCCP Act of 2001. Permittees in the Coachella Valley MSHCP include the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage; the County of Riverside; the Coachella Valley Water District, the Imperial Irrigation District, and the Mission Springs Water District; the Coachella Valley Association of Governments (CVAG); and, Caltrans.

The Coachella Valley MSHCP includes a specific provision for non-permittees to obtain take of covered species and habitat should a project proponent choose to become a PSE. The benefits of becoming a PSE in the Coachella Valley MSHCP include providing a streamlined environmental review process; providing long-term conservation of native species and their

habitats; conserving land to provide additional public recreation opportunities; managing newly designated conservation lands and existing conservation lands together by permittees operating under the same guidelines and processes; and, enhancing the predictability of future federal, State, and local regulations.

2.4 LOCAL

Because the CPUC has exclusive jurisdiction over the siting, design, and construction of the Proposed Project, it is generally not subject to local discretionary land use regulations when undertaking activities such as the Proposed Project. However, efforts will be made to ensure the construction, operation, and maintenance of the Proposed Project are in compliance with general plan goals or policies as they relate to hazards and hazardous materials and public health and safety. Applicable general plan goals and policies from the following counties and cities shall be considered prior to project construction of the Proposed Project.

- Riverside County
- San Bernardino County
- City of Adelanto
- City of Victorville
- City of San Bernardino
- City of Colton
- City of Loma Linda
- City of Moreno Valley

2.4.1 City of Adelanto Municipal Code

The City of Adelanto Municipal Code Section 17.57.040 requires “development projects” to comply with the requirements of the County of San Bernardino Development Code (Chapter 88.01, Plant Protection and Management) for the relocation of Joshua trees (*Yucca brevifolia*). Joshua trees are the only trees subject to regulation per the City of Adelanto Municipal Code. , Specifically, this Section of the City’s code states that “development projects will comply with the requirements of the County of San Bernardino for the relocation of Joshua trees. The Building Department will review relocation plans and monitor the relocation of any Joshua trees.”

2.4.2 City of Highland Municipal Code

Chapter 8.36 of the City of Highland Municipal Code addresses the regulation of all heritage trees in the city of Highland. Heritage trees are defined in Section 8.36.020 of the City of Highland Municipal Code as any tree that meets one of the following criteria:

- A. All woody plants in excess of 15 feet in height and having a single trunk circumference of 24 inches or more [7.6 inches dbh], as measured four and one-half feet above ground level; or
- B. Multitrunk tree(s) having a total circumference of 30 inches or more, as measured four and one-half feet from ground level; or
- C. A stand of trees, the nature of which makes each dependent upon the others for survival; or
- D. Any other tree as may be deemed historically or culturally significant by the community development director or designee because of size, condition, location, or aesthetic qualities.

For the purposes of the City's code, the term "Historic landmark" means any tree designated as a historic landmark by City Council action. Trees that bear fruit or nuts (with the exception of trees planted in groves) and trees held/grown for sale by licensed nurseries or tree farms are exempt from the provisions of the City's code.

Tree removal is defined by the City's code as any act that will cause a heritage tree to die, as determined by a certified arborist, including (1) inflicting damage upon root systems, bark, or other parts of tree by fire, the application of toxic substances, or the operation of equipment or machinery; (2) improper watering; (3) changing the natural grade of the drip line area around the trunk by excavation or filling; or, (4) attaching signs or artificial materials that pierce the bark of the tree by means of nails, spikes, or other piercing objects.

A Tree Removal Permit is required for the removal of all heritage trees within the City limits. In addition to a Tree Removal Permit, a Landmark Alteration Permit is required for the removal of all trees designated as historic landmarks.

2.4.3 San Bernardino County Development Code

Chapter 88.01 of the San Bernardino County Development Code (County of San Bernardino Tree Ordinance) provides regulations and guidelines for the management of plant resources in the unincorporated areas of the County on property or combinations of property under private or public ownership, as summarized below:

- **Regulated Desert Native Plants (Section 88.01.060):** The following desert native plants or any part of them, except the fruit, shall not be removed except under a Tree or Plant Removal Permit (Section 88.01.050). In all cases the botanical names shall govern the interpretation of this Section.
 - (1) The following desert native plants with stems two inches or greater in diameter or six feet or greater in height.
 - (A) smoketree (*Dalea spinosa*).
 - (B) mesquite (all species of the genus *Prosopis*)
 - (2) century plants, nolinias, and yuccas (all native species of the family *Agavaceae*)
 - (3) creosote (*Larrea tridentata*) rings (ten feet or greater in diameter)
 - (4) All Joshua trees

Specimen-sized Joshua trees requiring a tree permit are defined as meeting one or more of the following criteria:

 - A. "A circumference measurement equal to or greater than 50 inches measured at 4.5 feet above natural grade (15.9 inches dbh)" or;
 - B. "A total tree height of 15 feet or greater" or;
 - C. "A tree possessing a bark-like trunk" or;
 - D. "A cluster of 10 or more individual trees, of any size, growing in close proximity to each other."
 - (5) Any part of any of the following species, whether living or dead:
 - A. desert ironwood (*Olneya tesota*).
 - B. mesquite (all species of the genus *Prosopis*).
 - C. palos verdes (all species of the genus *Cercidium*).

- **Mountain Forest and Valley Tree Conservation (Section 88.01.070):** The following trees shall only be removed with an approved Tree or Plant Removal Permit (Section 88.01.050):
 - (1) *Native trees.* A living, native tree with a 6-inch or greater stem diameter or 19 inches in circumference measured 4.5 feet above natural grade level.
 - (2) *Palm trees.* Three or more palm trees in linear plantings, which are 50 feet or greater in length within established windrows or parkway plantings.

- **Riparian Plant Conservation (Section 88.01.080):** This Section of the San Bernardino County Development Code Section provides “regulations to promote healthy and abundant riparian habitats that protect watersheds; control transmission and storage of natural water supplies; provide unique wildlife habitats for rare, endangered and threatened plants and animals; provide attractive environments; control natural soil erosion and sedimentation to protect stream banks subject to erosion and undercutting; and provide sufficient shade to reduce temperature and evaporation and the growth of algae in streams.” The provisions of this Section are intended to augment and coordinate with the responsibilities of the CDFW. All vegetation (including trees) within 200 feet of the bank of a stream or in an area indicated as a “protected riparian area” on an overlay map or Specific Plan shall require approval of a Tree or Plant Removal Permit (Section 88.01.050). A “stream” includes those shown on United States Geological Survey (USGS) topographic quadrangle maps as perennial or intermittent, blue or brown lines (solid or dashed), and river wash areas.

3.0 DESCRIPTION OF APPLICANT PROPOSED MEASURES

Applicant Proposed Measures

A Proponents Environmental Assessment (PEA) has been prepared by SoCalGas and San Diego Gas & Electric (SDG&E) for the California Public Utilities Commission (CPUC) in response to the CPUC's Scoping Memo and Ruling dated May 5, 2014. As part of the PEA, the SoCalGas has identified a number of Applicant Proposed Measures (APMs) that would be implemented before, during, and after construction of the Proposed Project to avoid, minimize, or mitigate impacts. These APMs have been designed to minimize environmental impacts while meeting the Proposed Project needs and objectives. The AMPs from the PEA relative to biological resources have been provided below.

APM-BIO-1 Biological Surveys. Biological surveys will be conducted for the Proposed Project to determine the extent of sensitive biological resources and will serve to inform avoidance and minimization measures. Biological surveys will include vegetation community mapping, habitat assessments for special-status species, special-status plant surveys, focused wildlife surveys, vernal pool assessment, delineation of jurisdictional waters and wetlands, tree surveys, and invasive weed survey.

- **Vegetation mapping.** Mapping of vegetation will be conducted within the study area and will be consistent with the *Protocols for Surveying and Evaluating Impacts to Special-status Native Populations and Natural Communities* (CDFG 2009), and vegetation communities will be identified using the *Manual of California Vegetation, Second Edition* (Sawyer et al. 2009).
- **Jurisdictional delineation.** The delineation of jurisdictional waters and wetlands will be conducted within the right-of-way and within 100 feet of proposed disturbance areas. The delineation will be completed according to agency guidelines (ACOE, RWQCB, and CDFW) and generally accepted practices.
- **Tree surveys.** Certified arborists will conduct an inventory of regulated trees within 25 feet of all impact areas and as required by City of Adelanto Municipal Code (Section 17.57.040), City of Highland (Chapter 8.36), and San Bernardino County Municipal Code (Chapter 88.01) policy. Regulated trees include Joshua trees, native oaks over 5 inches diameter at breast height (DBH), native trees over 6 inches DBH, three or more palm trees in linear plantings, 50 feet or greater in length; and heritage trees.
- **Townsend's big-eared bat.** Passive acoustic bat surveys will be conducted to determine general bat presence, activity levels, and species composition along high-probability areas, and representative areas of the alignments. Broadband acoustic detectors (Anabat II zero-crossing ultrasonic detectors and CF-ZCAIM storage units) will be programmed to record bat calls each day from one half-hour before sunset to one half-hour after sunrise each day of the study.
- **Burrowing owl.** Focused burrowing owl surveys will be conducted within all suitable habitat within the study area in accordance with the *Staff Report on Burrowing Owl Mitigation* (CDFG 2012b) or Western Riverside County MSHCP protocol, as appropriate.

- **Breeding raptor survey.** Breeding raptor surveys will be conducted in accordance with the methods described by Fuller and Mosher (1987). In general, these methods involve conducting road surveys early in the breeding season with follow-up road or walking surveys to provide additional locations.
- **Desert tortoise.** Desert tortoise focused surveys will be conducted in accordance with the USFWS 2010 protocols.
- **California gnatcatcher.** Coastal California gnatcatcher focused surveys will be conducted in accordance with the USFWS 1997 protocols.
- **Riparian birds.** Southwestern willow flycatcher and least Bell's vireo focused surveys will be conducted in accordance with the latest protocols (Sogge et al. 1997; USFWS 2000; USFWS 2001; USFWS 2004).
- **Small mammals.** Trapping surveys will be conducted for Mohave ground squirrel (Starr 1991), Stephens' kangaroo rat (Dudek & Associates 1996), San Bernardino kangaroo rat (Braden et al. 2000), Los Angeles pocket mouse (Biological Monitoring Team 2007), Palm Springs pocket mouse (Barrows et al. 2009), and Coachella Valley round-tailed ground squirrel (CVAG 2007).
- **Focused special-status plant surveys.** Will conform to *CNPS Botanical Survey Guidelines* (CNPS 2001); *Protocols for Surveying and Evaluating Impacts to Special-status Native Populations and Natural Communities* (CDFG 2009); and, *U.S. Fish and Wildlife Services General Rare Plant Survey Guidelines* (Cypher 2002).
- **Habitat assessment.** A habitat assessment will be completed for all other special-status species with potential to occur within the Proposed Project area and will be based on the vegetation mapping and observations during other focused surveys.

APM-BIO-2 Preconstruction Surveys. Pre-construction biological clearance surveys will be performed to minimize impacts on special-status plants or wildlife species. These preconstruction surveys will be completed in accordance with accepted protocols where applicable.

APM-BIO-3 Biological Monitoring. Biological monitors will be assigned to the Project and will be responsible for overseeing the Proposed Project's environmental protection and mitigation measures related to biological resources. The monitors will be responsible for inspection and monitoring procedures in compliance with requirements set forth in the CEQA document, NEPA document, and any special conditions that will be required as part of other federal and/or state permits, approvals, or licenses. Where appropriate, monitors will flag the boundaries of areas where activities need to be restricted to protect sensitive communities, habitats, and/or native plants and wildlife or special-status species. These restricted areas will be monitored to protect the species during construction. Where necessary, the Biological Monitor will hold the required permits or Memoranda of Understanding (MOU) with appropriate federal and state agencies for the survey for or handling of any listed species. The Biological Monitor will have the ability to temporarily halt construction should a federally listed, state listed, or special-status species be found or encountered during construction activities so that procedures may be implemented to either relocate the species (if applicable) or notify the appropriate agency personnel.

APM-BIO-4 Minimize Disturbance to Native Vegetation. Efforts will be made to minimize vegetation removal and permanent loss at construction sites. Prior to the start of construction, work areas (including, but not limited to, staging areas, access roads, and sites for temporary placement of construction materials and spoils) will be delineated with orange construction fencing or staking in areas with sensitive resources to clearly identify the limits of work and will be verified by the Biological Monitor prior to ground-disturbing activities.

- Fencing/staking will remain in place for the duration of construction activities.
- Where practicable, spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor.
- All disturbances, vehicles, and equipment will be confined to the fenced/flagged areas.

APM-BIO-5 Establish Environmentally Sensitive Areas (ESAs). ESAs include areas to be avoided during construction due to the presence of a sensitive biological resource. ESAs will be identified in advance of construction as a result of biological surveys and preconstruction surveys and will include jurisdictional waters and wetlands, sensitive communities, occupied special-status species habitats, and raptor nesting locations. The locations of ESAs will be clearly depicted on construction drawings, as appropriate, which will also include avoidance and minimization measures on the margins of the construction plans. ESAs may also be identified during preconstruction surveys or nesting bird surveys. ESAs will be clearly delineated in the field with temporary construction fencing and signs prohibiting movement of the fencing or sediment controls under penalty of work stoppages and additional compensatory mitigation. ESAs will also be clearly identified (with signage or by mapping on site plans) unless infeasible. The construction materials used to delineate environmentally sensitive areas will be removed no later than 30 days following completion of construction.

Areas for spoils, equipment, vehicles, and materials storage areas; parking; equipment and vehicle maintenance areas, and wash areas will be placed at least 100 feet from ESAs, unless infeasible. The Biological Monitor will conduct weekly monitoring of the ESAs during construction activities and will have the ability to stop construction activities in the vicinity (within 100 feet) of an ESA if it is determined as a result of monitoring that corrective actions are necessary to avoid and protect the ESA.

APM-BIO-6 Avoidance of Vernal Pools. If vernal pools are mapped within the disturbance area, they will be flagged as ESAs and avoided to the maximum extent practicable. The ESA will include the extent of the vernal pool and a 250-foot buffer around the pool to maintain hydrologic integrity. If a vernal pool cannot be avoided, the Applicant will provide compensation in coordination with the resource agencies, USFWS, ACOE, or CDFW. Where practicable, topsoil will be salvaged from the vernal pool and used for any vernal pool creation sites.

APM-BIO-7 Revegetation of Temporarily Disturbed Areas. A qualified botanist/restoration ecologist will prepare restoration and revegetation plans to be reviewed and approved by the USFS and the resource agencies (ACOE, SWRCB, CDFW, and USFWS) prior to initiation of vegetation-disturbing activities. The plans will detail the methods for topsoil salvage and storage, recontouring of temporarily disturbed

areas to pre-construction conditions; revegetation using salvaged native desert plants and special-status plants from the Proposed Project footprint, nursery grown container plants, and/or native seed mixes; interim (5-year) maintenance, monitoring and reporting, and long-term management and monitoring of restoration areas. Restoration and revegetation will be detailed for temporary disturbance to sensitive communities, habitat occupied by special-status species, jurisdictional waters, and, in the USFS, Riparian Conservation Areas. The plan will include at a minimum: (a) soil preparation measures, including locations of topsoil salvage, and storage, recontouring, decompacting, imprinting, or other treatments; (b) detailed methods for top soil salvage and storage, as applicable; (c) plant material collection and acquisition guidelines, including guidelines for salvaging, storing, and handling plants from the Proposed Project site, as well as obtaining plants and seed from appropriate sources; (d) a plan view drawing or schematic depicting the temporary disturbance areas; (e) a schedule for the optimal time of planting or seeding and the installation methodologies for salvaged plants, container plants, and/or seed mix(es); (f) a description of the temporary irrigation system, if used; (g) measures to control invasive weeds, as appropriate; (h) success criteria; and (i) a detailed monitoring program, commensurate with the Plan's goals. This Plan will also contain contingency measures for failed revegetation and restoration efforts (efforts not meeting success criteria).

APM-BIO-8 Avoidance and Minimization of Impacts to Jurisdictional Waters. Prior to initiation of construction activities, the Applicant will secure a Streambed Alteration Agreement from CDFW, a permit from the ACOE pursuant to Section 404 of the Clean Water Act (CWA), and a Water Quality Certification from the SWQCB (collectively, "waters permits"), as required. The Applicant will implement all conditions and measures contained within the waters permits. At a minimum, the following BMPs will be implemented to avoid potential impacts to jurisdictional waters:

- Jurisdictional waters will be flagged as ESAs and impacts avoided and minimized (as described in APM BIO-4) to the maximum extent practicable;
- Minimize indirect effects from erosion by implementing a SWPPP as described in APM-HYDRO-1;
- Avoid maintenance and refueling of equipment within 100 feet of jurisdictional waters and as described in APM-HYDRO-2, Equipment Maintenance and Refueling Near Sensitive Areas, and APM-HAZ-3, Procedures for Fueling and Maintenance of Construction Equipment;
- Avoid and minimize impacts from unintentional frac-out at crossings implementing HDD technology by implementing APM-HYDRO-4, Frac-Out Contingency Plan, and APM-HAZ-5, Containment and Disposal of HDD Drilling Waste;
- Avoid and minimize impacts from unintentional spills by implementing APM-HAZ-6, Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan and APM-HAZ-4, Emergency Response Plan; and
- Avoid and minimize impacts from unintentional spills by implementing APM-HAZ-7, Hazardous Materials Contingency Plan.

APM-BIO-9 BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species. Construction and operations crews will be directed to use BMPs where applicable. These measures will be identified prior to construction and incorporated into the construction activities. BMPs to avoid and minimize impacts to special-status species will include the following:

- a. **Minimize Noise Impacts.** To minimize disturbance to wildlife nesting or breeding activities in surrounding habitat, loud construction activities will be avoided adjacent to habitat to the extent feasible from February 1 to August 31. Loud construction activities may be permitted from February 1 to August 31 only according to the provisions of the Nesting Bird Management Plan as described in APM-BIO-13. Measures may include noise barriers and/or biological monitor to ensure no take of nests as a result of noise.
- b. **Light.** Night time construction will be avoided to the extent feasible adjacent to sensitive habitat, including habitat occupied by special-status species, riparian areas, and conservation areas identified in the WRMSHCP, CVMSHCP, and SKR HCP. If night time construction cannot be avoided, lighting will be shielded away from sensitive habitat.
- c. **Avoid Wildlife Entrapment.** At the end of each work day, Biological Monitors will monitor the pitfalls (trenches, bores, temporary detention basins, and other excavations) have been backfilled, covered, or sloped to allow wildlife egress. All potential pitfalls will be backfilled, sloped at a 3:1 ratio to provide wildlife escape ramps at appropriate intervals, or covered completely to prevent wildlife access except as necessary for ongoing Project activities. Should wildlife become trapped, the Biological Monitor will remove and, if applicable, relocate it as described in APMs.
- d. **Avoid entrapment of nesting or migratory birds.** All pipes or other construction materials or supplies will be covered, capped, or inspected in storage or laydown areas at the end of each work day. Netting will be installed to avoid entrapment and monitored and maintained as necessary to ensure compliance.
- e. **Minimize Spills of Hazardous Materials.** All vehicles and equipment will be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. The Biological Monitor will be informed of any hazardous spills immediately. Hazardous spills will be immediately cleaned up and the contaminated soil will be properly handled or disposed of at a licensed facility. Servicing of construction equipment will take place only at a designated area as approved by the Biological Monitor. Service and maintenance vehicles will carry a spill kit.
- f. **Inspection of Vehicles.** Employees and contractors will carefully examine vehicles and construction equipment for the presence of special-status species prior to moving their vehicles. If a listed species is found underneath or near a vehicle or piece of equipment, the Biological Monitor will be notified immediately and no equipment will be moved until the animal has left voluntarily or is relocated by a biologist authorized to do so. Non-listed special-status species may be moved by construction personnel, as described in the WEAP training.

- g. **Wildlife Relocation.** Impacts on protected and special-status wildlife will be minimized by relocating any individuals observed within the immediate construction area to suitable habitat outside the development impact footprint, as feasible. Only a qualified biologist, possessing necessary permits, will relocate individuals (unless otherwise described in the WEAP). All relocations of special-status species will be documented and reported to the appropriate jurisdictional agencies.
- h. **Trash abatement.** A trash abatement program will be initiated during the pre-construction phases of the Proposed Project, and will continue through the duration of the Proposed Project. Trash and food items must be contained in closed (raven-proof) containers and removed regularly (at least once a week) to reduce attractiveness to opportunistic predators such as ravens and coyotes. Upon Project completion, all construction refuse, including, but not limited to, broken equipment parts, wrapping material, cords, cables, wire, rope, strapping, twine, buckets, metal or plastic containers, and boxes will be removed from the site and disposed of properly. Domestic dogs will be prohibited from the Project site and site access.
- i. **Speed Limits.** Except on county-maintained roads, vehicle and equipment speed limits will not exceed 15 miles per hour.

APM-BIO-10 Worker Environmental Awareness Program (WEAP). A WEAP will be prepared, and all construction crews and contractors will be required to participate in WEAP training prior to starting work on the Proposed Project, where concurrence has been provided the appropriate regulatory agency prior to the commencement of construction activities. Training materials and briefings will include but not be limited to: discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, CWA, and Fish and Game Code; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; fire protection measures; sensitivities of working on NFS lands and identification of USFS sensitive species; hazardous substance spill prevention and containment measures; a contact person in the event of the discovery of dead or injured wildlife; and, review of mitigation requirements. A record of all personnel trained will be maintained.

APM-BIO-11 Treat Cut Tree Stumps with Sporax¹. All stumps of trees (conifers and hardwoods) 3 inches DBH or greater resulting from activities associated with construction of the Project will be treated with Sporax according to product directions to prevent the spread of annosus root disease. Only licensed applicators will apply Sporax. Sporax will not be used during rain events unless otherwise approved by the appropriate regulatory agencies.

APM-BIO-12 Weed Control Plan. The Applicant will prepare and implement a Weed Control Plan on USFS lands for pre-construction and construction invasive weed abatement. The Weed Control Plan will include adaptive provisions such as wheel and equipment washing, use of herbicide, manual, and mechanical methods applied with the authorization of the USFS. Herbicides will be applied by a Pest Control Advisor in compliance with all state and federal laws and regulations. Herbicides will not be applied during or within 72 hours of a scheduled rain event. In riparian areas only water-safe herbicides will be used. Herbicides will not be

¹ Trademark brand.

applied when wind velocities exceed 6 mph. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the USFS.

APM-BIO-13 Nesting Bird Management Plan. Prior to initiation of construction activities, a Nesting Bird and Bat Management Plan will be developed and reviewed by CPUC, USFS and CDFW. The Nesting Bird Management Plan will detail the methodology for preconstruction nesting bird surveys, a list of bird species expected to nest within the disturbance area, minimum buffers for each species based on species, habitat, and construction activity; noise reduction measures; and, monitoring requirements. It would also identify potential bat roost sites present within the study area and measures for avoidance of maternal bat roosts or best practices for passively relocating other roost sites prior to disturbance.

Generally, pre-construction surveys for nesting birds will be conducted if construction and removal activities are scheduled to occur during the breeding season and will be conducted in areas within 500 feet of laydown/staging areas, trench locations, and access/spur road locations. Surveys for birds will be conducted between February 1 and August 31. The required survey dates may be modified based on local conditions with the approval of the USFS and CDFW. The Applicant will be responsible for designating qualified biologists who can conduct pre-construction surveys and monitoring for breeding birds. The resume of the proposed biologists will be provided to the appropriate resource agencies prior to ground disturbance.

If breeding birds with active nests are found, a biological monitor will establish a no-activity buffer around the nest. The buffer will be established in the Nesting Bird Management Plan by species but will be a maximum of 300-foot buffer for non-raptors and a 500-foot buffer for raptors. Buffers may be adjusted by the qualified biologist to reflect existing conditions including ambient noise, topography, and disturbance. The biological monitors will conduct regular monitoring of the nest to determine success/failure and to ensure that Proposed Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitors will be responsible for documenting the results of the surveys.

APM-BIO-14 Preconstruction Plant Surveys. Conduct preconstruction surveys for state and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants, to the extent practicable. The Applicant will conduct pre-construction surveys for state and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity. The resume of the proposed biologists will be provided to the appropriate regulatory agencies for concurrence prior to ground disturbance.

APM-BIO-15 Arroyo Toad Avoidance. If arroyo toad is found during clearance surveys, the authorized biologist will halt all activities until appropriate corrective measures have been completed. No stockpiles of materials will occur in areas occupied by arroyo toad. Trash that may attract predators of the arroyo toad will be removed daily.

If the Proposed Project crosses or impacts occupied or suitable arroyo toad habitat, the following avoidance measures will be implemented during the activity period (between February and October):

- Ground-disturbing activities, such as grading, stream crossing upgrades, and parking will be avoided along access roads within a 1-kilometer buffer of occupied arroyo toad habitat unless hardpacked areas can be used exclusively and the path cleared each morning.
- Use of access roads will be limited within the 1-kilometer buffer area and restricted to daylight hours only.
- Alternatively, access roads can be fenced with toad-proof fencing to allow for use without monitoring, provided it is maintained in a toad-proof state. The plans and methods for the installation will be approved by the appropriate resource agencies if this option is chosen.
- Vehicle speeds will be limited to 15 mph.

APM-BIO-16 Condor Avoidance. Within suitable condor habitat, construction areas will be inspected daily for microtrash and all microtrash will be placed in closed trash containers.

APM-BIO-17 Mohave Ground Squirrel Avoidance. A trapping program for Mohave ground squirrels will be developed through consultation with CDFW and conducted within one year prior to construction activities. If the Mohave ground squirrel trapping survey results are positive, an incidental take permit (ITP) will be obtained. Habitat compensation and other mitigation measures will be specified in the ITP but will include preservation of habitat at a minimum 1:1 ratio. Other measures negotiated through the ITP process will be implemented.

APM-BIO-18 Listed Kangaroo Rat Avoidance. Focused surveys will be conducted for San Bernardino kangaroo rat and Stephens' kangaroo rat at least a year prior to construction activities. These surveys, conducted using the USFWS protocol and performed by an approved biologist permitted by the USFWS will identify the extent of occupied habitat. If survey results are positive, permits (Biological Opinion or Habitat Conservation Plan from USFWS and consistency determination from CDFW) will be obtained. Temporary disturbance areas within occupied habitat will be returned to grade as soon as practicable and be restored in accordance with the Proposed Project's Restoration and Revegetation Plan (APM-BIO-7). Specific measures will include:

- Pipeline construction within occupied habitat will occur outside the primary active season (approximately February 15 through October 1) for San Bernardino kangaroo rat when practicable.
- During construction within suitable habitat, "drift fences" (e.g., silt fence, or similar material) would be installed around stockpiles and other areas with the potential to attract or entrap these species within 300-500 feet of occupied habitat or designated Critical Habitat (depending on topography). The fence would be in place far enough ahead of the construction to effectively exclude kangaroo rats by trapping from the work space for a period of 24 hours prior to construction. Kangaroo rats trapped within construction workspaces and inside the fencing would be relocated outside of the active construction area and released in suitable habitat by a biologist permitted by the USFWS to handle these species. Fencing will be removed following regrading and restoration of the construction footprint.
- A qualified Biological Monitor will be present when construction occurs within, and/or 300-500 feet from occupied habitat. The Biological Monitor

will check the trench and around equipment each morning for any trapped animals.

APM-BIO-19 Coastal California Gnatcatcher Avoidance. A focused habitat assessment will be conducted for suitable coastal California gnatcatcher. Focused surveys will be conducted for coastal California gnatcatcher within all suitable habitat prior to the initiation of construction activities. Construction activities within or adjacent to coastal California gnatcatcher suitable habitat will be avoided during the coastal California gnatcatcher breeding season (February 15 through August 31), to avoid take of active nests. If construction activities occur during coastal California gnatcatcher breeding season, a qualified biologist will survey the suitable habitat within 500 feet of construction activities to identify active nests. If active nests are found, construction activities will not occur within 500 feet of an active nest, or a sound barrier will be erected to reduce noise levels to below 60 A-weighted decibels equivalent level over a given time period (dBA L_{eq}), in conjunction with biological monitoring to avoid take. If no nesting activity is observed, then work may proceed, but weekly monitoring of the area will be required to ensure that no new nests have been built.

APM-BIO-20 Riparian Birds Avoidance. Proposed construction and maintenance activities within or adjacent to habitat suitable for riparian birds (including least Bell's vireo, southwestern willow flycatcher, yellow-billed cuckoo) will avoid the breeding season for these species (approximately April–September 15) to the extent practicable. If any construction or maintenance activities occur during the breeding season, a qualified biologist will survey the area and identify nest locations prior to the construction or maintenance activity. Construction or maintenance activities would not occur within 500 feet of an active nest, unless a sound barrier is erected to reduce noise to below 60 dBA L_{eq} . A qualified biological monitor will be present for any activities within or adjacent to suitable habitat during breeding season and the Biological Monitor would have the authority to stop construction activities if the Biological Monitor observed behavior that indicates distress because of construction noise/activity. If no nests are present, then work may occur, but weekly monitoring must occur to determine if new nests have been built.

APM-BIO-21 Avoidance of Desert Tortoise. If the Proposed Project would affect occupied desert tortoise habitat, as determined by focused surveys conducted for the Proposed Project, a Desert Tortoise Avoidance and Translocation Plan will be prepared and approved by the USFWS prior to initiation of construction activities. The Plan will include methods for clearance surveys, tortoise handling, artificial burrow construction, egg handling, and other procedures. All methods will be consistent with those described in the USFWS' Desert Tortoise Field Manual (USFWS 2009) or more current guidance provided by CDFW and USFWS. The Applicant will also implement all terms and conditions described in the Biological Opinion (or Habitat Conservation Plan) for the Project, to be prepared by USFWS. An Authorized Biologist will be approved by the USFWS prior to initiation of construction activities. Applicable conditions and requirements include, but are not limited to, the following.

Pre-Construction Surveys for Desert Tortoise. Construction sites, staging areas, and access routes will be cleared by a qualified desert tortoise biologist before the start of construction, ground-disturbing activities, equipment or vehicle staging, or other actions with the potential to harm or kill desert tortoises or other special-status and protected wildlife. An Authorized Biologist(s) will survey the site for desert tortoises using agency-approved survey techniques. If construction

occurs during the desert tortoise active season (March 1 through October 31), or when temperatures and environmental conditions are conducive to tortoise activity as determined by an authorized biologist, the survey would occur within 48 hours before surface disturbance. During the inactive season (November 1 through February 28, except as noted above), when conditions are not conducive to tortoise activity as determined by an authorized biologist, one survey must occur within 72 hours of surface disturbance or up to five days in advance of disturbance if conditions are not favorable for tortoise activity.

Desert Tortoise Burrows. All potential desert tortoise burrows found in the construction zone, whether occupied or not, will be excavated by an authorized biologist. Tortoises and nests found within the Proposed Project area will be relocated by an authorized tortoise biologist in accordance with the latest USFWS-approved protocol detailed in the Desert Tortoise Field Manual (USFWS 2009) and in accordance with Proposed Project permits. Unoccupied burrows would be collapsed or blocked to prevent tortoise re-entry. Any desert tortoise burrows and pallets that are observed outside of but within 50 feet of the construction work area must be flagged for avoidance. No stakes or flagging will be placed on the berm or in the mouth of a desert tortoise burrow. Desert tortoise burrows will not be marked in a manner that facilitates poaching. Avoidance flagging must be designed to be easily distinguished from access route or other flagging, and would be designed in consultation with experienced construction personnel and authorized biologists. All flagging will be removed following construction activities.

Excavated Desert Tortoises. Tortoise excavated from burrows must be relocated to unoccupied natural or artificially constructed burrows immediately following excavation. The artificial or unoccupied natural burrows should be located 150 to 300 feet from the original burrow. Relocated tortoises will not be placed in existing occupied burrows. If an existing burrow that is similar in size, shape, and orientation to the original burrow is unavailable, the authorized biologist would construct one. Desert tortoises moved during inactive periods will be monitored for at least two days after placement in the new burrows to ensure their safety. The authorized biologist would be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely.

Aboveground Desert Tortoises. Desert tortoises that are found aboveground would be moved from the construction right-of-way by an authorized biologist, and be placed in the shade of a shrub located 150 to 300 feet from the point of encounter.

Desert Tortoise Handling Procedures. Procedures for handling tortoises would follow those described in the Desert Tortoise Field Manual (USFWS 2009) and as authorized by Proposed Project permits. The authorized biologist would document each tortoise encounter/handling.

Blasting. If blasting is required in desert tortoise habitat, a Biological Monitor will be assigned to each blasting crew or area in which blasting would occur. Prior to any blast, a 200-foot area around the blast site will be surveyed for desert tortoises. Aboveground tortoises will be relocated at least 500 feet from the blast site. Tortoises in burrows will be relocated in accordance with the Proposed Project's translocation plan and project permits.

Fuel and Waste Spills. Any fuel or hazardous waste leaks or spills will be stopped or repaired immediately and cleaned up at the time of occurrence. The storage and handling of hazardous materials will be excluded from the construction zone

in areas within 100 feet of active tortoise burrows and wash crossings. Any unused or leftover hazardous products will be properly disposed of off site.

Pipes and Culverts Larger than 3 Inches in Diameter. In desert tortoise habitat, construction pipe, culvert, or similar structure with a diameter greater than 3 inches aboveground on the construction site for one or more nights will be inspected for tortoises before the material is moved, buried, or capped by the Applicant. As an alternative, structures may be capped before being stored on the construction site.

Environmental Inspection. Upon completion of construction, a thorough inspection of the site will be conducted by the biological monitor and authorized biologist to determine the extent of compliance with the conditions of USFWS's Biological Opinion. Within 90 days of completion of Project activities, the biological monitor and/or authorized biologist will submit a report to the USFWS. The report will document the numbers and locations of desert tortoises encountered, their disposition, effectiveness of protective measures, practicality of protective measures, recommendations for future measures that allow for better protection or more workable implementation, and the number of acres disturbed.

APM-BIO-22 Endangered Species Permits. If needed, appropriate permits will be obtained from the resource agencies (USFWS and CDFW) to authorize take of listed species including a Biological Opinion from the USFWS and an Incidental Take Permit from CDFW. All permit conditions will be implemented and a report will be provided to the resource agencies within 90 days of completion of construction activities documenting compliance with the permits.

APM-BIO-23 Avoidance of Special-Status Plants

Pre-construction surveys. Focused surveys will be conducted for special-status plant species prior to construction. Surveys will occur at the appropriate time to capture the characteristics necessary to identify the taxon. Location of each special-status plant population will be mapped and number of individuals for each population documented. The outer extent of each population will be flagged at the time of the survey. Surveys will be conducted by a qualified botanist knowledgeable in the biology of the local flora, and consistent with currently accepted protocols.

If a special-status plant is detected, the full extent of the population on-site will be recorded using GPS. All but the smallest populations (e.g., a population occupying less than 100 square feet) will be recorded as area polygons; the smallest populations may be recorded as point features. All GPS-recorded occurrences will include: the number of plants, phenology, and habitat or community type. The map of occurrences submitted with the final botanical report will be prepared for consistency with definition of an occurrence by CNDDDB, (i.e., occurrences found within 0.25 miles of another occurrence of the same taxon, and not separated by significant habitat discontinuities, will be combined into a single 'occurrence'). Data and completed CNDDDB forms for each 'occurrence' (as defined by CNDDDB) will be submitted to CNDDDB.

Avoidance. Prior to the start of any ground- or vegetation-disturbing activities, a qualified biologist will establish ESAs to protect avoided special-status plants that occur outside of the disturbance areas and within 100 feet of disturbance areas. The ESA boundary will be based on the results of the focused plant survey and will be placed a minimum of 20 feet from the uphill side of the occurrence and 10 feet from the downhill side. Where this is not possible due to construction

constraints, other protection measures, such as silt-fencing and sediment controls, may be employed to protect the occurrences.

APM-BIO-24 Burrowing Owl Avoidance and Mitigation. Focused surveys will be conducted for burrowing owl to identify suitable and occupied habitat. Prior to initiation of construction activities, a Burrowing Owl Management Plan will be prepared and approved by CDFW. The Management Plan will include detailed measures for the following: preconstruction surveys, avoidance measures and monitoring; burrowing owl relocation and mitigation plan. The relocation and mitigation plan will include the following:

- detailed description of available habitat and unoccupied burrows at the relocation site;
- details for construction and installation of artificial burrows if necessary;
- detailed methods and guidance for passive or active relocation of burrowing owls occurring during the non-breeding season;
- monitoring and management of relocation sites; and,
- habitat compensation for permanent loss of occupied habitat. Ratios typically include a minimum of 19.5 acres per nesting burrow lost; however, habitat compensation will be approved by CDFW and detailed in the Burrowing Owl Mitigation and Monitoring Plan.

APM-BIO-25 Raptor Nest Avoidance. Raptor nest surveys will be conducted within all disturbance areas and a buffer as approved by CDFW and USFWS, but will be wide enough to encompass potential avoidance buffers that may be implemented during construction (at least 500 feet). All active, inactive, and potential raptor nests will be recorded, including nests that may be common raven nests. Avoidance measures will be outlined in the nesting bird management plan described in APM-BIO-13.

APM-BIO-26 Avoidance of Other Special-status Wildlife

Badger. Prior to construction, measures will be taken to minimize impacts on badgers that are encountered. If a badger and its active burrow are found on site, a qualified biologist will monitor the burrow during construction. It is likely that the badger will leave the site once construction begins. One-way trap doors will be installed to passively exclude badgers from dens. Once the burrow is confirmed to be unoccupied, it will be collapsed.

Desert kit fox. Prior to construction, the site will be cleared of potential desert kit fox dens and potential burrows will be safely collapsed to prevent re-occupation. Closure will only occur where the project biologist believes that they will be in direct danger. Clearances will only occur outside of the February to June pupping season.

Nelson's Bighorn Sheep. The Proposed Project will avoid impacts to Nelson's bighorn sheep. Should Nelson's bighorn sheep be present in proximity to construction activities, a Biological Monitor will be notified and will monitor activities to ensure impacts do not occur. If construction activities are disturbing this species, the Biological Monitor will halt construction and development and avoidance plan with the resource agencies.

Reporting of Special-Status Species. All encounters with special-status species will be immediately reported to the Biological Monitor, who will record the following information: species name; location (narrative and maps) and dates of

observations; general condition and health, including injuries and state of healing; diagnostic markings, including identification numbers or markers; and locations moved from and to (if applicable). All special-status species recordings will be submitted to the CNDDDB.

APM-BIO-27 Compensation for Sensitive Vegetation Communities, Habitat, and Plants.

The Applicant will compensate for permanent removal of sensitive vegetation communities and habitat for special-status species. The Applicant will prepare a Habitat Compensation Plan detailing compensation for acreages and habitat types as defined herein. The Plan will be submitted for approval to the applicable resource agencies prior to the commencement of construction.

The Project Applicant will compensate for removal of sensitive communities or for permanently affected communities as determined by a qualified biologist. The acreages and ratios will be based upon final calculation of affected acreage for each resource and on ratios set forth in this measure, or in the USFWS Biological Opinion, the CDFW Streambed Alteration Agreement, the CDFW Incidental Take Permit, or the Consistency Determination, whichever presents a higher ratio. The Project Applicant will be responsible for acquisition and protection of mitigation lands. In addition, the Project Applicant will provide funding for initial improvement and long-term maintenance, enhancement, and management of the acquired lands for protection and enhancement of habitat values.

Compensation will be provided for effects to the following resources, at the specified ratios (acres acquired and preserved to acres affected) and may be a combination of preservation, creation, reestablishment, or enhancement:

- Desert tortoise and/or Mohave ground squirrel occupied habitat: As determined by incidental take permits but no less than 1:1
- Habitat occupied by listed wildlife species (including coastal California gnatcatcher, San Bernardino kangaroo rat, Stephen's kangaroo rat, least Bell's vireo, southwestern willow flycatcher): as determined by incidental take permits but no less than 1:1
- Upland sensitive community (1:1)
- Riparian communities, including wetlands, vernal pools, and Riparian Conservation Areas (3:1)
- Active sand transport areas (1:1)
- Non-wetland waters of the United States (2:1)
- State-jurisdictional streambeds (2:1)
- Occupied habitat for special-status plants (1:1)
- Occupied habitat (minimum 1:1).

Compensation lands for biological resources may be "nested." For example, compensation for effects to riparian birds could be entirely or partially fulfilled by the mitigation for riparian vegetation communities. Where affected habitats meet criteria at two or more compensation ratios, the highest ratio will apply.

Additionally, significant loss of special-status plants will be compensated through salvage and translocation as practicable and a salvage and translocation will be prepared. The Plan will include at minimum: (a) collection/salvage measures for plants or seed banks, to retain intact soil conditions and maximize success

likelihood; (b) details regarding storage of plants or seed banks; (c) location of the proposed recipient site, and detailed site preparation and plant introduction techniques and details for top soil storage, as applicable; (d); time of year that the salvage and replanting or seeding will occur and the methodology of the replanting; (e) a description of the irrigation, if used; (f) success criteria; and, (g) a detailed monitoring program, commensurate with the Plan's goals.

APM-BIO-28 Regulated Trees. The Applicant will compensate for/replace any regulated trees in accordance with applicable city and county tree protection ordinances.

APM-BIO-29 Urban/Wildlands Interface Guidelines

For portions of the Proposed Project located within or adjacent to designated WRMSHCP Conservation Areas, the following will be implemented to minimize indirect effects to the Conservation Area:

Toxics

Land uses proposed in proximity to the Conservation Area that use chemicals or that are potentially toxic or may adversely affect wildlife species, habitat, or water quality will incorporate measures to address the application of such chemicals in a manner that avoids discharge to the Conservation Area.

Lighting

Night lighting will be directed away from the Conservation Area to protect species within the Conservation Area from direct night lighting. Shielding will be incorporated in Proposed Project designs to ensure ambient lighting in the Conservation Area is not increased.

Noise

Proposed noise generating land uses affecting the Conservation Area will incorporate setbacks, berms or walls to minimize the effects of noise on Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the Conservation Area should not be subject to noise that would exceed residential noise standards.

Invasives

Any landscape or restoration planning efforts within or adjacent to the Conservation Area will avoid the use of invasive species list identified on WRMSHP Table 6-2. Considerations in reviewing the applicability of this list of invasive species will include proximity of planting areas to the Conservation Areas, species considered in the planting plans, resources being protected within the Conservation Area and their relative sensitivity to invasion, and barriers to plant and seed dispersal, such as walls, topography and other features.

APM-BIO-30 Consistency with Habitat Conservation Plans. The Applicant will prepare an analysis, either separate from or part of the biological technical report, which evaluates the Proposed Project's consistency with all goals and objectives of the Coachella Valley MSHCP, Western Riverside County MSHCP, and SKR HCP. This will include, but not be limited to, an analysis of the Proposed Project's impacts on existing and future conservation lands, impacts on the functions and values of existing and future covered Habitats, and impacts to covered Species. Measures will be proposed in the analysis as required to be consistent with the HCPs.

In addition, the PEA has identified a number of APMs to address hazards and hazardous materials that would be implemented before, during, and after construction of the Proposed Project. These APMs identified below can be applied to hazards and hazardous materials issues, which would avoid or reduce potential impacts to biological resources.

APM-HAZ-1 Hazardous Materials and Hazardous Waste Handling

A project-specific hazardous materials management and hazardous waste management program will be developed prior to initiation of the Proposed Project. The program will outline proper hazardous materials use, storage, and disposal requirements as well as hazardous waste management procedures; it will also identify the types of hazardous materials to be used during the Project and the types of wastes that will be generated. All Project personnel will be provided with Project-specific training. This program will be developed such that hazardous materials and wastes will be handled in a safe and environmentally sound manner. Hazardous materials will not be disposed of or released onto the ground, the underlying groundwater, or any surface waters. Totally enclosed containment will be provided for all trash. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, will be removed to a waste facility permitted to treat, store, or dispose of such materials. Hazardous wastes will be handled and disposed of according to applicable rules and regulations. Employees handling hazardous materials and wastes will receive hazardous materials training and will be trained in hazardous waste procedures, spill contingencies, and waste minimization procedures in accordance with Occupational Safety and Health Administration (OSHA) Hazard Communication Standards and Title 22 of the California Code of Regulations (CCR).

APM-HAZ-2 Transportation of Hazardous Materials

Hazardous materials that will be transported by truck include fuel (diesel fuel and gasoline) and oil and lubricants for equipment. Containers used to store hazardous materials will be properly labeled and kept in good condition. Written procedures for the transport of hazardous materials used will be established in accordance with U.S. Department of Transportation (USDOT) and California Department of Transportation (Caltrans) regulations. A qualified transporter will be selected to comply with USDOT and Caltrans regulations.

APM-HAZ-3 Fueling and Maintenance of Construction Equipment

Written procedures for fueling and maintenance of construction equipment will be prepared prior to construction. Vehicles and equipment will be refueled on site or by tanker trucks. Procedures will include the use of drop cloths made of plastic, drip pans, and trays to be placed under refilling areas to prevent chemicals from coming into contact with the ground. Refueling stations will be located in designated areas where absorbent pad and trays will be available. Fuel storage tanks will be placed in secondary containment to prevent accidental spillage from occurring. Drip pans or other collection devices will be placed under the equipment at night to capture drips or spills. Equipment will be inspected daily for potential leakage or failures. Hazardous materials such as paints, solvents, and penetrants will be kept in an approved locker or storage cabinet.

APM-HAZ-4 Emergency Release Response Procedures

An emergency response plan detailing responses to releases of hazardous materials will be developed prior to construction activities. It will prescribe hazardous materials handling procedures for reducing the potential for a spill during construction and will include an emergency response program to ensure quick and safe cleanup of accidental spills. All hazardous materials spills or threatened releases, including petroleum products such as gasoline, diesel, and hydraulic fluid, regardless of the quantity spilled, will be immediately reported if the spill enters a navigable water, stream, lake, wetland, or storm drain; affected any sensitive area, including conservation

areas and wildlife preserves; or caused injury to a person or threatened injury to public health. All construction personnel, including environmental monitors, shall be aware of state and federal emergency response reporting guidelines.

APM-HAZ-5 Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste

Drilling mud and cuttings from HDD drilling activities will be contained in portable tanks. Samples will be analyzed as necessary (to determine waste classification) and waste will be disposed of at an approved disposal facility.

APM-HAZ-6 Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan

In accordance with Title 40 of the CFR, Part 112, the Applicant will prepare a spill prevention, control, and countermeasure plan and hazardous materials business plan for the Adelanto Compressor Station. These plans will include engineered and operational methods for preventing, containing, and controlling potential releases and provisions for quick and safe cleanup.

APM-HAZ-7 Hazardous Materials Contingency Plan

In the event that grading, construction, or operation of the Proposed Project will encounter evidence of contamination, USTs, or other environmental concerns, a hazardous materials contingency plan should be followed. The plan should 1) specify measures to be taken to protect worker and public health and safety; and 2) specify measures to be taken to manage and remediate wastes. Although there is potential for soil contamination elsewhere within the Proposed Project area, the plan should highlight the areas of known soil contamination. The plan should include the following: identification of known areas of soil contamination; procedures for temporary cessation of construction activity and evaluation of the level of environmental concern; procedures for limiting access to the contaminated area to properly trained personnel; procedures for notification and reporting, including internal management and local agencies (fire department, DEH, APCD, etc.), as needed; a worker health and safety plan for excavation of contaminated soil; procedures for characterizing and managing excavated soils; procedures for certification of completion of remediation. In addition to awareness of the contingency plan, grading and excavation staff should undergo training on how to identify suspected contaminated soil and underground storage tanks (USTs).

APM-HAZ-10 Emergency Response Plan, Pipeline Safety

The Applicant will prepare an emergency response plan for use in response to a pipeline-related emergency (e.g., gas leak, earthquake, accidental release of hazardous materials or waste, fire, and/or pipeline or facility damage). Included in this plan would be measures for fire prevention. The plan would be designed in accordance with state and federal regulations, including 49 CFR 192, Health and Safety Code (Chapter 6.95), and Titles 19, 22, and 27 of the CCR.

4.0 **SURVEY METHODS**

This section describes the methods used: to conduct a generalized literature review; to identify the Study Area for resource-specific studies; to perform vegetation mapping and general wildlife surveys; to conduct a jurisdictional delineation; and, to perform focused biological surveys for the Proposed Project.

4.1 **LITERATURE REVIEW**

Prior to initiating any field surveys for the Proposed Project, a review was conducted of the North-South Project PEA, focused surveys conducted for the Proposed Project in the fall of 2014 (rare plant and desert tortoise surveys), and special status species lists from the San Bernardino National Forest. In addition, an up-to-date review of the CDFW's California Natural Diversity Database (CNDDB) (CDFW 2015), USFWS occurrences and Critical Habitat (USFWS 2015), and CDFW Special Animals List (CDFW, March 2015) was conducted to determine if any special status species have the potential to occur within or adjacent to the Study Areas. A potential to occur designation was determined for each species based on vegetation communities, elevation data, and knowledge of the area. Additional literature reviews conducted specifically for the varying survey efforts for the Proposed Project are detailed in Sections 4.3 through 4.5.

4.2 **STUDY AREA**

The potential for the Proposed Project to impact a specific biological resource varies according to the sensitivity of the species and its life cycle. For example, mobile species such as avian species may be more likely to be susceptible to indirect impacts and therefore, an assessment of a wider area is appropriate to ensure that all potential impacts are identified. Accordingly, the detailed work efforts outlined below include the varying widths of the Study Areas for field surveys performed for the Proposed Project. In addition, the Study Area was expanded in certain areas to accommodate potential alignment variations by the Proposed Project engineer to avoid environmental resources as necessary. A summary list is provided below, indicating the total maximum widths of the Study Areas on either side of the Proposed Project alignment. The Study Area widths are illustrated in Exhibits 2 and 3. Each of the individual survey methods described in Sections 4.3 to 4.5 provide greater detail and justification for the varying Study Area widths.

- **Vegetation Mapping and General Botanical/Wildlife Surveys:** 1,300-foot-wide Study Area
- **Jurisdictional Delineation:** 500-foot-wide Study Area
- **Special Status Plant Surveys:** 500-foot-wide Study Area
- **Weed Surveys:** 500-foot-wide Study Area
- **Tree Survey:** 350-foot-wide Study Area
- **Fairy Shrimp Surveys:** 500-foot-wide Study Area
- **Arroyo Toad Surveys:** 0.6-mile upstream/downstream within suitable creeks crossed by the Proposed Project
- **Desert Tortoise Surveys:** 700-foot-wide Study Area
- **Burrowing Owl Surveys:** 1,300-foot-wide Study Area
- **Coastal California Gnatcatcher:** 1,300-foot-wide Study Area
- **Least Bell's Vireo/Southwestern Willow Flycatcher Surveys:** 1,300-foot-wide Study Area

- **Raptor Surveys:** 8-mile-wide Study Area
- **Mohave Ground Squirrel Surveys:** 500-foot-wide Study Area
- **Other Small Mammal Trapping Surveys:** 1,300-foot-wide Study Area
- **Acoustic Bat Surveys:** 500-foot-wide Study Area

4.3 VEGETATION MAPPING AND GENERAL WILDLIFE SURVEYS

4.3.1 Vegetation Mapping

The Study Area for vegetation mapping includes a 650-foot-wide buffer on either side of the Proposed Project alignment's centerline and variations (for a total width of 1,300 feet). Vegetation mapping surveys began in mid-March and ended in early May. The vegetation mapping survey dates and the regions within the Study Area that were surveyed are summarized below:

- **March 11, 2015:** Desert Center Compression Station, Shaver Summit and Whitewater Pressure Limiting Stations
- **March 12, 2015:** Milepost (MP) Range 57–65 and Moreno Pressure Limiting Station
- **March 18, 2015:** MP Range 1–10, 40–49, and Adelanto Compression Station
- **March 26, 2015:** MP Range 10–20, 22
- **April 24, 2015:** MP Range 25–28
- **April 30, 2015:** MP Range 20–21
- **April 30, 2015:** MP Range 31–40 and 49–57
- **May 7, 2015:** MP Range 23–31

Vegetation in the Proposed Project area was initially mapped in 2014 (Dudek 2014) for the PEA process. The current vegetation mapping effort includes areas not previously mapped based on adjustments made to the Proposed Project since the original mapping effort. Previously mapped areas were verified and refined for accuracy. Where vegetation overlaps another type of mapping unit (e.g., a tree canopy over water or roads), the area was mapped according to the uppermost layer of vegetation.

A minimum mapping unit of 0.1 acre was used for all refinements and additions. All vegetation mapping and refinements were conducted on hard copy maps with high resolution, true color, geo-rectified aerial photography overlaid with the existing vegetation map layer and Study Area boundary and at a scale of 1 inch equals 200 feet (1" = 200'). Areas that could not be assessed in the field due to access issues were analyzed with Geographic Information Systems (GIS) software, aerial photographs, and mapped based on surrounding vegetation that was accessed on foot and similarity of image features to known vegetation types found elsewhere in the Study Area.

Description of vegetation types were written based on observations and field notes taken during the survey and by field notes taken during the special status plant surveys. Vegetation classification was based on *A Manual of California Vegetation* (The Manual) (Sawyer et al. 2009), which is the classification system currently used by CDFW. In cases where observations indicate that the vegetation cannot accurately fit the definition of any vegetation type in The Manual, the closest functional equivalent within The Manual was used to replace the dominant species names. Latin names used conform to The Jepson eFlora (Jepson Herbarium 2014). All species observed were recorded in field notes. A list of plant species observed is included as Appendix B-1.

Each vegetation type was assessed for its level of imperilment based on the NatureServe Heritage Program Status Ranks (NSR). For vegetation types not found in The Manual, the NSR of the closest functional equivalent was used in its place.

4.3.2 **General Wildlife Surveys**

During the course of all the field surveys conducted for the Proposed Project, active searches for reptiles and amphibians included lifting, overturning, and carefully replacing rocks and debris. Birds were identified by visual and auditory recognition. Surveys for mammals were conducted during the day and included searching for and identifying diagnostic sign, including scat, footprints, burrows, and trails. Taxonomy and nomenclature for wildlife generally follows American Fisheries Society (1991) for fish, Crother (2008) for amphibians and reptiles, American Ornithologists' Union (AOU 2015) for birds, and Wilson and Reader (2003) for mammals. All species observed were recorded in field notes. A compendium of wildlife species observed is included as Appendix B-2.

4.4 **JURISDICTIONAL DELINEATION**

The Study Area² for the jurisdictional delineation consisted of a 250-foot-wide buffer on either side of the Proposed Project alignment's centerline and variations (for a total width of 500 feet) and a 250-foot-wide buffer around the pressure-limiting stations/compressor stations (Exhibit 4). The following documents were reviewed to identify areas within the Study Area that may fall under USACE, State Water Resources Control Board (SWRCB), and/or CDFW jurisdiction: the U.S. Geological Survey's (USGS') 7.5-minute topographic quadrangle maps; color aerial photography provided by Psomas (2014) and Google Earth (various dates); the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS) National Hydric Soils List (USDA NRCS 2014a) and Web Soil Survey (USDA NRCS 2014b); and the USFWS' National Wetlands Inventory's (NWI) Wetlands Mapper (USFWS 2014).

Non-wetland "waters of the U.S." were delineated based on the limits of the Ordinary High Water Mark (OHWM), which can be determined by a number of factors including erosion, the deposition of vegetation or debris, and changes in vegetation. The OHWM limits (i.e., active floodplain) were further verified using methods contained in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, A Delineation Manual* (Lichvar and McColley 2008) and in *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) In the Arid West Region of the Western United States* (Curtis and Lichvar 2010).

A two-parameter approach, in conjunction with a review of aerial and site photographs, topographic maps, and field data, was employed to make an assessment of the presence of wetlands. Areas containing hydrophytic vegetation and one or more indicators of wetland hydrology were considered to be wetlands. These wetlands were mapped within the Study Area.

The jurisdictional delineation included field surveys conducted by qualified biologists between October 2014 and May 2015. Jurisdictional features were delineated using Apple iPads with Avenza PDF Maps Global Positioning System (GPS) software loaded with 1" = 200' aerial photographs of the entire Study Area. Location accuracy was enhanced with an iSxBlue II Global Navigation Satellite System (GNSS) receiver and an antenna capable of collecting data at submeter accuracy. Drainages in inaccessible areas were mapped remotely using high-resolution (three-inch pixel, monochromatic orthophoto) aerial photographs provided in conjunction with

² Note that the Study Area does not include existing roads that may be accessed for the Proposed Project activities; these areas are actively used by the USFS, public utilities, and the public and would not be expanded to accommodate construction traffic.

one-foot topographic contours. Jurisdictional water resources were either delineated as a drainage centerline with corresponding width measurements or, for wide drainages and waterbodies clearly visible on aerial imagery, as a polygon. Each water resource was identified according to the alignment MP located to the north. In most cases, a drainage that enters and leaves the Study Area boundary is given the same identification number throughout. Vegetation and hydrologic data were collected at one representative sampling point in each jurisdictional feature; this information was recorded on Wetland Determination Data Forms taken from the regional supplement.

4.5 FOCUSED BIOLOGICAL SURVEYS

4.5.1 Special Status Plant Species

The California Natural Diversity Database (CNDDDB) and California Native Plant Society's (CNPS) online inventory were accessed to assess potential occurrences of special status plant species for all USGS 7.5-minute topographical quadrangle maps within the Proposed Project alignment. Due to the wide elevation range of the Study Area, an elevation range between mean sea level (msl) and 4,500 feet above msl was used to query the databases. Additionally, a two-mile radius was searched with GIS for CNDDDB records around the Desert Center Compressor Station, Shaver Summit Pressure Limiting Station, and the Whitewater Pressure Limited Station. The species lists generated from these databases were then reviewed for a given plant's potential to occur in the Study Area based on habitat guidelines and collection records. Soil data was also assessed using GIS in order to determine the presence of any unique soils (e.g., clay, alkaline, mafic, serpentine soils), which could support special status plant species. A soil map was then assessed to determine areas where special status species have an increased likelihood of occurring.

One species, Bear Valley popcornflower (*Plagiobothrys collinus* var. *ursinus*), is not listed as special status in the CNPS online inventory, but is listed as Forest Service Sensitive for the SBNF (CNPS 2014; SBNF 2014). This species was included in the potential occurrence analysis based on records from the Consortium of California Herbaria (CCH) (CCH 2014).

Table 5 contains all species found during the CNDDDB, CNPS, and CCH searches along with special status designation, a general habitat description (including preferred soil types), an assessment of habitat suitability, and determinations of presence or absence within the Study Area (Exhibit 5).

Due to significant environmental variation along the Proposed Project alignment and the expectation that most special status plant species are restricted to specific habitat zones, the Study Area was segregated into six distinct habitat areas (Segments) for the special status plant survey.

1. **Mojave Desert Segment** (Adelanto Compressor Station to MP 14). This segment includes the northern portion of the Proposed Project from the Adelanto Compressor Station to the northern boundary of the SBNF.
2. **Transition Segment** (MP 14 to MP 18). This segment includes the SBNF portion of the alignment from its northern boundary to State Route (SR) 138.
3. **Foothills Segment** (MP 18 to MP 29). This segment includes the SBNF portion of the alignment south of SR-138 and continuing beyond the SBNF to Glen Helen Parkway.
4. **Inland Segment** (MP 48.7 to MP 58.7). This segment includes the portion of the alignment which follows Reche Canyon Road in Riverside County.

5. **Urban/Developed Segment** (MP 29 to MP 48.7 and MP 58.7 to Moreno Pressure Limiting Station). This segment includes all remaining portions of the alignment, encompassing east/south of Glen Helen Parkway in San Bernardino to the northern terminus of Reche Canyon Road in Colton, and the remainder of the alignment beyond the southern terminus of Reche Canyon Road, ending at the Moreno Pressure Limiting Station in Moreno Valley.
6. **Colorado/Sonoran Desert Segment.** This segment includes the Desert Center Compressor Station, Shaver Summit Pressure Limiting Station, and the Whitewater Pressure Limiting Station.

Special status plant surveys were conducted by qualified botanists/biologists between March 11 and July 6, 2015. Meandering transects were used to search the Study Area, which varied in distance from the centerline depending upon the habitat; the average transect was 60 feet. Field leads directed the intensiveness of survey coverage in any given area based on slope, habitat suitability for special status plants, and density of the shrub layer. All areas were transected in detail at least once. Plant species were identified in the field or collected for later identification. Due to access issues, a portion of the Study Area around Pittman Canyon Road and Hall Ranch Road could not be assessed on foot. These areas were assessed by binoculars and aerial photographs to assist in the analysis of areas of suitable habitat for special status plants to occur. Any observed special status plant species were mapped with a GPS unit with twenty-foot accuracy and data were collected on the number of individuals and microsite characteristics (e.g., slope, aspect, soil texture, and associated species). Photographs were taken of the general habitat and representative individual plants. Any voucher specimens collected would be deposited in an indexed, regional herbarium. During the surveys, all plant species observed were identified and recorded in a plant compendium (Appendix B-1). Scientific names for those that are considered special-status conform to the CNPS online inventory (CNPS 2015); all others conform to the Jepson eFlora (Jepson Herbarium 2014).

CDFW protocol recommends multiple surveys be conducted to ensure for regional rainfall variability and germination variability (CDFG 2009). Consistent with CDFW protocol, special status plant surveys were conducted along the entire Study Area (except as noted above) at least three times during the optimum time (Segments 1, 4, 5, 6) and some areas were surveyed four times during the optimum time (Segments 2 and 3). Although reference populations and regional rainfall amounts were monitored to ensure the scientific adequacy of these focused surveys, there is always a potential for false negative survey results as some species, particularly annual and perennial herbs, could possibly be present on a site but may not be detectable at the time of the surveys.

4.5.2 Weed Survey

A weed survey was conducted by qualified biologists in the SBNF to identify and map weed species per a list of species provided by the USFS (USFS 2014) which included species with designations by the California Invasive Plant Council (Cal-IPC) (Cal-IPC 2006) and the USFS (USFS 2014). For the purposes of this discussion, “weeds” are defined as invasive/non-native plants that constitute an ecological nuisance.

The Study Area for the weed survey consisted of a 250-foot-wide buffer on either side of the Proposed Project alignment’s centerline and variations (for a total width of 500 feet) as they occur in the SBNF, between MP 14 and MP 29 (Exhibit 6). Due to access issues, a portion of the Study Area around Pittman Canyon Road and Hall Ranch Road could not be assessed on foot. Some of these areas were assessed using binoculars; areas that could not be assessed on foot or with binoculars were not surveyed.

Weed surveys of the Study Area were conducted from mid-April through mid-June. Weed species were mapped with a GPS unit, although some populations were mapped by hand-drawing polygons on hard copy maps and then digitized with GIS software. For each weed species occurrence observed, data were collected on the number and rough distribution of individuals. A USDA Weed Occurrence Form was filled out for each weed observation and for polygons of specific widespread species. Weed species were mapped at each observed occurrence. These occurrences were then analyzed with GIS to determine if polygons provided more appropriate representations of weed occurrence.

4.5.3 Tree Survey

A tree survey was conducted by qualified arborists and biologists to document the existing trees within a 350-foot-wide Study Area corridor for the Proposed Project (Exhibit 7). Only those trees regulated by local municipal codes were included in this assessment, including trees in the Cities of Adelanto and Highland, and in unincorporated portions of San Bernardino County.

The Study Area was surveyed between April 27 and June 3, 2015. All trees found in the Study Area that are regulated by the City of Adelanto, the City of Highland, or the San Bernardino County codes were mapped in the field on a 1" = 200' aerial photograph, and coordinates were collected for each tree on tablet computers with an accuracy of 10 to 15 feet. During the survey, each tree was assessed and the following data were collected: trunk circumference, tree height, and canopy width. Qualitative ratings for aesthetics and overall health were also determined.

A small portion of the trees surveyed (42 trees/4 percent of total) could not be fully assessed, e.g., trunk circumference and height. This was due to limited access on private property in some portions of the Study Area. Survey methods for these 42 trees were limited to visual evaluations with binoculars and aerial imagery interpretation. An additional 23 trees (2 percent of total) could not be visually assessed due to restricted access and could only be seen on aerial imagery. These trees were identified as "unknown" and no additional data was collected.

Using a measuring tape, trunk diameter was measured at a height of 54 inches above mean natural grade; multiple trunks were measured separately. For multi-trunk trees, each trunk was measured separately and then combined to determine the tree's total diameter. The height of each tree was estimated from mean natural grade to the highest branch. Also, the diameter of each tree's canopy was estimated at its widest point. Each tree assessed was inspected and compared to an archetype tree (considered excellent on all points mentioned below) of the same species.

Tree aesthetics were evaluated with respect to overall form and symmetry, crown balance, branching pattern, and broken branches. The trees were rated on a scale of one to five, with one being very poor aesthetic and five being excellent aesthetic. The health of each tree was also assessed based on guidelines developed by the Council of Tree and Landscape Appraisers (CTLA 2000). This assessment was based on an examination of each tree's root zone (structure and health), trunk (structure and health), scaffold branches (structure and health), twigs (health only), and foliage (health only) for a total of eight criteria. Each criterion was evaluated and rated on a scale of one to four, with one being extreme health problems and four being no apparent health problems. The sum of the scores for the various criteria are divided by the total number of points possible (32) and a final score is determined, represented as a percentage between 25 percent and 100 percent.

The health evaluation generally considered visual evidence of vigor, such as the amount of foliage; leaf color and size; presence of branch or twig dieback; severity of insect infestation; the presence of disease, heart rot, fire damage, and/or mechanical damage; the amount of new growth; the appearance of bark; and the rate of callous development over wounds. Structural

integrity was also evaluated with respect to branch attachment, branch placement, root health, and stability. In addition, the health assessment considered such elements as the presence of decay, weak branch attachments, and the presence of exposed roots due to soil erosion.

4.5.4 Fairy Shrimp Wet and Dry Season Surveys

The fairy shrimp Study Area consists of a 500-foot-wide Study Area between the northern boundary of the SBNF and the Moreno Pressure Limiting Station (Exhibit 8). Surveys were conducted by qualified biologists in accordance with USFWS' 1996 *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (USFWS 1996). According to USFWS protocol, a complete branchiopod survey consists of sampling for either two full wet seasons or two consecutive surveys of one wet season and one dry season.

The USFWS was notified regarding survey initiation on November 6, 2014, following a rainfall event on November 1 and 2, 2014, which produced 0.20 inch of precipitation (CIMIS 2014). The entire Proposed Project alignment Study Area was visited on November 11, 2014, by a qualified biologist to confirm pond inundation (i.e., greater than 3 centimeters standing water 24 hours after a rain event) and to conduct the first sampling effort. At that time, inundation was observed at two locations in the Proposed Project alignment Study Area, triggering wet season surveys which continued throughout the 2014/2015 wet season. Ponds were sampled once every two weeks beginning no later than two weeks after inundation. Surveys continued until ponds were no longer inundated or until they experienced 120 days of continuous inundation.

The location of each pond was recorded with a GPS receiver. During each survey visit, pond surface area, water depth, water temperature, air temperature, and habitat condition were recorded for each pond on USFWS vernal pool data sheets. Photographs of each pond and its surrounding area were taken. Sampling of branchiopod species was performed with the aid of a dip net; this dip net was passed through all depressions that retained water at least three centimeters deep at the time of the survey. Sampling occurred randomly through all portions (e.g., along the margins and throughout the center) of each of the ponds from the bottom to the surface. The net was periodically inspected for fairy shrimp.

A dry-season sampling was conducted on June 8, 2015 and June 19, 2015 by a USFWS permitted biologist. The collected soil was then transported to a qualified laboratory for processing and analysis. The contents were processed according to established protocols (USFWS 1996) and examined under a 10 to 252-power zoom binocular microscope. A large branchiopod cyst reference collection and scanning electron micrographs of cysts (Rabet 2010, Brendock *et al.* 2008, Hill and Shepard 1998, Mura 1991, Belk 1989, and Gilchrist 1978) were used to identify and compare any cysts observed within the soil samples.

4.5.5 Arroyo Toad Surveys

The Study Area for arroyo toad (*Anaxyrus californicus*) surveys consisted of Crowder Creek, Cleghorn Creek, and Pitman Creek, 0.6 mile upstream and downstream of the Proposed Project alignment (Exhibit 9). All three creeks are east-to-west-flowing drainages in the Cajon Pass. The dominant hydrologic feature in the pass is Cajon Wash, a third order stream that varies from narrow channels with exposed bedrock to broad alluvial washes with deep sedimentary deposits. Crowder, Cleghorn, and Pitman Creeks are all second order tributary streams to Cajon Wash.

Prior to the field survey, the literature was reviewed to determine whether arroyo toad have been recorded in or adjacent to the Proposed Project alignment. The CNDDDB (CDFW 2015), USFWS critical habitat maps encompassing the Proposed Project (USFWS 2011), and the Southern California Mountains and Foothills Assessment (Stephenson and Calcarone 1999) were reviewed

for arroyo toad occurrence data in the Proposed Project vicinity. The nearest reported occurrence of this species occurs in the Cajon Wash, approximately 0.25 mile west of the Study Area (CDFW 2015).

A habitat assessment was conducted by qualified biologists on February 10 and 11, 2015, to determine areas of suitable arroyo toad breeding habitat along the Proposed Project alignment. The habitat assessment consisted of (1) reviewing aerial photographs and vegetation types of the Proposed Project alignment to determine areas where aerial signatures of active river/stream flows and riparian vegetation may suggest the presence of suitable habitat for the species and then (2) conducting site visits at suitable habitat areas potentially affected by the Proposed Project. At the conclusion of the habitat assessment, a set of map sheets was prepared depicting locations where protocol-level arroyo toad surveys should be conducted. These areas included Crowder Creek, Cleghorn Creek, and Pitman Creek. In accordance with the survey protocol for the arroyo toad (USFWS 1999), areas “within one kilometer (1 km) of arroyo toad localities (documented by the presence of eggs, larvae, juveniles, or adults) that have suitable habitat are presumed to be occupied by arroyo toad”. As such, the Study Area includes all potentially suitable breeding habitat within 0.6 mile (one km) upstream and downstream of the Proposed Project where it crosses potentially suitable breeding habitat. This included limited portions of Cajon Wash, as this area was within one km of the alignment and Cleghorn Creek crossing.

Focused protocol-level surveys for arroyo toad were conducted by qualified biologists according to the USFWS-established survey method (USFWS 1999). Six surveys were conducted during 12 site visits between March 23 and June 10, 2015, to determine the presence or absence of this species in the Study Area during the 2015 breeding season. In accordance with the USFWS survey protocol, each survey included diurnal and nocturnal components completed within the same 24-hour period.

Diurnal surveys were conducted from approximately 2:00 PM until dusk, and nocturnal surveys were conducted from one hour after dusk until approximately 2:00 AM. Surveys focused on detecting toads by visual identification; listening for the advertising call of adult males; and checking potentially suitable breeding habitat for tadpoles and/or eggs. Survey biologists scanned pools for eggs, larvae, metamorphs, juveniles, and breeding and/or calling adults in suitable breeding locations along the stream and for foraging individuals in the adjacent riparian and upland areas. Whenever possible, surveyors moved in a downstream direction during the diurnal surveys and moved in an upstream direction during the nocturnal surveys. Headlamps, flashlights, and binoculars were used to visually identify toads, frogs, and any larvae detected at night. In an effort to maximize detectability, nocturnal surveys were conducted during environmental conditions that are considered conducive to higher levels of activity for the arroyo toad. Generally, these conditions include night time temperatures in excess of 50 degrees Fahrenheit (°F) at dusk, low winds (less than ten miles per hour), and the absence of a full or nearly full moon.

4.5.6 Desert Tortoise Surveys

The Study Area for desert tortoise (*Gopherus agassizii*) surveys consisted of a 700-foot-wide survey corridor (350-foot buffer on either side of the alignment centerline), in areas deemed to provide potential habitat for this species (Exhibit 10). Potential habitat was identified in coordination with the USFWS and SBNF. Urban areas that lacked suitable tortoise habitat and areas where topography or private land signage prevented safe access were excluded. The resulting total acreage within the 17.86-mile Study Area corridor, including surveys for the station areas, was approximately 1,345 acres.

The majority of surveys were conducted by qualified biologists between September 16 and October 30, 2014. Per USFWS and SBNF guidance, belt-transects were equally spaced

approximately 15 feet apart in the Survey Area to ensure 100 percent visual coverage, and were conducted at a pace of approximately 1.5 miles per hour, consistent with the USFWS Pre-Project Field Survey Protocol (USFWS 2010). The three pressure limiting stations and one compressor station were also surveyed with the same methods based a 500-foot buffer around each location's centroid. An exception was the Shaver Summit Pressure Limiting Station, which was surveyed on May 7, 2015, according to standard USFWS protocols with no additional buffer (USFWS 2010).

All desert tortoise sign (e.g., live tortoises, burrows, scat, and carcasses) encountered during the protocol-level survey was documented. When signs of desert tortoise were encountered, the following information was acquired: (1) All potential tortoise burrows, scat, and carcasses detected were recorded with GPS units; (2) Scat was characterized as being deposited this year or prior to this year; (3) Desert tortoise burrows were classified according to USFWS desert tortoise burrow classification categories (Classes 1–5, see Table 1); and (4) Flashlights or mirrors were used to inspect burrows for desert tortoise. Any live desert tortoises would be visually assessed by evaluating size, sex, and health and their locations would be recorded with GPS units.

TABLE 1
U.S. FISH AND WILDLIFE SERVICE
DESERT TORTOISE BURROW CLASSIFICATION

Classification	Burrow Description
Class 1	Currently active, with desert tortoise or recent desert tortoise sign
Class 2	Good condition, definitely desert tortoise; no evidence of recent use
Class 3	Deteriorated condition (this includes collapsed burrows); definitely desert tortoise
Class 4	Good condition; possibly desert tortoise
Class 5	Deteriorated condition (this includes collapsed burrows); possibly desert tortoise
Source: <i>Desert Tortoise Surveys</i> , BRC-Equals3, Inc. 2015.	

4.5.7 Burrowing Owl Surveys

The Study Area for burrowing owl (*Athene cunicularia*) surveys consisted of a 1,300-foot-wide survey corridor (650-foot buffer on either side of the alignment centerline), between the Adelanto Compressor Station and the Moreno Pressure Limiting Station, and including the Whitewater and Shaver Summit Pressure Limiting Stations and the Desert Center Compressor Station (Exhibit 11). Surveys were conducted by qualified biologists from March to July, during the burrowing owl's breeding season, and in accordance with the CDFW's 2012 guidelines.

In order to document and describe the extent of potential burrowing owl presence in or adjacent to the Proposed Project alignment, BonTerra Psomas conducted a review of available literature including a five-mile radius query of the CNDDDB (CDFW 2015b). In addition, publicly available environmental reports and documentation from other recent projects in the region, topographic maps, and aerial photographs were reviewed.

Field surveys were conducted in accordance with the CDFW's *Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Four survey visits were conducted during the breeding season following the suggested calendar schedule: at least one site visit between February 15 and April 15 and a minimum of three survey visits, at least three weeks apart, between April 15 and July 15, with at least one visit after June 15.

The initial field survey (Survey 1) consisted of a habitat assessment and potential burrow survey. The habitat assessment and potential burrow survey included a complete-coverage pedestrian

transect survey of all accessible, suitable habitat in the Study Area. Pedestrian transects were laid out in an east-west orientation that totaled approximately 400 transect miles. These pedestrian surveys were conducted over 16 days from March 9, 2015 to March 22, 2015, and from May 5, 2015 to May 7, 2015. Surveys were carried out daily from 6:30 AM to 3:30 PM.

The survey protocol recommends that transect intervals range between 33 and 66 feet, dependent upon visibility conditions, which include vegetation height and density and horizontal air quality and haziness. Transect lines were set at 66-foot intervals; however, due to the varying density in vegetation, surveyors adjusted spacing between the 33-foot and 66-foot range to accommodate visibility conditions. Surveys were conducted beginning at the northern extent of the Proposed Project area moving southward. Surveyors were arranged into teams of two, and surveyors walked in an east-west orientation due to the Proposed Project's orientation and size. All observed burrows meeting the appropriate recommended size to support burrowing owls (i.e., 4 inches or greater as defined in the 2012 protocol) were investigated for any signs of recent use by the species, including presence of pellets, feathers, whitewash, or nearby individuals. Any burrows that exhibited diagnostic size and signs of use (including signs from small mammals such as California ground squirrel (*Spermophilus beecheyi*) and white-tailed antelope squirrel [*Ammospermophilus leucurus*]) were recorded using GPS technology. Additionally, at the start of each transect line and approximately every 330 feet, the area was scanned for owl activity according to the protocol.

In addition to recording GPS locations for each burrow or burrow complex, photographs were taken and details regarding the nature, orientation, and general condition were recorded. Local time, ambient air temperature, and wind speed and direction were recorded at the start and end of each survey. Air temperature was measured approximately two inches above the ground in the shade of the observer or any suitable object. Wind speed and direction were measured at approximately five feet above the ground. Following completion of the transect survey, the locations of any potential burrows detected were plotted on a map for use during the three remaining protocol surveys.

Survey 2 (April 15–22 and May 4–5, 2015), Survey 3 (May 18–29, 2015), and Survey 4 (June 15–23, 2015) consisted of return visits to each of the potential burrow sites to determine burrowing owl presence or absence, use, and behavior. Two teams of two biologists visited the mapped points and visually observed the areas using binoculars in order to avoid flushing potential owls from burrows. If no owls were observed, the surveyors approached the burrow in order to update burrow conditions and to record any new burrowing owl diagnostic signs detected. Because of topography and vegetation of the surrounding area, observations were taken from multiple points in order to ensure that full visual coverage of the burrow location was achieved. Similar to Survey 1, observations were conducted as closely to the suggested protocol as possible, one hour before sunrise to two hours after sunrise or the dusk survey period consisting of two hours before sunset to one hour after sunset. Due to unseasonably cold mornings, surveys were adjusted to meet climate conditions and to satisfy the core components of the surveys. Survey data collected included survey dates, names of surveyors, survey areas, survey type (dawn/dusk), start/end times, and weather conditions.

4.5.8 Coastal California Gnatcatcher Surveys

The Study Area boundaries for the coastal California gnatcatcher (*Poliophtila californica californica*) survey effort were based on vegetation maps that were provided in the PEA (SoCalGas and SDG&E 2014). The PEA vegetation mapping effort relied on classifications following the The Manual (Sawyer et al. 2009) and were mapped at the macrogroup level (SoCalGas and SDG&E 2014). These vegetation layers were then utilized to develop Study Area units to identify suitable habitat for coastal California gnatcatchers that would be the subject of the focused survey efforts (Exhibit 12).

The mapping of the vegetation types within the Study Area units was updated after the initiation of the focused surveys, which resulted in more detailed vegetation designations in several areas. This refinement to the mapping area included smaller minimum mapping units, resulting in more unsuitable vegetation types being mapped within the Study Area units. The updated vegetation types in the Study Areas that constitute suitable habitat for this species include brittlebush scrub, disturbed brittlebush scrub, California buckwheat scrub, disturbed California buckwheat scrub, California sagebrush scrub, disturbed California sagebrush scrub, California sagebrush–California buckwheat scrub, California sagebrush scrub–brittlebush scrub, and California sagebrush–California buckwheat–white sage scrub.

The USFWS coastal California gnatcatcher survey protocol recommends six visits to all potentially occupied habitat areas for surveys conducted entirely within the breeding season, which extends from March 15 to June 30 (USFWS 1997a, 1997b). All visits must take place at least 1 week apart during the morning hours, and no more than 80 acres of suitable habitat may be surveyed per visit. Based on vegetation surveys conducted along the Proposed Project alignment, approximately 317 acres of suitable coastal sage scrub habitats were identified within the Study Area. However, because portions of suitable habitat are spread out over larger areas and separated by vegetation types that are not considered suitable habitat for the coastal California gnatcatcher, a total of ten Study Area units were developed to capture all suitable habitat for coastal California gnatcatchers. Table 2 shows the amount of suitable habitat within each Study Area unit and the size of each unit.

TABLE 2
SUMMARY OF COASTAL CALIFORNIA GNATCATCHER STUDY AREAS

Study Area Units	Total Study Area Unit Size (Acres)	Total Amount of Suitable Coastal Sage Scrub Per Study Area Unit (Acres)
1	50.53	8.02
2	86.39	25.18
3	77.77	38.89
4	99.29	34.73
5	93.88	42.55
6	62.70	22.39
7	54.25	14.49
8	100.11	35.96
9	32.43	18.18
10	76.98	76.98
TOTAL	734.33	317.37

Source: *Results of Focused Breeding Season Presence/Absence Surveys for Coastal California Gnatcatcher*, BonTerra Psomas 2015.

Following the USFWS protocol for the species, surveys were conducted by permitted biologists for the coastal California gnatcatcher on May 4–8, 11–15, 18–22, 25–29 and June 1–5, 8–12, 17, and 19, 2015. The surveys covered all potentially suitable habitat for the coastal California gnatcatcher in the Study Area. As required by the protocol, no more than 80 acres of suitable habitat were surveyed per visit.

Weather conditions during surveys met the USFWS survey protocol requirements for optimal gnatcatcher detection. No survey work was conducted when weather conditions were too cold (below 55°F), too hot (above 95°F), or too windy (wind speed greater than 15 miles per hour).

The primary survey method included walking slowly through all appropriate habitats (i.e., coastal sage scrub) while listening and watching for gnatcatcher activity. A combination of taped recordings of gnatcatcher vocalizations and “pishing” sounds was used in an attempt to elicit responses from any gnatcatchers that might be present. The frequency of vocalization playback and “pishing” varied depending on conditions, such as habitat patch size and topography in each area. All wildlife species detected during the survey were recorded, including notable observations of special status birds or other wildlife species.

4.5.9 Least Bell’s Vireo/Southwestern Willow Flycatcher Surveys

The Study Area boundaries for riparian bird species were based on vegetation maps that identified suitable habitat for least Bell’s vireo and southwestern willow flycatcher, which would then be the subject of focused survey efforts. The vegetation types in the Study Area that constituted suitable habitat for least Bell’s vireo and southwestern willow flycatcher included Fremont cottonwood forest, arroyo willow thickets, sandbar willow thickets, red willow thickets, mulefat thickets, California sycamore woodlands and disturbed mulefat thickets.

The USFWS protocol for the least Bell’s vireo requires that at least eight surveys be conducted from April 10 to July 31 with a ten-day interval between each site visit. The USFWS protocol for the southwestern willow flycatcher requires a total of five surveys, with the first survey conducted between May 15 and May 31; the second and third surveys between June 1 and June 24; and the fourth and fifth surveys between June 25 and July 17. At the request of the SBNF, an additional survey was included in the second and third survey periods for a total of seven southwestern willow flycatcher surveys. Senior biologists/ornithologists conducted the focused surveys in all riparian habitats potentially suitable for occupation by breeding least Bell’s vireo and southwestern willow flycatcher in the Study Area (Exhibit 13). Surveys were conducted on April 20, 21, and 22; May 1, 3, 4, 18, 19, 21; June 1, 2, 3, 11, 12, 14, 21, 22, 23, 26, 27, 28; and July 1, 2, 3, 13, 14, and 15, 2015; all surveys for southwestern willow flycatcher were conducted by a permitted biologist/ornithologist.

The biologists/ornithologists systematically surveyed the riparian habitats by walking slowly and methodically along the margins of riparian habitat or by using meandering transects through riparian habitat. Following the willow flycatcher protocol, recorded vocalizations were used to elicit a response from any potentially territorial southwestern willow flycatchers. If no southwestern willow flycatchers were detected after the initial playing of the recorded vocalization, the biologist/ornithologist occasionally replayed the recording once more depending on site conditions. As the least Bell’s vireo survey protocol does not require the playback of least Bell’s vireo vocalizations, recorded least Bell’s vireo vocalizations were not used during the surveys. “Pishing” sounds were also used opportunistically to elicit responses from any potentially present southwestern willow flycatchers or least Bell’s vireos. Any least Bell’s vireos or southwestern willow flycatchers were recorded with a GPS unit; territories recorded were numbered chronologically as they were detected. All surveys were conducted under optimal weather conditions and during early morning hours when bird activity is at a peak.

4.5.10 Raptor Surveys

Wintering Raptor Surveys, Golden Eagle Aerial Nest Surveys, and Swainson’s Hawk Nest Surveys were conducted by qualified biologists for the Proposed Project. These survey efforts are described below.

Wintering Raptor Surveys

Wintering raptor surveys were completed within a Study Area consisting of an eight-mile-wide survey corridor (four-mile buffer on either side of alignment centerline), between the Adelanto

Compressor Station in the City of Adelanto and the Moreno Pressure Limiting Station in Moreno Valley (Exhibit 14). Wintering raptor surveys were conducted between February 4 and March 27, 2015, and followed the Hawk Migration Association of North America's (HMANA's) winter raptor survey protocol (HMANA 2015).

Prior to the field survey, literature was reviewed to determine whether wintering raptors have been recorded in or adjacent to the wintering raptor Study Area. The CNDDDB (CDFW 2015a) and the eBird database (2015) were checked for wintering raptor occurrences. Information from California Wildlife Habitat Relationships Life History Accounts and Range Maps (CWHR, CDFW 2015b) was also used to support survey efforts.

Surveys were conducted when wintering species were most likely expected. The surveys covered the entirety of the wintering raptor Study Area, emphasizing preferred habitat areas. All surveys were conducted during daylight hours. Much of the wintering raptor Study Area was driven, generally on roads where shoulders were present to allow for stopping, where feasible. In addition, much of the wintering raptor Study Area had fire roads present that allowed for easy surveying from a vehicle. In some areas, e.g., hillsides in Riverside County and canyons in the San Gabriel and San Bernardino Mountains, observation points were selected where the skies could be watched for flying raptors. Where suitable owl habitat was present and public access was possible, biologists approached and surveyed on foot a selection of wood lots, California juniper (*Juniperus californica*) patches, and other locations with denser vegetation. During this survey, biologists also searched for and documented the locations of raptor nests.

Data were collected on digital forms, and for each raptor observed, biologists recorded observation time, GPS coordinates, approximate location of the bird relative to the biologist's position, species, age and sex (if known), plumage characteristics, and notes with general information (i.e., behavior).

Golden Eagle Aerial Nest Surveys

Golden eagle (*Aquila chrysaetos*) aerial nest surveys were completed within a Study Area consisting of an eight-mile-wide survey corridor (four-mile buffer on either side of alignment centerline), between Lytle Creek (within the SBNF) and the Moreno Pressure Limiting Station (Exhibit 14). Golden eagle aerial nest surveys were conducted between March 10 and May 3, 2015, and followed the 2010 Interim Golden Eagle Inventory and Monitoring Protocols.

Prior to the field survey, literature was reviewed to determine whether raptors have been recorded in or adjacent to the golden eagle Study Area. The CNDDDB (CDFW 2015a) and eBird database (2015) were checked for golden eagle occurrences. Information from CWHR (CDFW 2015b) was also used to support survey efforts.

Aerial golden eagle nesting surveys covered all areas of suitable golden eagle nesting habitat and known eagle nest sites in the golden eagle Study Area. The Golden Eagle Study Area included sections of the San Gabriel and San Bernardino Mountains, the desert, and the hills of Riverside County, including transmission structures along high-voltage power lines. All helicopter surveys were performed by a biologist and an assistant observer. An initial round of surveys was conducted between March 10 and April 3, 2015. The goal of the initial round of surveys was to assess golden eagle territory occupancy and to determine nesting status (active or inactive). The second round of surveys was conducted May 2 and 3, 2015, the objective being to evaluate productivity of nests identified in the first round, although additional time was devoted to verifying the status of apparently occupied territories identified during the first round of surveys for which no nests were discovered.

All aerial surveys were conducted in a helicopter and conducted pursuant to established survey methods (Pagel et al. 2010) to the extent possible. During aerial surveys, biologists searched all areas within the golden eagle Study Area for large stick nests of golden eagles, other raptors, or common ravens (*Corvus corax*) on cliff faces and transmission towers, while adhering to the flight restrictions that applied at the time of the survey. The following information was recorded for each nest found during surveys: biologist, date, time, weather, species, GPS coordinates, nest status/contents/condition/ substrate/description, and other pertinent descriptive information.

Swainson's Hawk Nest Survey

The Swainson's hawk (*Buteo swainsoni*) nest Study Area consists of an eight-mile-wide survey corridor (four-mile buffer on either side of alignment centerline), between the Adelanto Compressor Station and the northern border of the SBNF (Exhibit 14). Also surveyed were areas of suitable Swainson's hawk habitat along the Proposed Project alignment within the "Badlands" area adjacent to State Route (SR) 60 east of the City of Moreno Valley. Surveys followed the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties (CEC and CDFW 2010). Suitable habitat was surveyed by helicopter coincident with aerial surveys for golden eagle, also described in this report. Surveys were conducted between March 10 and May 3, 2015, by biologists experienced with conducting surveys for nesting Swainson's hawks and other raptors.

Prior to the field survey, literature was reviewed to determine whether the Swainson's hawk has been recorded in or adjacent to the Swainson's Hawk Study Area. The CNDDDB (CDFW 2015a) and eBird database (2015) were checked for Swainson's hawk occurrences. Information from CWHR (CDFW 2015b) was also used to support survey efforts.

Surveys were conducted for Swainson's hawk following the Swainson's Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California (CEC and CDFW 2010), with minor modifications.³ Surveys were conducted in suitable habitat during the required periods. In addition to the standard ground surveys, a significant portion of the Swainson's Hawk Study Area was covered by helicopter in conjunction with the golden eagle aerial nest surveys. Data were collected on digital forms and, for each raptor observed, biologists noted the following data: observation time; GPS coordinates; approximate location; species; age and sex (if known); plumage characteristics; and, notes with general information (i.e., behavior).

4.5.11 Mohave Ground Squirrel Surveys

The Study Area for Mohave ground squirrel (*Xerospermophilus mohavensis*) surveys is located along a six-mile segment of the Proposed Project's preferred pipeline alignment, which starts at the intersection of Rancho Road and an unnamed north-south running dirt road located to the east of Koala Road (Exhibit 15). The Study Area is surrounded by undeveloped open desert land and scattered residential properties, and is bordered by a number of unnamed dirt roads. It has relatively flat topography with ranges in elevation from approximately 2,970 to 3,370 feet above msl. The dominant plant communities in the Study Area are Creosote Bush–White Burr Sage Scrub, White Burr Sage Scrub, and Rubber Rabbitbrush Scrub. The focused surveys were

³ The California Energy Commission and CDFW issued a survey protocol for Swainson's hawk (2010) that requires surveys within a five-mile buffer in the Antelope Valley. Since Swainson's hawk surveys performed for the Proposed Project occurred outside of the Antelope Valley, the four-mile buffer zone defined for golden eagle and wintering raptor surveys being conducted was utilized.

conducted by CDFW-permitted biologists following CDFW guidelines for Mohave ground squirrel surveys (CDFG 2003).

Prior to the trapping effort, a habitat assessment was conducted on November 6, 2014, to determine the optimal locations for the Mohave ground squirrel survey grids. Biologists drove slowly throughout the Study Area in potentially suitable Mohave ground squirrel habitat and stopped at the northern and southern ends of each potential grid location to verify habitat quality; specifically, they identified vegetation, soil type, connectivity to other open space areas, and level of human disturbance. Biologists also walked portions of the potential grid locations to determine suitability of soils and vegetation. Grid locations were determined taking into account habitat quality, the nearest inhabited structure, and site disturbance. Pursuant to this habitat assessment and in coordination with the CDFW (CDFW 2015b), six locations were approved for guideline Mohave ground squirrel surveys. Prior to initiation of guideline trapping surveys, CDFW-qualified biologists conducted visual observation surveys at the six survey locations on March 24, 2015 and April 13, 2015, as required by the Mohave Ground Squirrel Guidelines (CDFG 2003).

Based on the assessment and visual observations, six trapping grids at CDFW approved locations were established following CDFW guidelines. Each grid was oriented in a north-south direction and consisted of 100 ventilated life traps spaced approximately 115 feet on center, with the trap door facing north. Each trap was covered with an open-ended corrugated cardboard box cover to prevent heat stress. The traps were set and baited in the morning for five consecutive days for each trapping session, with a mixture of sweet horse grain and rolled oats with a blend of peanut butter. The ambient air temperature at one foot above the ground surface in the shade was recorded at least every four hours during the entire trapping effort. Cloud cover and wind speed were also recorded every four hours. Traps were closed if the air temperature exceeded 90°F at 1 foot above the ground surface in the shade, until the temperature fell below the upper limit. Traps were checked at least every four hours and were closed within one hour of sunset or sooner. A Mohave Ground Squirrel Grid Information Form was completed for each grid that includes the following information: grid number, location (including UTM coordinates), survey dates, name of the surveying biologist, general vegetation information, elevation, slope, soil, and landform.

4.5.12 San Bernardino Kangaroo Rat Surveys

An initial habitat assessment for the San Bernardino kangaroo rat mapped suitable habitat within the 1,300-foot-wide Study Area for the Proposed Project. Suitable habitat was identified by qualified biologists according to the known substrate and vegetation preferences exhibited by this species, as described above. Based on the results of that habitat assessment and coordination with the USFWS and SBNF, 11 trapping areas were selected for subsequent trapping to confirm presence/absence of this species (Exhibit 16). Within these 11 trapping areas, trapping only occurred on public or private lands where access was granted by the respective agencies or owners.

Trap lines within each of the 11 trapping areas were established in the highest quality habitat patches for San Bernardino kangaroo rat. Trap lines were deployed along meandering transects with traps set at intervals of approximately 21 to 30 feet. This trapping method was based on an optimal habitat sampling strategy and offered the best opportunity to capture resident individuals of this species within the trapping areas. Because the preferred habitat of the Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) is essentially the same as that of the San Bernardino kangaroo rat, this deployment strategy also optimized the probability of capturing Los Angeles pocket mouse, if present.

Traps were set and baited in the afternoon of each trapping session with a mixture of commercial bird seed consisting primarily of millet and sunflower seeds. Each trapping session was conducted

for up to five consecutive nights, ending sooner if captures confirmed the presence of San Bernardino kangaroo rat at a given location. Data recorded for each captured rodent included species, sex, age (adult or juvenile) and reproductive condition. Once processed, all animals were released unharmed at the point of capture.

Trapping for San Bernardino kangaroo rat was conducted by permitted biologists and followed the USFWS protocol for this species, which states:

- Five consecutive nights of live trapping are to occur in the best available suitable habitat, with traps remaining in the same basic locations throughout the session.
- Traps are to be opened and set in the late afternoon, initially checked near midnight, and checked again and closed each morning.
- Trapping cannot be performed in inclement weather or when the nightly temperature falls to below 50°F.
- Captured animals are identified and immediately released where trapped.

4.5.13 Acoustic Bat Surveys

Prior to the field survey, available scientific literature was reviewed to determine whether any Special Status bat species have been recorded along or adjacent to the Proposed Project alignment (CNDDDB and Sensitive and Watch List species on the SBNF). A habitat assessment was then conducted by qualified biologists for suitable bat roosting and foraging habitat along the Proposed Project alignment on March 16, 17, and 18, 2015, by bat specialists. During the habitat assessments, areas with the potential to support roosting bats were inspected for sign (i.e., urine staining, guano deposits, etc.). Any areas considered likely to support foraging activities were then identified for use as acoustic survey locations. It was determined that the Mojave Desert, SBNF, Reche Canyon, and Moreno Valley portions of the Proposed Project alignment, as well as the isolated Colorado/Sonoran Desert facilities, contained suitable habitat for potentially occurring special status bat species. The areas likely to support bat foraging activities were further evaluated for survey feasibility (i.e., will the area's topography or distribution of the foraging resources result in bats echolocating within the range of the recording equipment) and any issues related to acoustic recording equipment security.

Two acoustic methods were utilized to survey likely foraging locations across the Proposed Project alignment. The first method utilized static-point, passive, acoustic surveys (static point surveys) and the second method utilized driving-transect, passive, acoustic surveys (transect surveys). The Study Area comprised 19 static points and 2 transect routes across the Proposed Project alignment and its associated facilities (Exhibit 17).

Static point surveys were predominantly utilized in the SBNF because the associated topography supports areas of high insect abundance (i.e., areas sheltered from the high winds common in the region) and discrete drinking locations (i.e., limited locations of above-ground water). Static point surveys were also utilized at the Adelanto and Desert Center Compressor Stations, and the Moreno, Whitewater, and Shaver Summit Pressure Limiting Stations. Transect surveys were conducted to collect data for those portions of the Proposed Project alignment where the topography was either flat (such as the Mojave Desert) or complex with disconnected habitats (such as Reche Canyon). Neither the Mojave Desert nor Reche Canyon portions of the Proposed Project alignment had distinct areas where bats would likely congregate to forage. The transect survey in the Mojave Desert (Transect Survey 1) extended approximately 22 miles (11 miles between the start point and the turnaround end point). The transect survey in Reche Canyon (Transect Survey 2) extended approximately 20 miles (10 miles between the start point and the turnaround end point). There were some areas where the transect routes deviated slightly from

the Proposed Project alignment, due to a lack of drivable roads, but the routes generally followed the alignment. Survey results in these areas of deviation can be interpreted to be representative of the larger area containing the Proposed Project alignment.

Ultrasonic acoustic recording devices were used to record a full night's data (i.e., from approximately 30 minutes before sunset until sunrise) at each static survey point. The ultrasonic bat echolocation calls were recorded on each device in a full-spectrum format with varying settings appropriate to filter and minimize the noise recorded at each site (e.g., high-frequency insect calls, wind noise, truck and train traffic) which could make bat echolocation identification difficult. Recordings were analyzed by bat specialists.

The transect surveys involved mounting an ultrasonic microphone on a pole installed on the roof of a survey vehicle, such that the ultrasonic microphone was greater than three feet above the survey vehicle's roof. Once installed, the survey vehicle was driven along the designated transect beginning 30 minutes before sunset and concluding when the vehicle returned to the starting point. The equipment used included a microphone connected to a personal computer to view a real-time sonogram of any passing bat species emitting echolocation calls. The vehicle maintained a speed of less than 15 miles per hour, except where prohibited by traffic signals or stop signs, and when bat species were detected. Upon bat detection, the vehicle stopped along the side of the road and the biologists sought the location of the bat to refine any recorded calls.

Four survey efforts for both the static point and the transect surveys were conducted across the spring and summer to document seasonal variations in bat populations within the Study Area. Survey efforts were timed to coincide with limited moon illumination; all recordings occurred only during the first three quarters of the new moon to ensure sampling during peak bat activity.

5.0 EXISTING CONDITIONS

5.1 GENERAL ENVIRONMENTAL SETTING

5.1.1 Location

The northern portion of the Proposed Project alignment occurs in the southern Mojave Desert, referred to as “the high desert.” Topography in this area gently slopes from an elevation of approximately 2,960 feet above msl near the northern limit of the Proposed Project alignment to approximately 4,300 feet above msl at the SBNF boundary. The Mojave Desert is a wedge-shaped basin that experiences precipitation primarily in the winter, with occasional summer thunderstorms. Temperatures in this region average 79°F in the summer and 47°F in the winter (Arguez et al. 2010).⁴ The predominant vegetation communities in the Mojave Desert portion of the Proposed Project alignment include desert scrub and mixed chaparral. Surrounding land uses include undeveloped open space and residential, transportation, agriculture, and commercial developments.

Moving south, the next portion of the Proposed Project alignment traverses the SBNF and the Cajon Pass, which lies between the San Gabriel and San Bernardino Mountains. The topography surrounding Cajon Pass is steep with elevations along the alignment ranging from a high of approximately 4,490 feet above msl near the northern SBNF boundary to a low of 2,280 feet above msl at the southern boundary. When air becomes cooler or denser in the desert, a high-pressure cell forms and air flows through Cajon Pass toward the coast as a “Santa Ana Wind.” These winds affect ecological communities throughout the area. The predominant vegetation communities include riparian woodland along Cajon Wash with various chaparral associations in the surrounding uplands. Surrounding land use is primarily undeveloped open space, but rural residential development and transportation uses are also present.

South of the SBNF, the alignment runs through the San Bernardino Valley. Topography gently slopes from 2,280 feet above msl at the mouth of Cajon Pass to approximately 1,040 feet above msl at Reche Canyon. Temperatures in this area average 77°F in the summer and 54°F in the winter, with an average annual precipitation of 13.26 inches (Arguez et al. 2010). This portion of the Proposed Project alignment is predominantly developed, with a mix of residential, commercial, industrial, and transportation land uses.

The southern portion of the Proposed Project alignment follows Reche Canyon through the Box Springs Mountains to Moreno Valley. Entering the canyon from the north, elevations gradually increase to a high of approximately 2,440 feet above msl, then decrease to approximately 2,000 feet above msl at the southern end, with moderately sloping hills on either side. Elevations continue to gently decrease to a low of 1,560 feet above msl at the southern terminus of the alignment. This portion of the alignment contains a mix of open space and rural residential development along Reche Canyon, with primarily agricultural land uses and residential development at the southern end of the alignment.

The Whitewater Pressure Limiting Station occurs at the northern end of the Colorado Desert on the eastern side of the San Gorgonio Pass. The Shaver Summit Pressure Limiting Station and the Desert Center Compressor Station occur at the western edge of the Sonoran Desert in Shavers Valley and Chuckwalla Valley, respectively. The Sonoran and Colorado Deserts are generally lower and warmer than the Mojave Desert. Temperatures in the region average 91°F in the summer and 55°F in the winter, with an average annual precipitation of approximately 3.92

⁴ Seasons are climatological; winter is considered to be December, January, and February and summer is considered to be June, July, and August.

inches (Arguez et al. 2010). The Whitewater Pressure Limiting Station is surrounded by a wind farm while the Shaver Summit Pressure Limiting Station and the Desert Center Compressor Station are in a largely undeveloped landscape with sparse rural residential and the I-10 as the major transportation corridor.

5.1.2 Topography

USGS topographic quadrangle maps show geological formations and their characteristics and describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator (UTM) Grid coordinates for a project site. The Proposed Project alignment is depicted on the USGS' Adelanto, Baldy Mesa, Cajon, Devore, San Bernardino North, San Bernardino South, Redlands, Sunnymead, and El Casco 7.5-minute quadrangle maps (Exhibit 3). The Whitewater Pressure Limiting Station, Shaver Summit Pressure Limiting Station, and Desert Center Compressor Station occur on the USGS' Desert Hot Springs, Cottonwood Spring, and Desert Center 7.5-minute quadrangle maps, respectively (Exhibit 3).

5.1.3 Hydrology

Blueline streams, as mapped on the USGS 7.5-minute topographic quadrangle maps, occur throughout the Study Area. The identified blueline streams were used to provide guidance on planning the field surveys. The most prominent water features occurring in the Study Area are Cajon Wash and the Santa Ana River; however, many other named and unnamed blueline streams are illustrated on the quadrangle maps.

The northern portion of the Proposed Project, from the Adelanto Compressor Station to approximately MP15, is located in the Mojave River Watershed, which encompasses approximately 4,500 square miles. The Mojave River, which travels approximately 110 miles northeast from its headwaters in the San Bernardino Mountains to its terminus near Soda Lake, is the dominant surface hydrologic feature in the watershed. Winter precipitation in the San Bernardino Mountains provides spring recharge that feeds the Mojave River system. The Mojave River Watershed sits in an arid region with limited water resources. Groundwater is the primary source of water to the watershed. The Mojave River Channel is typically dry except for intense storm events and in locations where geologic conditions result in surface discharge of groundwater (LRWQCB 2002).

South of the Mojave Watershed, the Proposed Project alignment travels through the Santa Ana River Watershed. The Santa Ana River Watershed is approximately 1,946 square miles and is drained by the Santa Ana River and its tributaries. The surface water for the Santa Ana River originates in the San Bernardino Mountains and travels approximately 75 miles southwest to the Pacific Ocean (OCWD 2013). During the winter and spring months, the Santa Ana River is fed by winter storm and mountain snowmelt runoff from the San Bernardino Mountains. At other times of the year, base flow to the Santa Ana River is primarily derived from recycled water and groundwater discharge. There is little year-round natural perennial flow in the Santa Ana River. South of the City of San Bernardino, parts of the river are operated as a flood-control facility.

South of the Santa Ana River Watershed, near MP 56.5, the Proposed Project crosses the northern portion of the San Jacinto Valley Watershed, which encompasses an area of approximately 766 square miles. This watershed is drained by the San Jacinto River and its tributaries, which drain into Lake Elsinore. Lake Elsinore is the connecting point between the San Jacinto Valley Watershed and the Santa Ana River through Temescal Creek.

The Whitewater Pressure Limiting Station is located in the Whitewater Watershed, which covers an area of approximately 1,854 square miles. The Whitewater River is a major hydrologic feature of this watershed. The river has its headwaters in the San Gorgonio Mountains and terminates in the Salton Sea. The Whitewater Watershed is a closed drainage basin that only loses water through infiltration or evaporation. The Shaver Summer Pressure Limiting Station and Desert Center Compressor Station are located in the Chuckwalla Watershed, northeast of the Salton Sea. The Chuckwalla Watershed covers an area that is approximately 1,982 square miles. There are no perennial streams in the Chuckwalla Valley (DWR 2006).

5.1.4 **Geology**

The Proposed Project crosses a variety of geologic materials along the alignment. These materials may range from bare bedrock and soil-mantled bedrock in areas of greater relief, to unconsolidated to partially lithified alluvial deposits in canyon and valley floors (LCI 2015). Geologic materials expected to be encountered along the Proposed Project alignment include artificial fill, alluvial valley deposits, alluvial fan deposits, alluvial wash deposits, young alluvium–undifferentiated, old alluvium–undifferentiated, old alluvial valley deposits, old alluvial fan deposits, very old alluvium–undifferentiated, coarse-grained sedimentary formations, metamorphic formations, granitic and other intrusive crystalline rocks alignment.

Unconsolidated Quaternary materials make up about 82 percent of materials along the alignment, while more lithified Quaternary deposits make up about 10 percent. Solid bedrock units encountered include about three percent sandstones/conglomerates, one percent metamorphic rock, and five percent granitic rock. Most of the granitic materials encountered are located in Reche Canyon, which is characterized by shallow bedrock and boulders weathered out of bedrock.

5.2 **VEGETATION DESCRIPTIONS**

The vegetation types observed, and total acreages calculated within the 1,300-foot-wide Study Area, are shown in Table 3. These are briefly described in the following the table. Names of the vegetation types follow Sawyer et al. (2009). Scientific names follow the Jepson eFlora database (Jepson Herbarium 2014). Vegetation types that occur within the Study Area are illustrated on Exhibit 18.

**TABLE 3
VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)
Chaparral Communities	
Chamise Chaparral	864.48
Disturbed Chamise Chaparral	1.01
Burned Chamise Chaparral	134.89
Chamise Chaparral/Annual Grass-Forb	216.03
Disturbed Chamise Chaparral/Annual Grass-Forb	9.99
Burned Chamise Chaparral/Annual Grass-Forb	59.42
Chamise Chaparral–California Buckwheat Scrub	102.33
Chamise–California Buckwheat Scrub–Chaparral White Thorn Chaparral	1.37
Chamise–Black Sage Chaparral	9.80
Chamise–Black Sage–Mixed Shrub Chaparral	42.25
Chamise Chaparral–Hairy Yerba Santa Scrub	86.98

**TABLE 3
VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)
Chamise–Birch Leaf Mountain Mahogany Chaparral	12.71
Chamise Chaparral–Brittle Bush Chaparral	7.36
Chamise Chaparral–Rubber Rabbitbrush Scrub	12.89
Chamise–Chaparral White Thorn Chaparral	13.70
Chaparral White Thorn Chaparral	73.87
Burned Chaparral White Thorn Chaparral	2.45
Chaparral White Thorn–Birch Leaf Mountain Mahogany Chaparral	41.36
Hoary Leaf Ceanothus Chaparral	11.58
Burned Hoary Leaf Ceanothus Chaparral	1.32
Hoary Leaf Ceanothus–Chamise Chaparral	99.27
Burned Hoary Leaf Ceanothus–Chamise Chaparral	32.95
Hoary Leaf Ceanothus–Birch Leaf Mountain Mahogany Chaparral	3.60
Scrub Oak Chaparral	6.97
Scrub Oak–Chamise–Hoary Leaf Ceanothus Chaparral	41.51
Tucker Oak Chaparral	188.10
Burned Tucker Oak Chaparral	132.23
Tucker Oak–Chamise Chaparral	19.06
Birch Leaf Mountain Mahogany Chaparral	35.86
Sugarbush Chaparral	11.71
<i>Subtotal Chaparral Communities</i>	<i>2,277.05</i>
Coastal Scrub Communities	
California Sagebrush Scrub	171.77
Disturbed California Sagebrush Scrub	62.05
California Sagebrush–California Buckwheat Scrub	20.95
Disturbed California Sagebrush–California Buckwheat Scrub	5.68
California Sagebrush–California Buckwheat–White Sage Scrub	14.16
California Buckwheat Scrub	189.86
Disturbed California Buckwheat Scrub	59.12
California Buckwheat–Brittle Bush Scrub	3.22
California Buckwheat–White Sage Scrub	2.99
California Buckwheat–Chaparral Yucca Scrub	4.46
California Buckwheat–Rubber Rabbitbrush Scrub	0.93
Brittle Bush Scrub	50.19
Disturbed Brittle Bush Scrub	102.24
Burned Brittle Bush Scrub	0.50
Brittle Bush–California Sagebrush Scrub	2.42
Deer Weed Scrub	17.39
Basket Bush Thickets–Hairy Yerba Santa Scrub	10.19
Hairy Yerba Santa Scrub	16.68
Disturbed Hairy Yerba Santa Scrub	4.43
Hairy Yerba Santa–Black Sage Scrub	21.54
Black Sage Scrub	3.96
Narrowleaf Goldenbush Scrub	6.33
Annual Bur-Sage–California Croton Stands	22.65

**TABLE 3
VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)
<i>Subtotal Scrub Communities</i>	793.71
Desert Scrub Communities	
Joshua Tree Woodland	109.51
Disturbed Joshua Tree Woodland	9.40
Burned Joshua Tree Woodland	1.90
Creosote Bush Scrub/Joshua Tree Woodland	22.76
Creosote Bush–Nevada Joint Fir Scrub	2.96
Creosote Bush–Rubber Rabbitbrush Scrub	13.62
Creosote Bush–White Burr Sage Scrub	690.73
Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland	165.99
Bladder Sage Scrub	6.23
Bladder Sage–Rubber Rabbitbrush Scrub	34.91
Big Sagebrush Scrub	14.84
Rubber Rabbitbrush Scrub	198.21
Disturbed Rubber Rabbitbrush Scrub	16.20
Fourwing Saltbush Scrub	17.95
Cheesebush Scrub	6.47
Disturbed Cheesebush Scrub	40.48
Nevada Joint Fir Scrub	59.86
Nevada Joint Fir Scrub/Joshua Tree Woodland	0.50
<i>Subtotal Desert Scrub Communities</i>	1,412.52
Herbaceous Communities	
Salt Grass Flats–Mexican Rush Thicket	1.18
Disturbed Desert Needlegrass Grassland	38.36
Red Brome Grasslands	422.35
Ruderal	168.56
<i>Subtotal Herbaceous Communities</i>	630.45
Riparian Communities	
Fremont Cottonwood Forest	12.96
Fremont Cottonwood Forest–Arroyo Willow Thickets	67.31
Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets	7.86
Fremont Cottonwood Forest–Red Willow Thickets	4.26
Fremont Cottonwood Forest/Sandbar Willow Thickets	7.60
Fremont Cottonwood Forest/Mulefat Thickets	1.71
California Sycamore Woodlands–Fremont Cottonwood Forest	0.69
California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets	9.51
Arroyo Willow Thickets	1.61
Arroyo Willow/Mulefat Thickets	1.85
Sandbar Willow Thickets	1.80
Mulefat Thickets	9.68
Disturbed Mulefat Thickets	1.40
Scale Broom Scrub	92.05
Scale Broom–California Buckwheat Scrub	20.47

**TABLE 3
VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)
Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub	12.02
Scale Broom Scrub–Mulefat Thickets	4.17
Flood Plain Scrub	18.39
Vegetated Channel	4.64
Unvegetated Channel	38.93
Open Water	4.09
<i>Subtotal Riparian Communities</i>	<i>323.00</i>
Woodland Communities	
Coast Live Oak Woodland	5.01
California Walnut Woodland	4.74
California Sycamore Woodlands	17.82
Disturbed California Sycamore Woodlands	1.05
Burned California Sycamore Woodlands	3.40
Burned California Sycamore Woodlands/Chaparral White Thorn Chaparral	44.97
Blue Elderberry Stands	3.89
California Juniper Woodland	33.39
Burned California Juniper Woodland	2.74
<i>Subtotal Woodland Communities</i>	<i>117.01</i>
Non-Native and Disturbed Communities	
Agriculture	698.89
Ornamental	165.32
Eucalyptus Groves	30.87
Developed	5,058.09
Disturbed Habitat	561.41
<i>Subtotal Non-Native and Disturbed Communities</i>	<i>6,514.58</i>
Grand Total	12,068.32

5.2.1 Chaparral Communities

Chamise Chaparral

Chamise Chaparral occurs throughout undeveloped portions of the Study Area in non-desert habitats. This vegetation type is dominated by chamise (*Adenostoma fasciculatum* var. *fasciculatum*) to the point where it sometimes forms a monoculture, but can co-occur with shrub species such as black sage (*Salvia mellifera*) or California sagebrush (*Artemisia californica*). The understory of this vegetation type can be heavily invaded by non-native grasses such as annual blue grass (*Poa annua*) or red brome (*Bromus madritensis* ssp. *rubens*), or it can have low herb cover of native species such as wild heliotrope phacelia (*Phacelia distans*). In other cases, it has virtually no herb cover at all.

Disturbed Chamise Chaparral

Disturbed Chamise Chaparral occurs between MPs 17 and 20 in the Study Area. This vegetation type is dominated by chamise in the shrub layer, but is of degraded quality due to trails and BNSF

Railway tracks. It also has significant cover of non-native species such as red brome, shortpod mustard (*Hirschfeldia incana*), and redstem filaree (*Erodium cicutarium*).

Burned Chamise Chaparral

Burned Chamise Chaparral occurs throughout the Study Area, but most prominently between MPs 12 and 25 and east of I-15. This vegetation type is dominated by chamise in the shrub layer, but other emergent shrubs that may occur include interior goldenbush (*Ericameria linearifolia*), hairy yerba santa (*Eriodictyon trichocalyx* var. *trichocalyx*), and California buckwheat (*Eriogonum fasciculatum*). This vegetation type retains elements of Chamise Chaparral in a transition phase following fire.

Chamise Chaparral/Annual Grass-Forb

Chamise Chaparral/Annual Grass-Forb occurs throughout undeveloped portions of the Study Area in non-desert habitats. This vegetation type is dominated by chamise in the shrub layer, but at somewhat low levels, i.e., less than 30 percent. An extensive understory of various grass and herb species co-occur in most of the ground cover (i.e., more than 60 percent) and consists of species such as red brome, wild oat (*Avena fatua*), wild heliotrope phacelia, common cryptantha (*Cryptantha intermedia* var. *intermedia*), and curvy fringedpod (*Thysanocarpus curvipes*).

Disturbed Chamise Chaparral/Annual Grass-Forb

Disturbed Chamise Chaparral/Annual Grass-Forb occurs between MPs 30 and 31 in the Study Area. This vegetation type is dominated by chamise in the shrub layer, but at very low levels, i.e., less than ten percent, and is disturbed by trails and dirt roads. Ground cover is predominantly made of non-native grasses such as red brome and ripgut brome (*Bromus diandrus*), as well as various herb species such as common goldfields (*Lasthenia gracilis*), blue dicks (*Dichelostemma capitatum* var. *capitatum*), and redstem filaree.

Burned Chamise Chaparral/Annual Grass-Forb

Burned Chamise Chaparral-Annual Grass Forb occurs between MPs 19 and 22 in the Study Area. This vegetation type is dominated by previously burned chamise which currently contains annual grass and herb species such as wild heliotrope phacelia, common goldfields, red brome, redstem filaree, one-sided blue grass (*Poa secunda* ssp. *secunda*), and common cryptantha. Other shrub species have not emerged at a significant level in this vegetation type.

Chamise Chaparral–California Buckwheat Scrub

Chamise Chaparral–California Buckwheat Scrub occurs between MPs 15 and 25 in the Study Area. This vegetation type is dominated by chamise and California buckwheat. These two species typically dominate in the shrub layer to the exclusion of other species, but species such as hairy yerba santa, interior goldenbush, and black sage may be present at less than five percent relative cover combined. An herb layer is typically poorly developed in this vegetation type, but some species can be present at the margin such as wild oat, common cryptantha, and fiddleneck (*Amsinckia intermedia*, *A. menziesii*, *A. tessellata* var. *tessellata*).

Chamise–California Buckwheat Scrub–Chaparral White Thorn Chaparral

Chamise–California Buckwheat Scrub–Chaparral White Thorn Chaparral occurs near MP 24 in the Study Area. This vegetation type contains chamise, California buckwheat, and whitebark ceanothus (*Ceanothus leucodermis*). The herb layer contains non-native grasses such as Mediterranean schismus (*Schismus barbatus*), red brome, and wild oat.

Chamise–Black Sage Chaparral

Chamise–Black Sage Chaparral occurs between MPs 21 and 22 of the Study Area. This vegetation type is dominated by chamise and black sage with lesser amounts of deerweed (*Acmispon glaber*, *A. g.* var. *glaber*). In the herb layer, this vegetation type has a high percent cover of riggut brome and lesser amounts of fiddleneck.

Chamise–Black Sage–Mixed Shrub Chaparral

Chamise–Black Sage Chaparral–Mixed Shrub Chaparral occurs near MP 21 in the Study Area. This vegetation type is dominated by chamise and black sage with lesser amounts of whitebark ceanothus, interior goldenbush, thick leaf ceanothus (*Ceanothus crassifolius* var. *crassifolius*), and hairy yerba santa. These associated species have equivalent dominance throughout this vegetation type but are insufficient to form a vegetation association with Chamise Chaparral of their own.

Chamise Chaparral–Hairy Yerba Santa Scrub

Chamise–Hairy Yerba Santa Scrub occurs between MPs 22 and 27 in the Study Area. This vegetation type is dominated by chamise and hairy yerba santa. A sparse herb layer is present, including red brome, redstem filaree, common cryptantha, and wild oat.

Chamise–Birch Leaf Mountain Mahogany Chaparral

Chamise–Birch Leaf Mountain Mahogany Chaparral occurs near MPs 19 and 24 in the Study Area. This vegetation type is dominated by chamise and birchleaf mountain mahogany (*Cercocarpus betuloides* var. *betuloides*); although, in some areas, one species may occur more frequently over the other. Some co-occurring shrubs can include hairy yerba santa, interior goldenbush, and California buckwheat, although these occur at relatively low absolute coverage. The herb layer is typically fairly sparse with red brome, redstem filaree, and common cryptantha occurring along the margins and in openings.

Chamise–Brittle Bush Chaparral

Chamise–Brittle Bush Chaparral occurs between MPs 57 and 58 in the Study Area. This vegetation type is dominated by chamise and hairy brittlebush (*Encelia farinosa*), with lesser amounts of California buckwheat. The herb layer typically consists of red brome, common goldfields, common cryptantha, and other scattered herb species.

Chamise Chaparral–Rubber Rabbitbrush Scrub

Chamise Chaparral–Rubber Rabbitbrush Scrub occurs between MPs 17 and 18 in the Study Area. This vegetation type is co-dominated by chamise and white rubber rabbitbrush (*Ericameria nauseosa* var. *hololeuca*). The herb layer contains non-native grass species such as red brome and Mediterranean schismus.

Chamise–Chaparral White Thorn Chaparral

Chamise–Chaparral White Thorn Chaparral occurs near MP 24 in the Study Area. This vegetation type contains chamise with lesser amounts of whitebark ceanothus, birchleaf mountain mahogany, and California buckwheat. The herb layer primarily consists of red brome.

Chaparral White Thorn Chaparral

Chaparral White Thorn Chaparral occurs northwest of the community of Devore, east of I-15 in the Study Area. This vegetation type includes whitebark ceanothus with lesser amounts of chamise, Tucker's oak (*Quercus john-tuckeri*), and Johnston's honeysuckle (*Lonicera subspicata* var. *denudata*). The herb layer primarily consists of red brome and redstem filaree.

Burned Chaparral White Thorn Chaparral

Burned Chaparral White Thorn Chaparral occurs near the community of Devore, east of I-15 in the Study Area. This vegetation type contains whitebark ceanothus, but is likely in a transition phase to another chaparral form. Other emergent species include southern saw toothed goldenbush (*Hazardia squarrosa* var. *grindelioides*), chamise, Johnston's honeysuckle, bush poppy (*Dendromecon rigida*), and some whitebark ceanothus. The herb layer for this vegetation type consists of various species such as red brome, golden eardrops (*Ehrendorferia chrysantha*), blue dicks, and other assorted fire followers.

Chaparral White Thorn–Birch Leaf Mountain Mahogany Chaparral

Chaparral White Thorn–Birch Leaf Mountain Mahogany Chaparral occurs between MPs 23 and 24 in the Study Area. Whitebark ceanothus and birchleaf mountain mahogany co-occur in this vegetation type, with lesser amounts of chamise, although there can be occasional open gaps. The herb layer is usually poorly developed but red brome, redstem filaree, common cryptantha, curvy fringedpod, tocalote (*Centaurea melitensis*), and other annuals occur along the margins and in openings.

Hoary Leaf Ceanothus Chaparral

Hoary Leaf Ceanothus Chaparral occurs east of I-15 between MP 21 and the community of Devore within the Study Area. This vegetation type contains thick leaf ceanothus with lesser amounts of chamise and California buckwheat. This vegetation type is fairly dense with an herb layer consisting of red brome and redstem filaree around margins and openings.

Burned Hoary Leaf Ceanothus Chaparral

Burned Hoary Leaf Ceanothus Chaparral occurs between MPs 22 and 23 in the Study Area. This vegetation type contains thick leaf ceanothus, but is likely in a transition phase to another chaparral form. Emergent shrub species include deerweed, California buckwheat, and white rubber rabbitbrush. The herb layer consists of red brome, cheat grass (*Bromus tectorum*), and shortpod mustard.

Hoary Leaf Ceanothus–Chamise Chaparral

Hoary Leaf Ceanothus–Chamise Chaparral occurs within the Study Area between MPs 19 and 23; it also occurs east of I-15 and MP 24 and between MPs 55 and 57. Chamise and thick leaf ceanothus co-occur in this vegetation type. Some lesser co-occurring shrub species may also be present such as deerweed or chaparral yucca (*Hesperoyucca whipplei*). This vegetation type typically precludes most herb species but some species, primarily red brome and redstem filaree, occur along margins and within openings.

Burned Hoary Leaf Ceanothus–Chamise Chaparral

Burned Hoary Leaf Ceanothus–Chamise Chaparral occurs northwest of the community of Devore, east of I-15 within the Study Area. Chamise and thick leaf ceanothus that burned during a recent

fire co-occur in this vegetation type. Some co-occurring shrub species are emerging such as deerweed, whitebark ceanothus, and southern saw toothed goldenbush. Herb cover includes redstem filaree and red brome, with lesser occurrences of common cryptantha, curvy fringedpod, common goldfields, and other assorted native annuals.

Hoary Leaf Ceanothus–Birch Leaf Mountain Mahogany Chaparral

Hoary Leaf Ceanothus–Birch Leaf Mountain Mahogany Chaparral occurs east of I-15 and east of MP 24 in the Study Area. Thick leaf ceanothus and birchleaf mountain mahogany co-occur in this vegetation type. Other lesser co-occurring shrubs include southern saw toothed goldenbush, bush poppy, and chamise. Herb cover includes red brome, redstem filaree, and blue dicks.

Scrub Oak Chaparral

Scrub Oak Chaparral occurs near MPs 22 and 26 in the Study Area. This vegetation type is dominated by scrub oak (*Quercus berberidifolia*) with lesser amounts of thick leaf ceanothus. The herb layer contains red brome, wild oat, and common cryptantha.

Scrub Oak–Chamise–Hoary Leaf Ceanothus Chaparral

Scrub oak–Chamise–Hoary Leaf Ceanothus Chaparral occurs near MP 22 in the Study Area. Scrub oak, chamise, and thick leaf ceanothus co-occur in this vegetation type, with some occurrences of deerweed, California buckwheat, and black sage. This vegetation type is relatively dense with a marginal herb layer consisting of red brome, redstem filaree, and tocalote occurring along margins and openings.

Tucker Oak Chaparral

Tucker Oak Chaparral occurs between MPs 11 and 15 in the Study Area. This vegetation type is dominated, nearly to the level of a monoculture in some places, by Tucker's oak. Cover of other shrub species is sporadic but may include species such as chamise, whitebark ceanothus, and bush poppy. The herb layer contains red brome, common goldfields, small flowered miner's-lettuce (*Claytonia parviflora*), and rattail fescue (*Festuca myuros*).

Burned Tucker Oak Chaparral

Burned Tucker Oak Chaparral occurs between MPs 12 and 14 in the Study Area. This vegetation type is dominated by Tucker's oak, but the areas that were burned are experiencing a higher rate of chamise regeneration relative to other shrubs. Joshua trees occur along with large amounts of red brome, rattail fescue, common goldfields, and fiddleneck.

Tucker Oak–Chamise Chaparral

Tucker Oak–Chamise Chaparral occurs between MPs 12 and 13 in the Study Area. This vegetation type is dominated by Tucker's oak and chamise, nearly to the point of excluding other shrub species. The herb layer contains rattail fescue, common goldfields, common cryptantha, round-nut pectocarya (*Pectocarya setosa*), and small flowered miner's-lettuce.

Birch Leaf Mountain Mahogany Chaparral

Birch Leaf Mountain Mahogany Chaparral occurs between MPs 17 and 26 in the Study Area. This vegetation type is dominated by birchleaf mountain mahogany along with lesser amounts of whitebark ceanothus and California buckwheat. The herb layer contains red brome, redstem filaree, tocalote, and rattail fescue.

Sugarbush Chaparral

Sugarbush Chaparral occurs at three locations between MPs 53 and 58 in the Study Area. This vegetation type is dominated by sugar bush (*Rhus ovata*) with lesser amounts of chamise, California sagebrush, and California buckwheat. The herb layer consists of common goldfields, wild oat, ripgut brome, and fiddleneck.

5.2.2 Scrub Communities

California Sagebrush Scrub

California Sagebrush Scrub occurs throughout undeveloped portions of the Study Area in non-desert habitats. This vegetation type is dominated by California sagebrush with co-occurrences of chamise, white sage (*Salvia apiana*), birchleaf mountain mahogany, and California buckwheat. Relatively high amounts of red brome occur in the understory of this vegetation type.

Disturbed California Sagebrush Scrub

Disturbed California Sagebrush Scrub occurs in the Study Area between MPs 25 and 28, near MP 36, and between MPs 51 and . This vegetation type is dominated by California sagebrush, but is of degraded quality due to trails, foraging and trampling by wild burro (*Equus asinus*), trash, and a high cover of non-native species such as red brome, redstem filaree, and mustards (*Sisymbrium irio*, *S. officinale*, *S. orientale*).

California Sagebrush–California Buckwheat Scrub

California Sagebrush–California Buckwheat Scrub occurs between MPs 23 and 29 and near MP 54 in the Study Area. This vegetation type is dominated by California sagebrush and California buckwheat with lesser amounts of hairy yerba santa, chamise, and skunk bush (*Rhus aromatica*). This vegetation type is relatively dense with an herb layer consisting only of redstem filaree and red brome around the margins and openings.

Disturbed California Sagebrush–California Buckwheat Scrub

Disturbed California Sagebrush–California Buckwheat Scrub occurs between MPs 37 and 38 in the Study Area. This vegetation type is dominated by California sagebrush and California buckwheat in the shrub layer, but it is degraded and of low absolute cover. The herb layer consists of red brome, ripgut brome, wall barley (*Hordeum murinum* var. *murinum*), and other assorted non-native species.

California Sagebrush–California Buckwheat–White Sage Scrub

California Sagebrush–California Buckwheat–White Sage Scrub occurs in the Study Area between MPs 27 and 28. This vegetation type is dominated by California sagebrush, California buckwheat, and white sage scrub with some occurrence of hairy yerba santa and chamise. The herb layer is poorly developed with redstem filaree, red brome, and tocalote occurring along the margins and in openings.

California Buckwheat Scrub

California Buckwheat Scrub occurs in the Study Area near MPs 7 and 13, between MPs 17 and 29, and between MPs 52 and 57. This vegetation type is dominated by California buckwheat in the shrub layer. The shrub layer is relatively open with lesser amounts of interior goldenbush, hairy yerba santa, chamise, and Douglas' threadleaf ragwort (*Senecio flaccidus* var. *douglasii*).

Various species occur in the herb layer such as red brome, common cryptantha, redstem filaree, common fiddleneck, and Mediterranean schismus.

Disturbed California Buckwheat Scrub

Disturbed California Buckwheat Scrub occurs between MPs 16 and 58 in the Study Area. This vegetation type is dominated by California buckwheat with a high percent cover of non-native species such as shortpod mustard, redstem filaree, red brome, and Mediterranean schismus.

California Buckwheat–Brittle Bush Scrub

California Buckwheat–Brittle Bush Scrub occurs between MPs 58 and 59 in the Study Area. This vegetation type contains California buckwheat and hairy brittlebush. The herb layer is dominated by red brome, annual blue grass, common cryptantha, and fiddleneck.

California Buckwheat–White Sage Scrub

California Buckwheat–White Sage Scrub occurs between MPs 18 and 19, as well as near MP 24, in the Study Area. This vegetation type is dominated by California buckwheat and white sage, with lesser amounts of hairy yerba santa. The herb layer contains squirreltail wildrye (*Elymus elymoides* var. *elymoides*), red brome, redstem filaree, and common goldfields.

California Buckwheat–Chaparral Yucca Scrub

California Buckwheat–Chaparral Yucca Scrub occurs near MP 25 in the Study Area. This vegetation type is dominated by California buckwheat with a prevalence of chaparral yucca. Lesser amounts of other shrub species may occur in isolated instances such as California scalebroom (*Lepidospartum squamatum*) and cane cholla (*Cylindropuntia californica* var. *parkeri*). The herb layer contains wild oat, red brome, and redstem filaree.

California Buckwheat–Rubber Rabbitbrush Scrub

California Buckwheat–Rubber Rabbitbrush Scrub occurs between MPs 17 and 18 in the Study Area. This vegetation type is dominated by California buckwheat and white rubber rabbitbrush, with some occurrences of interior goldenbush. The herb layer contains Mediterranean schismus, red brome, redstem filaree, squirreltail wildrye, and beardless wildrye (*Elymus triticoides*).

Brittle Bush Scrub

Brittle Bush Scrub occurs near MP 23 and between MPs 51 and 59 of the Study Area. In this vegetation type, hairy brittlebush occurs in the shrub layer with fewer occurrences of other shrub species such as chamise or California sagebrush. This vegetation type can have a relatively low, i.e., five percent, absolute cover of the dominant shrub species (hairy brittlebush) relative to other vegetation types which typically rely on relatively higher, i.e., greater than five percent, absolute covers. The herb layer contains red brome, ripgut brome, common goldfields, annual blue grass, and common cryptantha.

Disturbed Brittle Bush Scrub

Disturbed Brittle Bush Scrub occurs between MPs 49 and 58 in the Study Area. Hairy brittlebush occurs in the shrub layer, but it is disturbed by erosion and non-native species; as such, absolute cover is typically between one and five percent. Non-native species and/or bare ground are prevalent. Non-native species in this vegetation type include annual blue grass, red brome, ripgut brome, and wall barley.

Burned Brittle Bush Scrub

Burned Brittle Bush Scrub occurs between MPs 56 and 57. Hairy brittlebush occurs in the shrub layer, but it may transition to a form of non-native grassland or some other herb-dominated vegetation type as a result of recent fire. Ground cover almost exclusively consists of non-native species and/or bare ground, including species such as annual blue grass, red brome, ripgut brome, and wall barley.

Brittle Bush–California Sagebrush Scrub

Brittle Bush–California Sagebrush Scrub occurs between MPs 58 and 59 in the Study Area. In this vegetation type, hairy brittlebush and California sagebrush occur in the shrub layer with fewer occurrences of other shrub species such as chamise or California buckwheat. The herb layer contains red brome, ripgut brome, common goldfields, annual blue grass, and common cryptantha.

Deer Weed Scrub

Deer Weed Scrub occurs near MP 27 in the Study Area. This vegetation type is a near monoculture of deerweed, although some other shrub species can occur along margins and openings, including chamise, California buckwheat, and California sagebrush. The herb layer, which typically occurs along margins and openings, consists of red brome, common cryptantha, tocalote, and wild oat.

Basket Bush Thickets–Hairy Yerba Santa Scrub

Basket Bush Thickets–Hairy Yerba Santa Scrub occurs between MPs 26 and 27 in the Study Area. In this vegetation type, skunk bush and hairy yerba santa co-occur. This vegetation type is very dense; as such, an herb layer is often absent. Isolated patches of small annual species such as red brome or redstem filaree may occur along the margin or in small openings.

Hairy Yerba Santa Scrub

Hairy Yerba Santa Scrub occurs near MP 13, between MPs 22 and 26, and near MP 45 in the Study Area. This vegetation type consists of a near monoculture of hairy yerba santa in the shrub layer, although isolated patches of interior goldenbush can occur. The herb layer may consist of red brome, short-pod mustard, California sun cup (*Camissoniopsis bistorta*), and fiddleneck.

Disturbed Hairy Yerba Santa Scrub

Disturbed Hairy Yerba Santa Scrub occurs between MPs 25 and 26 in the Study Area. This vegetation type consists of hairy yerba santa in the shrub layer, but at a relatively low absolute cover. The herb layer may contain ripgut brome and red brome.

Hairy Yerba Santa–Black Sage Scrub

Hairy Yerba Santa–Black Sage Scrub occurs between MPs 25 and 27 in the Study Area. This vegetation type is dominated by hairy yerba santa and black sage with some occurrences of California buckwheat. The herb layer is dominated by red brome, tocalote, redstem filaree, and fiddleneck.

Black Sage Scrub

Black Sage Scrub occurs between MPs 25 and 26 in the Study Area. This vegetation type is dominated by black sage and has some occurrences of hairy yerba santa and California sagebrush. The herb layer contains rigput brome, red brome, and fiddleneck.

Narrowleaf Goldenbush Scrub

Narrowleaf Goldenbush Scrub occurs between MPs 17 and 22 in the Study Area. This vegetation type contains interior goldenbush with some lesser occurrences of white rubber rabbitbrush and California buckwheat. The herb layer is poorly developed, but marginal amounts of red brome, blue dicks, and common cryptantha do occur.

Annual Bur-Sage–California Croton Stands

Annual Bur-Sage–California Croton Stands occurs near MP 45 in the Study Area. This vegetation type is co-dominated by annual bur-sage (*Ambrosia acanthicarpa*) and California croton (*Croton californicus*). Other species present include California sun cup, fiddleneck, Mediterranean schismus, and common cryptantha.

5.2.3 Desert Scrub Communities

Joshua Tree Woodland

Joshua Tree Woodland occurs between MPs 1 and 12 in the Study Area. This vegetation type is characterized by two percent or greater cover of Joshua tree in the tree layer along with creosote bush (*Larrea tridentata*) and white bur-sage (*Ambrosia dumosa*) in the shrub layer. This vegetation type has a relatively high proportion of bare ground, but is sparsely covered by various herbs such as redstem filaree, Mediterranean schismus, red brome, and smooth desert dandelion (*Malacothrix glabrata*).

Disturbed Joshua Tree Woodland

Disturbed Joshua Tree Woodland occurs near MP 8 in the Study Area. This vegetation type is characterized by less than two percent cover of Joshua trees and has been disturbed by adjacent development activities and the introduction of non-native species such as red brome and redstem filaree. This vegetation type has a relatively low proportion of bare ground and shrub species, such as creosote bush and white bur-sage, compared to other vegetation types with Joshua trees due to competition with non-native species.

Burned Joshua Tree Woodland

Burned Joshua Tree Woodland occurs between MPs 12 and 13. This vegetation type has two percent or greater cover of burned Joshua trees in the tree layer and a co-occurrence of creosote bush and white bur-sage in the shrub layer. This vegetation type is likely in transition to a shrub-dominated form as few Joshua trees were observed re-sprouting. It has a relatively high proportion of bare ground, but is sparsely covered by various herbs such as redstem filaree, Mediterranean schismus, red brome, and smooth desert dandelion.

Creosote Bush Scrub/Joshua Tree Woodland

Creosote Bush/Joshua Tree Woodland occurs near MP 1 in the Study Area. This vegetation type is dominated by creosote bush in the shrub layer with at least one percent cover of Joshua tree in the tree layer. This vegetation type has a relatively high proportion of bare ground, but is

sparsely covered by various herbs such as redstem filaree, Mediterranean schismus, red brome, and smooth desert dandelion.

Creosote Bush–Nevada Joint Fir Scrub

Creosote Bush–Nevada Joint Fir Scrub occurs between MPs 7 and 8 in the Study Area. This vegetation type is dominated by creosote bush and contains, to a lesser extent, Nevada ephedra (*Ephedra nevadensis*). The shrub layer is relatively dense compared to other forms of creosote-bush-dominated scrub, but herbs such as common goldfields, round-nut pectocarya, red brome, redstem filaree, and curvy fringepod can occur.

Creosote Bush–Rubber Rabbitbrush Scrub

Creosote Bush–Rubber Rabbitbrush Scrub occurs between MPs 2 and 3 in the Study Area. This vegetation type is co-dominated in the shrub layer by creosote bush and white rubber rabbitbrush. The herb layer contains fiddleneck, smooth desert dandelion, redstem filaree, and red brome.

Creosote Bush–White Burr Sage Scrub

Creosote Bush–White Burr Sage Scrub occurs between the Adelanto Compression Station and MP 7, as well as around the Shaver Summit Pressure Limiting Station and the Desert Center Compression Station. This vegetation type is dominated by creosote bush and white bur-sage. A relatively high proportion of bare ground is present, with sparse coverage by redstem filaree, Mediterranean schismus, red brome, and smooth desert dandelion.

Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland

Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland occurs between MPs 1 and 7 in the Study Area. This vegetation type is dominated by creosote bush and white bur-sage, along with at least one percent cover of Joshua trees in the tree layer. A relatively high proportion of bare ground is present, with sparse coverage by redstem filaree, Mediterranean schismus, red brome, and smooth desert dandelion.

Bladder Sage Scrub

Bladder Sage Scrub occurs between MPs 7 and 8 in the Study Area. This vegetation type is dominated by bladder sage (*Scutellaria mexicana*), which co-occurs with Nevada ephedra, California buckwheat, and rubber rabbitbrush. The herb layer is dominated by red brome, rattail fescue, redstem filaree, and common goldfields.

Bladder Sage–Rubber Rabbitbrush Scrub

Bladder Sage–Rubber Rabbitbrush Scrub occurs between MPs 8 and 9 in the Study Area. This vegetation type is dominated by bladder sage and rubber rabbitbrush. The herb layer is dominated by red brome, rattail fescue, common goldfields, and fiddleneck.

Big Sagebrush Scrub

Big Sagebrush Scrub occurs between MPs 8 and 9 in the Study Area. This vegetation type is dominated by big sagebrush (*Artemisia tridentata* ssp. *tridentata*) with lesser occurrences of California buckwheat and Nevada ephedra. The herb layer contains common goldfields, angle-stem buckwheat (*Eriogonum angulosum*), redstem filaree, and rattail fescue.

Rubber Rabbitbrush Scrub

Rubber Rabbitbrush Scrub occurs between the Adelanto Compression Station and MP 19 in the Study Area. This vegetation type is dominated by white rubber rabbitbrush and sometimes has lesser occurrences of white bur-sage and California buckwheat. The herb layer is dominated by Mediterranean schismus, redstem filaree, smooth desert dandelion, and angle-stem buckwheat.

Disturbed Rubber Rabbitbrush Scrub

Disturbed Rubber Rabbitbrush Scrub occurs at three locations near MP 9, MP 10, and MP 22 in the Study Area. This vegetation type is dominated by rubber rabbitbrush, but is of degraded quality due to erosion and invasive species. The herb layer has some cover of redstem filaree and Mediterranean schismus with a large proportion of bare ground.

Fourwing Saltbush Scrub

Fourwing Saltbush Scrub occurs near MP 9 in the Study Area. This vegetation type is dominated by four-wing saltbush (*Atriplex canescens* var. *canescens*) with lesser amounts of white bur-sage. The herb layer consists of red brome, barley, redstem filaree, common goldfields, and smooth desert dandelion.

Cheesebush Scrub

Cheesebush Scrub occurs east of the Desert Center Compression Station. This vegetation type is dominated by cheesebush (*Ambrosia salsola* var. *salsola*) with some occurrences of white bur-sage. The herb layer is sparse due to a large proportion of bare ground, but consists of serrated silverbush (*Ditaxis serrata* var. *serrata*), redstem filaree, and Sahara mustard (*Brassica tournefortii*).

Disturbed Cheesebush Scrub

Disturbed Cheesebush Scrub occurs around the Whitewater Compression Station. This vegetation type contains sparse shrub layer dominated by cheesebush and a high percent cover of herbs such as Mediterranean schismus, redstem filaree, prickly Russian thistle (*Salsola tragus*), and pale yellow suncup (*Camissoniopsis pallida* ssp. *pallida*).

Nevada Joint Fir Scrub

Nevada Joint Fir Scrub occurs between MPs 7 and 12 in the Study Area. This vegetation type contains Nevada ephedra with various other shrubs present, including interior goldenbush, bladder sage, very long spine horsebrush (*Tetradymia axillaris* var. *longispina*), and silver cholla (*Cylindropuntia echinocarpa*). The herb layer contains common goldfields, redstem filaree, and smooth desert dandelion.

Nevada Joint Fir Scrub/Joshua Tree Woodland

Nevada Joint Fir Scrub/Joshua Tree Woodland occurs between MPs 10 and 11 in the Study Area. This vegetation type contains Nevada ephedra in the shrub layer and has at least one percent cover of Joshua tree in the tree layer. Some white rubber rabbitbrush and California buckwheat occur in the shrub layer, with red brome and redstem filaree co-occurring in the herb layer.

5.2.4 Herbaceous Communities

Salt Grass Flats–Mexican Rush Thicket

Salt Grass Flats–Mexican Rush Thicket occurs between MPs 19 and 20 in the Study Area. This vegetation type is dominated by salt grass (*Distichlis spicata*), with lesser amounts of redstem filaree and Mexican rush (*Juncus mexicanus*). The margins of this vegetation type contains arroyo willow (*Salix lasiolepis*) and Mojave rose (*Rosa woodsia* ssp. *gratissima*).

Disturbed Desert Needlegrass Grassland

Disturbed Desert Needlegrass Grassland occurs between MPs 15 and 19 in the Study Area. This vegetation type is characterized by the presence of desert needle grass (*Stipa speciosa*) below the 50 percent relative cover requirement for standard Desert Needlegrass Grassland in the herb layer, but is at roughly two to 20 percent relative cover of the herb layer. The shrub layer contains deerweed and Douglas' threadleaf ragwort. The herb layer is primarily composed of Mediterranean schismus, but also contains squirreltail wildrye, western wildrye (*Elymus glaucus* ssp. *glaucus*), fiddleneck, redstem filaree, and red brome.

Red Brome Grasslands

Red Brome Grasslands occur throughout the Study Area, but are most prevalent in the southern half. This vegetation type is composed primarily of non-native annuals, dominated by various brome grass species, including red brome, ripgut brome, and cheat grass. Mediterranean schismus, barley, and wild oat also can occur in varying amounts. Other herbs, such as shortpod mustard, fiddleneck, tocalote, and redstem filaree can also occur in patches.

Ruderal

Ruderal vegetation occurs between MPs 32 and 62 in the Study Area. Ruderal vegetation contains plant species that colonize or thrive in disturbed areas and contains various non-native and native weedy species that are not singularly dominant enough to form a unique vegetation type, such as red brome grasslands. These species can include, but are not limited to, fiddleneck, mustards, hare barley (*Hordeum murinum* ssp. *leporinum*), radish (*Raphanus sativus*), prickly Russian thistle, and goosefoot (*Chenopodium album*, *C. murale*).

5.2.5 Riparian Communities

Fremont Cottonwood Forest

Fremont Cottonwood Forest occurs between MPs 23 and 28 in the Study Area. This vegetation type is often dominated by pure stands of Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). The shrub layer is generally underdeveloped, but patches of California buckwheat, California sagebrush, and hairy yerba santa can occur in isolated patches. Leaf litter typically covers a large amount of ground, often preventing herbs from becoming established; however, some species such as wild heliotrope phacelia, red brome, and false-mustard (*Eulobus californicus*) can occur.

Fremont Cottonwood Forest–Arroyo Willow Thickets

Fremont Cottonwood Forest–Arroyo Willow Thickets occurs between MPs 22 and 24 as well as between MPs 45 and 47 in the Study Area. This vegetation type is dominated by Fremont cottonwood and arroyo willow. Canopy cover varies across patches, with some areas having a relatively continuous tree canopy while others contain scattered cottonwoods and willows. The understory varies, but may contain small amounts of mule fat (*Baccharis salicifolia* ssp. *salicifolia*).

or Hinds' willow (*Salix exigua* var. *hindsii*). In some areas, the margins of this vegetation type contain shrubs such as California sagebrush and California fuchsia (*Epilobium canum* ssp. *canum*), and herbs such as red brome, redstem filaree, and water speedwell (*Veronica anagallis-aquatica*).

Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets

Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets occur near MP 19 in the Study Area. This vegetation type is dominated in the tree and shrub layer by Fremont cottonwood, arroyo willow, and Hinds' willow. A very low cover (i.e., less than five percent) of western sycamore (*Platanus racemosa*) occurs in this vegetation type as well. Some California buckwheat and chamise occur along the margins. The herb layer consists of red brome, toad rush (*Juncus bufonius* var. *bufonius*), and small patches of salt grass.

Fremont Cottonwood Forest–Red Willow Thickets

Fremont Cottonwood Forest–Red Willow Thickets occur east of the I-15 and MP 24 in the Study Area. This vegetation type is dominated by Fremont cottonwood and red willow (*Salix laevigata*). Canopy cover varies across patches, with some areas having a relatively continuous tree canopy while others contain scattered cottonwoods and willows. The understory varies, but can contain some individuals of mule fat or Hinds' willow. In some areas, the margins of this vegetation type contain shrubs such as California sagebrush and California fuchsia, and herbs such as red brome, redstem filaree, and water speedwell.

Fremont Cottonwood Forest/Sandbar Willow Thickets

Fremont Cottonwood Forest/Sandbar Willow Thickets occur near MP 19 in the Study Area. This vegetation type is dominated by Fremont cottonwood and Hinds' willow, with one species generally having slightly greater cover than the other across the various patches. Canopy cover in this vegetation type tends to be denser than other forms of cottonwood/willow thicket, with Hinds' willow sometimes occurring toward the top of the bank. Some isolated shrubs such as California fuchsia, California buckwheat, and coastal goldenbush (*Isocoma menziesii* var. *menziesii*) may occur along the margins with lesser amounts of herb cover generally consisting of red brome and rattail fescue in openings and along margins.

Fremont Cottonwood Forest/Mulefat Thickets

Fremont Cottonwood Forest/Mulefat Thickets occur near MP 24 in the Study Area. This vegetation type is dominated by Fremont cottonwood in the tree layer and mule fat in the shrub layer, although each are relatively low in absolute cover. Other shrub species include chaparral yucca and California buckwheat along the margin. The herb layer consists of red brome and rattail fescue.

California Sycamore Woodlands–Fremont Cottonwood Forest

California Sycamore Woodlands–Fremont Cottonwood Forest occurs between MPs 19 and 20 in the Study Area. Western sycamore and Fremont cottonwood co-occur in the tree layer, although absolute cover of these species is relatively low. The shrub layer contains mule fat, at a relatively low absolute cover, and the herb layer consists of salt grass and toad rush.

California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets

California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets occur between MPs 22 and 24 in the Study Area. This vegetation type is dominated by western

sycamore, Fremont cottonwood, and arroyo willow, generally with one species being more dominant than the others across the patches. Some shrub species such as California buckwheat and California sagebrush can occur along the margins. Herbs such as red brome, ripgut brome, and redstem filaree cover much of the ground where bare ground is not present.

Arroyo Willow Thickets

Arroyo Willow Thickets occur east of I-15 and east of MP 24 in the Study Area. This vegetation type is dominated by arroyo willow almost to the exclusion of other tree or shrub species; however, occasional Hinds' willow and mule fat occur in openings or along margins. The herb layer contains ripgut brome, red brome, and rattail fescue.

Arroyo Willow/Mulefat Thickets

Arroyo Willow/Mulefat Thickets occur between MPs 21 and 22 in the Study Area. This vegetation type is dominated by arroyo willow and mule fat in the shrub layer, nearly to the exclusion of other shrub species. Chamise, black sage, and scrub oak can occur along the margins. The herb layer contains red brome, redstem filaree, shortpod mustard, and wild oat, all of which typically occur along the margins or in openings.

Sandbar Willow Thickets

Sandbar Willow Thickets occur between MPs 19 and 20 in the Study Area. This vegetation type is dominated by Hinds' willow with some co-occurrence of arroyo willow. Some isolated shrubs such as California fuchsia, California buckwheat, and coastal goldenbush may occur along the margins with lesser amounts of herb cover (generally consisting of red brome and rattail fescue) occurring in openings and along margins.

Mulefat Thickets

Mulefat Thickets occur intermittently between MPs 19 and 65 in the Study Area. This vegetation type is dominated by mule fat, generally with no other shrubs present except chaparral bush-mallow (*Malacothamnus fasciculatus* var. *fasciculatus*), thick leaf ceanothus, whitebark ceanothus, and chamise, which grow around the margins. The herb layer is typically underdeveloped with red brome, redstem filaree, and wild oat occurring along margins and in openings.

Disturbed Mulefat Thickets

Disturbed Mulefat Thickets occur near MP 45 in the Study Area. This vegetation type is dominated by mule fat, with lesser amounts of blue elderberry (*Sambucus nigra* ssp. *caerulea*), Vasey's prickly pear (*Opuntia x vaseyi*), and California croton. This vegetation type is considered disturbed due to an abundance of non-native species such as giant reed (*Arundo donax*), shortpod mustard, and red brome.

Scale Broom Scrub

Scale Broom Scrub occurs in the Study Area between MPs 22 and 29, near MP 45, and between MPs 54 and 59. This relatively open vegetation type is characterized by the presence of California scale-broom, though this may not be the dominant species in terms of cover. Other species present in this vegetation type may include mule fat, California buckwheat, chaparral yucca, common horsetail (*Equisetum arvense*), Mediterranean schismus, red brome, and narrow-toothed pectocarya (*Pectocarya linearis* ssp. *ferocula*).

Scale Broom–California Buckwheat Scrub

Scale Broom–California Buckwheat Scrub occurs between MPs 21 and 23 in the Study Area. This vegetation type is generally denser than standard scale broom scrub and has a higher proportion of California buckwheat than other co-occurring shrub species, which can include chaparral yucca and Douglas' threadleaf ragwort along the margins. Small inner channel-islands often occur in this vegetation type with little to no California scale-broom in them. The herb layer consists of various species, which can include common horsetail, Mediterranean schismus, red brome, and narrow-toothed pectocarya.

Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub

Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub occurs near MP 25 in the Study Area. This vegetation type is generally denser than standard Scale Broom Scrub and has a higher proportion of hairy yerba santa and some chaparral yucca. Other shrub species can occur along the margin, including California buckwheat and Douglas' threadleaf ragwort. The herb layer is generally less diverse than other forms of scale broom scrub and mostly consists of red brome, redstem filaree, and wild oat.

Scale Broom Scrub–Mulefat Thickets

Scale Broom Scrub–Mulefat Thickets occur near MP 22 in the Study Area. This vegetation type is dominated by California scale-broom and mule fat, although they occur at relatively low absolute cover. Low amounts of chamise and California buckwheat are present along the margins. The herb layer contains red brome, chia (*Salvia columbariae*), common cryptantha, and redstem filaree.

Flood Plain Scrub

Floodplain Scrub occurs near MP 45 in the Study Area. The absolute vegetative cover in this area is approximately 30 percent. The predominant species is upright sessileflower false goldenaster (*Heterotheca sessiliflora* ssp. *fastigata*); other species scattered throughout this vegetation type include Fremont cottonwood saplings, mulefat, and deerweed.

Vegetated Channel

Vegetated Channels occur near MPs 52 and 53 in the Study Area. Vegetated channels are unlined channels with various herb species occurring in them, none of which are dominant enough to constitute a specific vegetation type. Herb species in these channels generally make up less than ten percent of ground cover and consist of telegraph weed (*Heterotheca grandiflora*), red brome, longbeak filaree (*Erodium botrys*), redstem filaree, California croton, and Australian brass-buttons (*Cotula australis*), among other isolated species.

Unvegetated Channel

Unvegetated Channel occurs between MPs 39 and 53 in the Study Area. Unvegetated channels include unlined flood-control channels and lined low flow channels of major drainages. These areas are unvegetated or very sparsely vegetated.

Open Water

Open Water occurs near MP 7, MP 10, MP 38, and MP 53 in the Study Area. Open water includes areas with no vegetation and open/consistent areas of ponding water (e.g., golf course ponds, open irrigation channels).

5.2.6 Woodland Communities

Coast Live Oak Woodland

Coast Live Oak Woodland occurs between MPs 23 and 27 in the Study Area. This vegetation type is dominated by coast live oak (*Quercus agrifolia* var. *agrifolia*) in the tree layer, usually with little to no cover in the shrub layer. Occasionally, chamise and western poison oak (*Toxicodendron diversilobum*) occur around the margins and in the understory. The understory contains red brome, Mediterranean schismus, and ripgut brome.

California Walnut Woodland

California Walnut Woodland occurs near MP 25 and in the community of Devore in the Study Area. This vegetation type contains Southern California black walnut (*Juglans californica*) in the tree layer, but has a relatively open canopy. Various shrub species such as whitebark ceanothus, California sagebrush, chamise, and California buckwheat occur along the margins with red brome, ripgut brome, redstem filaree, and tocalote in the understory.

California Sycamore Woodlands

California Sycamore Woodlands occurs between MPs 22 and 28 and between MPs 55 and 59 in the Study Area. This vegetation type is dominated by western sycamore in the tree layer, although absolute cover of this species can be relatively low, i.e., 20 percent. The shrub layer generally contains California buckwheat and occasional stands of hairy yerba santa. Herbs such as red brome, ripgut brome, and redstem filaree are prevalent.

Disturbed California Sycamore Woodlands

Disturbed California Sycamore Woodlands occurs near MP 29 in the Study Area. This vegetation type contains western sycamore in the tree layer, although absolute cover of this species can be relatively low, i.e., five percent, due to altered hydrology and invasive species. The shrub layer contains some California buckwheat and hairy yerba santa. Herbs such as red brome, ripgut brome, and redstem filaree are prevalent.

Burned California Sycamore Woodlands

Burned California Sycamore Woodlands occurs east of I-15 and northeast of MP 26 in the Study Area. This vegetation type contains recovering western sycamores in the tree layer. Regenerating shrub species include western poison oak, whitebark ceanothus, deerweed, and hairy yerba santa. Various herb species are also present such as common goldfields, red brome, blue dicks, common cryptantha, and southernwood leaved ball gilia (*Gilia capitata* ssp. *abrotanifolia*).

Burned California Sycamore Woodlands/Chaparral White Thorn Chaparral

Burned California Sycamore Woodlands/Chaparral Whitethorn Chaparral occurs east of I-15 and northeast of MP 26 in the Study Area. This vegetation type contains western sycamores that could be transitioning to a whitebark-ceanothus-dominated vegetation type. The shrub layer contains whitebark ceanothus with some southern saw toothed goldenbush occurring as well. Various herb species are also present such as common goldfields, red brome, blue dicks, common cryptantha, and southernwood leaved ball gilia.

Blue Elderberry Stands

Blue Elderberry Stands occur between MPs 26 and 27 on the east side of I-15 in the Study Area. This vegetation type is dominated by blue elderberry in the tree layer with high cover of California buckwheat in the shrub layer, although the absolute cover of blue elderberry is low. The understory is dominated by red brome, redstem filaree, wild oat, and common cryptantha.

California Juniper Woodland

California Juniper Woodland occurs between MPs 8 and 11 in the Study Area. This vegetation type is dominated by California juniper in the tree layer and varied shrubs such as very long spine horsebrush and Nevada ephedra. The herb layer contains red brome, rattail fescue, and round-nut pectocarya.

Burned California Juniper Woodland

Burned California Juniper Woodland occurs between MPs 12 and 13 in the Study Area. This vegetation type is dominated by California juniper, but is likely transitioning to a shrub-dominated desert community. Burned Tucker's oak is regrowing in the shrub layer along with some chamise and chaparral yucca. The herb layer contains red brome, rattail fescue, and round-nut pectocarya.

5.2.7 Non-Native and Disturbed Communities

Agriculture

Agriculture occurs near MP 9 and MP 27 on the east side of I-15, and between MP 45 and the Moreno Valley Pressure Limiting Station. This vegetation type consists of various cultivated crops, primarily wheat (*Triticum aestivum*), as well as occasional grove stands of fruiting trees such as lemon (*Citrus limon*). On the margins of this vegetation type are non-native or weedy species typically associated with agriculture such as barley, mustards, and fiddleneck.

Ornamental

Ornamental vegetation occurs near MP 11, between MPs 24 and 57, and at the Desert Center Compression Station. This vegetation type consists of varied ornamental species that are not native to California, but have not naturalized in adjacent areas. The species composition of ornamental areas are highly variable and can include, but are not limited to, the following species: small-fruit fig (*Ficus microcarpa*), Aleppo pine (*Pinus halepense*), Yeddo hawthorn (*Raphiolepis umbellata*), lawngrass (*Festuca* sp.), and southern magnolia (*Magnolia grandiflora*).

Eucalyptus Groves

Eucalyptus Groves occur between MPs 27 and 56 in the Study Area. This vegetation type is dominated by various gum species including, but not limited to, red gum (*Eucalyptus camaldulensis*), sugar gum (*E. cladocalyx*), and blue gum (*E. globulus*). The ground between the trees is typically covered in a thick layer of leaf litter which precludes the development of an herb layer.

Developed

Developed land occurs throughout the Study Area. Developed land typically occurs as paved roads, residential areas, and commercial buildings in the Study Area. It is assumed that Developed land has at least a moderate amount of human visitation and either permanent pavement or structures built on the ground.

Disturbed Habitat

Disturbed Habitat occurs throughout the Study Area. This habitat type typically occurs as dirt roads, graded areas not yet paved, abandoned lots with minimal to no vegetation, and restoration sites with minimal to no vegetation. This habitat type is primarily differentiated from Developed habitat in that there is low human visitation and/or no physical structures built on the ground.

5.3 COMMON WILDLIFE DESCRIPTIONS

The Proposed Project alignment crosses parts of San Bernardino and Riverside Counties, and the land it passes through includes a variety of different ecoregions. This discussion of common wildlife species in the Study Area focuses on the most frequently encountered or abundant wildlife species that are typical of a given ecoregion. Four major ecoregions, defined by their biological, climatic, and geographic features, are crossed by the Proposed Project: Mojave Desert Region, Transverse Mountain Region, South Coast Region, and Sonoran Desert Region.⁵ The Adelanto Compressor Station and the northern part of the Proposed Project alignment are located in the Mojave Desert Region. The Proposed Project alignment continues south through the Cajon Pass where the San Gabriel and San Bernardino Mountain Ranges meet in the Transverse Mountain Region. The South Coast Region begins on the coastal slope of the mountains and encompasses the southerly portions of the Proposed Project alignment to the Moreno Valley Pressure Limiting Station. The Whitewater and Shaver Summit Pressure Limiting Stations and the Desert Center Compressor Station are located in the Sonoran Desert Region.

Appendix B-2 includes a list of all wildlife species that have been recorded from the Study Areas of the Proposed Project during the course of the various biological surveys conducted. Because wildlife move across lands traversed by the Proposed Project, the following discussions address common species that are known to, or have potential to, occur in the region and not just those that have been documented in the Study Area. Special status wildlife species are treated separately in Section 5.4.

5.3.1 Mojave Desert Region

Southern California creeks and waterways are subject to periods of high water flow in winter and spring, while experiencing little to no flow during late summer and fall. Stream channels in the Mojave Desert region are ephemeral and flow only after periods of rain. No natural running water was observed in the Mojave Desert Region; therefore, no fish species are expected to occur in this portion of the Study Area. The only exception to this is the California Aqueduct which may support channel catfish (*Ictalurus punctatus*) and striped bass (*Morone saxatilis*).

Amphibians require moisture for at least a portion of their lifecycle, and many require standing or flowing water for reproduction. Terrestrial species may or may not require standing water for reproduction; they survive in dry areas by aestivating (i.e., remaining beneath the soil in burrows or under logs and leaf litter, and emerging only when temperatures are low and humidity is high). Many of these species' habitats are associated with water and they emerge to breed once the rainy season begins. Due to the general lack of water resources in the Mojave Desert Region and rapid drainage of soil substrates, habitat is mainly unsuitable for amphibians in this section of the Study Area. Therefore, no amphibian species are expected to occur.

Reptilian diversity and abundance is high in the Mojave Desert Region, but typically varies with vegetation type. Some species prefer only one or two vegetation types, while others forage in a variety of habitats. Most reptile species that occur in open areas use rodent burrows for cover,

⁵ See The Jepson Manual (Hickman 1993) for additional discussion of these and other geographic subdivisions of California.

protection from predators, and refuge during extreme weather conditions. Reptile species observed or expected to occur in this region include western fence lizard (*Sceloporus occidentalis*), western side-blotched lizard (*Uta stansburiana elegans*), long-nosed leopard lizard (*Gambelia wislizenii*), San Diego tiger whiptail (*Aspidoscelis tigris stejnegeri*), Yucca night lizard (*Xantusia vigilis*), southern alligator lizard (*Elgaria multicarinata*), gopher snake (*Pituophis catenifer*), coachwhip (*Coluber flagellum*), and northern Mojave rattlesnake (*Crotalus scutulatus scutulatus*).

A variety of bird species are expected to be residents in the Study Area and to use the habitats throughout the year while other species are present only seasonally. Scrub vegetation types in the Mojave region of the Study Area support an avifauna that is comprised of species adapted to sparsely vegetated habitats. Due to the general lack of resources in the area, species diversity is usually low to moderate (depending on the season). Resident bird species that were observed included mourning dove (*Zenaida macroura*), western kingbird (*Tyrannus verticalis*), Nuttall's woodpecker (*Picoides nuttallii*), black phoebe (*Sayornis nigricans*), common raven, northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), common yellowthroat (*Geothlypis trichas*), song sparrow (*Melospiza melodia*), house finch (*Haemorhous mexicanus*), western meadowlark (*Sturnella neglecta*), and lesser goldfinch (*Carduelis psaltria*). Raptors (birds of prey) observed within this region include red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), and turkey vulture (*Cathartes aura*). Active raptor nests were observed near the Study Area. The complete Raptor Report for the Proposed Project, which includes information on observed nesting raptors is provided in Attachment 10.

This region of the Study Area has limited vegetation types consisting mainly of Creosote Bush Scrub with sparsely distributed Joshua trees. Most of the habitat in this location consists of varying degrees of disturbance. Mammals typical of all desert vegetation types may occur where there is suitable habitat for foraging, breeding, cover, and movement. The Study Area contains foraging, breeding, cover, and movement corridor habitat for many mammal species. Mammal species occurring or expected to occur in the Study Area include small mammals such as California ground squirrel, white-tailed antelope squirrel (*Ammospermophilus leucurus*), Botta's pocket gopher (*Thomomys bottae*), deer mouse (*Peromyscus maniculatus*), grasshopper mouse (*Onychomys torridus*), Bryant's woodrat (*Neotoma bryanti* [*lepida*] *intermedia*), desert cottontail (*Sylvilagus audubonii*), black-tailed jack rabbit (*Lepus californicus deserticola*), American badger (*Taxidea taxus*), desert kit fox (*Vulpes macrotis*), and coyote (*Canis latrans*).

Bats occur throughout most of Southern California and may use any portion of the Study Area as foraging habitat. Most of the bats that could potentially occur in the Study Area are inactive during the winter and either hibernate or migrate, depending on the species. The following common bat species were observed or recorded within the Study Areas including big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), canyon bat (*Parastrellus hesperus*), hoary bat (*Lasiurus cinereus*), and Mexican free-tail (*Taderida brasiliensis*).

5.3.2 Transverse Mountain Region

The Transverse Mountain Region is one of the few locations in the Study Area containing perennial stream flow. Cajon Wash is one such perennial stream that provides habitat for native fish species. Native fish species observed or expected to occur within this area include rainbow trout, Santa Ana speckled dace (*Rhinichthys osculus* ssp.), and arroyo chub (*Gila orcutti*).

This region of the Study Area contains perennial streams that provide for more suitable amphibian habitat than other ecoregions in the Study Area. Amphibian species that were observed or are expected to occur include California toad (*Anaxyrus boreas halophilus* [*Bufo boreas*]), California

treefrog (*Pseudacris cadaverina*), and Baja California treefrog (*Pseudacris hypochondriaca* [*Hyla regilla*]).

Reptile species that occur in the Transverse Mountain Region include species that have adapted to fluctuating temperatures, are present in a variety of denser vegetation types, e.g., chaparral and woodlands, and find cover and protection in rocky areas. Reptile species observed or expected to occur in this region of the Study Area include western fence lizard, western side-blotched lizard, San Diego tiger whiptail, southern alligator lizard, two-striped garter snake (*Thamnophis hammondi*), gopher snake, and southern Pacific rattlesnake (*Crotalus viridis*).

The Transverse Mountain Region of the Study Area contains the most diverse habitat along the alignment. The native forest, riparian, scrub, and chaparral vegetation types in and adjacent to the Study Area provide vital and ideal habitat for a wide range of resident and migratory bird species. Birds commonly observed, or expected, within this region include acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker, American robin (*Turdus migratorius*), Anna's hummingbird (*Calypte anna*), black-chinned hummingbird (*Archilochus alexandri*), common raven, black-headed grosbeak (*Pheucticus melanocephalus*), California quail (*Callipepla californica*), Bewick's wren (*Thryomanes bewickii*), wrentit (*Chamaea fasciata*), California thrasher (*Toxostoma redivivum*), Brewer's blackbird (*Euphagus cyanocephalus*), brown creeper (*Certhia americana*), Cassin's finch (*Carpodacus cassinii*), cliff swallow (*Petrochelidon pyrrhonota*), dark-eyed junco (*Junco hyemalis*), mallard (*Anas platyrhynchos*), mountain quail (*Oreortyx pictus*), mountain chickadee (*Poecile gambeli*), mourning dove, northern flicker (*Colaptes auratus*), western scrub jay (*Aphelocoma californica*), oak titmouse (*Baeolophus inornatus*), California towhee (*Melospiza crissalis*), spotted towhee (*Pipilo erythrophthalmus*), hermit thrush (*Catharus guttatus*), Steller's jay (*Cyanocitta stelleri*), western bluebird (*Sialia mexicana*), white-breasted nuthatch (*Sitta carolinensis*), western wood pewee (*Contopus sordidulus*), western tanager (*Piranga ludoviciana*), white-crowned sparrow (*Zonotrichia leucophrys*), white-headed woodpecker (*Picoides albolarvatus*), Pacific-slope flycatcher (*Empidonax difficilis*), black-throated gray warbler (*Setophaga nigrescens*), Townsend's warbler (*Setophaga townsendi*), and Wilson's warbler (*Cardellina pusilla*). Common raptors observed within this region include red-tailed hawk, red-shouldered hawk (*Buteo lineatus*), Cooper's hawk (*Accipiter cooperii*), American kestrel, great horned owl, and turkey vulture. Active raptor nests were observed near the Study Area as discussed in more detail in Section 5.8.6.

As with other taxonomic groups, the presence of different vegetation types and topographic features in this region of the Study Area offers mammals a variety of habitats. This variety of habitats, in turn, is expected to support a relatively high diversity and abundance of mammalian species. Small, ground-dwelling mammals observed or expected to occur in the Study Area include California ground squirrel, desert cottontail (*Sylvilagus audubonii*), western gray squirrel (*Sciurus griseus*), Merriam's chipmunk (*Neotamias merriami*), lodgepole chipmunk (*Neotamias speciosus*), deer mouse, California pocket mouse (*Chaetodipus californicus*), Bryant's woodrat, Botta's pocket gopher, and ornate shrew (*Sorex ornatus*). Larger mammals expected to occur in the Study Area include the black bear, raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), mountain lion (*Puma concolor*), bobcat (*Lynx rufus*), southern mule deer, striped skunk (*Mephitis mephitis*), western spotted skunk (*Spilogale gracilis*), American badger (*Taxidea taxus*), and coyote. The following common bat species are also expected to occur: pallid bat (*Antrozous pallidus*), Yuma myotis, canyon bat, and Mexican free-tailed bat.

5.3.3 South Coast Region

The South Coast Region of the Study Area is primarily characterized by the presence of intermittent streams that are active during seasonal storms. Most waterways throughout this region are controlled, concrete-lined waterways. Few soft-bottomed channels remain, although the natural-bottom Santa Ana River is crossed by the Proposed Project alignment. Considering the dry state of most of these waterways, fish are not expected to be observed during most of the

year. During the wet season, storm flows may allow for an influx of native fish species, which would be expected to include rainbow trout, Santa Ana speckled dace, and arroyo chub.

Due to the urbanized nature of many of the water resources in the South Coast Region and disturbance from humans/pets, natural habitat is limited for amphibians in this section of the Study Area. Those species that are expected are likely to occur in riparian areas that are either man-made or altered natural features such as flood control channels. Native amphibian species that have been observed or are expected to occur include California [western] toad, California treefrog, and Baja California treefrog.

Reptile species observed or expected to occur in this region of the Study Area include side-blotched lizard, San Diego tiger whiptail, southern alligator lizard, Blainville's horned lizard (*Phrynosoma coronatum*), granite spiny lizard (*Sceloporus orcutti*), coachwhip, gopher snake, and southern Pacific rattlesnake.

The South Coast region of the Study Area contains a variety of habitat types; however, this section of the Study Area consists predominantly of disturbed and developed habitat. Any remaining undisturbed habitat consists of fragmented patches of scrub and chaparral vegetation with very small remnant riparian habitats. Birds commonly observed or expected in this region include acorn woodpecker, American robin, Anna's hummingbird, black-chinned hummingbird, California quail, Bewick's wren, wren-tit, California thrasher, Brewer's blackbird, cliff swallow, northern rough-winged swallow (*Stelgidopteryx serripennis*), western scrub jay, mourning dove, oak titmouse, California towhee, spotted towhee, hermit thrush, western bluebird, western tanager, Say's phoebe (*Sayornis saya*), house sparrow, greater roadrunner (*Geococcyx californianus*), white-crowned sparrow, Pacific-slope flycatcher, common raven, black-throated gray warbler, phainopepla (*Phainopepla nitens*), canyon wren (*Catherpes mexicanus*), Townsend's warbler, Wilson's warbler, cactus wren (*Campylorhynchus brunneicapillus*), killdeer (*Charadrius vociferous*), northern mockingbird, and western kingbird. Raptors observed in this region include red-tailed hawk, red-shouldered hawk, great horned owl, and turkey vulture.

Small, ground-dwelling mammals observed or expected to occur in this portion of the Study Area include California ground squirrel, desert cottontail, deer mouse, California pocket mouse, Bryant's woodrat, Botta's pocket gopher, and ornate shrew. Larger mammals expected to occur in the Study Area include raccoon, Virginia opossum, bobcat, mule deer, wild burro, striped skunk, western spotted skunk, American badger, and coyote. The following common bat species are also expected to occur: Yuma myotis, canyon bat, and Mexican free-tailed bat.

5.3.4 Sonoran Desert Region

The stream channels in the Sonoran Desert region are ephemeral and flow only after periods of rain. No running water and no substantial ponding was observed in the Sonoran Desert Region of the Study Area; therefore, no fish species are expected to occur.

Due to the temporary nature of surface water in this region and taking into consideration that only ephemeral waterways are present, amphibians are not expected to occur in the Sonoran Desert portion of the Study Area.

Due to the lack of vegetation and substrate diversity in the Sonoran Desert region of the Study Area, reptile diversity is expected to be limited. Reptile species observed or expected to occur in this region of the Study Area include western side-blotched lizard, western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), desert spiny lizard (*Sceloporus magister*), San Diego tiger whiptail, coachwhip, gopher snake, and southern Pacific rattlesnake.

The Sonoran Desert Region of the Study Area contains large open areas of Creosote Bush-White Burr Sage Scrub and Cheesebush Scrub. Compared to other regions of the Study Area, the Sonoran Desert region appeared to have the least amount of activity during field surveys. Birds commonly observed, or expected, in this region include Gambel's quail (*Callipepla gambelii*), California thrasher, greater roadrunner, phainopepla, common raven, cactus wren, and western kingbird. Raptors observed within this region include red-tailed hawk and turkey vulture.

Habitat potentially used by mammals in the Sonoran Desert Region is mainly open with little in the way of vegetation. Hard desert pavement and boulder fields are prevalent. Due to the lack of substantial foraging, breeding, and cover habitat, a large diversity of mammal species is not expected to occur. Desert dwelling mammals observed or expected to occur in the Study Area include California ground squirrel, white-tailed antelope squirrel, desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit, deer mouse, Baja mouse (*Peromyscus fraterculus*), California pocket mouse, desert pocket mouse (*Chaetodipus penicillatus*), Merriam's kangaroo rat (*Dipodomys merriami*), Bryant's woodrat, and Botta's pocket gopher. Larger mammals expected to occur in the Study Area include American badger and coyote. The following common bat species are also expected to occur: Yuma myotis, canyon bat, and Mexican free-tailed bat.

5.3.5 Wildlife Movement

Wildlife corridors provide linkages between areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization and forms of development creates isolated "islands" of wildlife habitat. In the absence of corridors that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time because the infusion of new individuals and genetic information is disallowed (MacArthur and Wilson 1967; Soule 1987; Harris and Gallagher 1989; Bennett 1990). Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing routes for wildlife to escape from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fire or disease) will result in population or local species extinction; and, (3) serving as travel routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources (Noss 1983; Fahrig and Merriam 1985; Simberloff and Cox 1987; Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas or individuals extending range distributions); (2) seasonal migration; and, (3) movements related to home range activities, e.g., foraging for food or water, defending territories or searching for mates, breeding areas, or cover. A number of terms such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" have been used in various wildlife movement studies to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and to facilitate the discussion on wildlife movement in this analysis, these terms are defined as follows:

- **Travel Route.** A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and to provide access to necessary resources, e.g., water, food, cover, den sites. The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It contains adequate food, water, and/or cover while moving between habitat areas and it provides a relatively direct link between target habitat areas.

- **Wildlife Corridor.** A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bound by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and to facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat linkages” or “landscape linkages”) can provide both transitory and resident habitat for a variety of species.
- **Wildlife Crossing.** A small, narrow area, relatively short in length and generally constricted in nature that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These often represent “choke points” along a movement corridor, which may impede wildlife movement and increase the risk of predation.

It is important to note that, in a large open space area where there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors (as defined above) may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and to provide a variety of travel routes, e.g., canyons, ridgelines, trails, riverbeds, and others, wildlife will use these “local” routes while searching for food, water, shelter, and mates and will not need to cross into other large open space areas. Based on their size, location, vegetative composition and availability of food, some of these movement areas, e.g., large drainages and canyons, are used for longer lengths of time and serve as source areas for food, water and cover, particularly for small- and medium-sized animals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles (such as roads and highways), the remaining landscape features or travel routes that connect the larger open space areas become corridors as long as they provide adequate space, cover, food and water, and do not contain obstacles or distractions, e.g., man-made noise, lighting, that would generally hinder wildlife movement.

In general, animals discussed in the context of movement corridors typically include larger, more mobile mammalian species that are restricted to ground movements (such as mule deer, black bear, mountain lion, fox [*Urocyon* sp.], and coyote). Most of these species have relatively large home ranges through which they move to find adequate food, water, and breeding and wintering habitat. It is assumed that corridors that serve larger, more agile species (those that can move freely, such as birds) also serve as corridors for many smaller, less mobile species, such as reptiles, amphibians, and rodents (generally discussed within the context of local movement). For smaller species, these local movements are compared to “stepping stones” as individuals move between populations; this facilitates gene flow on the regional scale.

The availability of open space corridors is generally considered less important for bird species. Most bird species are believed to fly in more or less direct paths to desired locations; however, some habitat specialists may not move great distances from their preferred habitat types, and are believed to be less inclined to travel across unsuitable areas.

Ideally, an open space corridor should encompass a heterogeneous mix of vegetation types to accommodate the ecological requirements of a wide variety of resident species in any particular region. Most species typically prefer overhead vegetative cover during movement, which can serve as both a food source and as protection from weather and predators. Drainages, riparian areas, and forested canyon bottoms typically serve as natural movement corridors because these features provide cover, food, and often water for a variety of species. Very few species will move across large expanses of open, uncovered habitat unless it is the only option available to them.

For some species, landscape linkages must be able to support animals for sustained periods, not just for travel. Smaller or less mobile animals (such as rodents and reptiles) require long periods to traverse a corridor, so the corridor must contain adequate food and cover for survival.

The Proposed Project occurs largely within existing right-of-way and disturbed areas. In the region surrounding the Study Area, there are only two large, contiguous, high-value habitat blocks that are important relative to wildlife connectivity and that are traversed by the Proposed Project. These two areas include San Gabriel-San Bernardino Connection area and Reche Canyon (Exhibit 19).

The San Gabriel-San Bernardino Connection is generally located along the Cajon Pass, where the San Gabriel and San Bernardino Mountains meet. This area is traversed by the North Fork of Lytle Creek, Cajon Wash, and the San Andreas Rift Zone, and it connects two expansive areas of the Angeles and San Bernardino National Forests. The varying topography and vegetation types present provide a variety of microhabitats that support a rich diversity of natural communities, from Coastal Sage Scrub and Alluvial Fan habitats in the southern foothills; Chaparral, Mixed Conifer, and Oak Woodlands in the central part of the linkage; transitioning to Pinyon-Juniper Woodlands and Desert Scrub in the north (South Coast Wildlands 2008). Also occurring in the San Gabriel-San Bernardino Connection area is I-15 and SR-138, which are the major transportation routes and pose the most substantial barriers to wildlife movement in this area (South Coast Wildlands 2008). I-15 is by far the most severe impediment, bisecting the linkage for a distance of roughly 17 miles. This area also includes the I-15 Cajon Pass Energy Corridor. This Energy Corridor covers an area of 23,140 acres along 12 miles and supports electric transmission lines, fuel pipelines, railroads, and fiber optic lines.

As part of the Western Riverside County MSHCP, “linkages” were identified that may provide movement habitat and limited live-in habitat for some species. Linkage 4 is comprised of generally upland habitat in Reche Canyon (MCHCP ref). Linkage 4 provides habitat for species known to occur in Chaparral and Coastal Sage Scrub habitats including Bell’s (sage) sparrow (*Artemisiospiza bellii*), Stephens’ kangaroo rat, bobcat, and Nevin’s barberry (*Berberis nevinii*). This linkage likely provides for movement of common mammals such as bobcat, connecting to Box Springs Reserve, the Badlands, and San Bernardino County. The Reche Canyon area represents one of the largest intact Core Areas within this MSHCP Plan Area; therefore, maintenance of existing large habitat blocks is important for species and reserve design. The linkage is relatively unconstrained by adjacent planned Rural Mountainous land uses.

5.4 SPECIAL STATUS SPECIES/RESOURCES

This section addresses special status biological resources reported from the region. These resources include plant and wildlife species that have been afforded special status and/or are recognized by federal and State resource agencies, the SBNF, and private conservation organizations. In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting in most cases from habitat loss. This list includes species reported by the CNDDDB, the California Rare Plant Rank (CRPR), and SBNF and is supplemented with species from the author’s experience that could occur based on the presence of suitable habitat. In addition, special status biological resources include vegetation types and habitats that are either unique, of relatively limited distribution in the region, or of particularly high wildlife value. These resources have been defined by federal, State, and local government conservation programs. Sources used to determine the special status of biological resources are listed below.

- **Habitats** – the CDFW’s CNDDDB (CDFW 2015) and the *List of Vegetation Alliances and Associations, Vegetation Classification and Mapping Program* (CDFG 2010).

- **Plants** – the California Native Plant Society’s (CNPS’) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2014); the CNDDDB (CDFW 20115); various USFWS *Federal Register* notices regarding listing status of plant species; the CDFW’s *List of Special Vascular Plants, Bryophytes, and Lichens* (CDFW 2015); and the SBNF Sensitive Species List (USFS 2014).
- **Wildlife** – the CNDDDB (CDFW 2015); various USFWS *Federal Register* notices regarding listing status of wildlife species; the CDFW’s *List of Special Animals* (CDFW 2015); and the SBNF Sensitive Species List (USFS 2014).

5.4.1 **Special Status Resource Definitions**

A federally Endangered species is one facing extinction throughout all or a significant portion of its geographic range. A federally Threatened species is one likely to become Endangered in the foreseeable future throughout all or a significant portion of its range. The presence of any federally Endangered or Threatened species in a project impact area generally imposes severe constraints on development, particularly if an action would result in “take” of the species or its habitat. The FESA defines the term “take” as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct. Harm, in this sense, can include any disturbance of habitats used by the species during any portion of its life history.

Proposed species or Candidate species are those officially proposed by the USFWS for addition to the federal Threatened and Endangered species list. Because Proposed and Candidate species may soon be listed as Threatened or Endangered, the presence of a Proposed or Candidate species may impose constraints on development if they are listed prior to an action, particularly if the action would result in “take” of the species or its habitat.

SBNF defines Sensitive species as plant and wildlife species for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density and/or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

SBNF Watch List species are those that the local biologists and botanists have expressed concern about viability either because of apparent downward trends, apparent changes in habitat availability, vulnerability of associated habitats, or very narrow or localized distributions. Because of limited knowledge and/or understanding of some species, it may not yet be known whether listing as Sensitive is warranted (the effort to gather such information is one of the purposes of the Watch List).

The State of California considers an Endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A Threatened species 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; and a Rare species as one present in such small numbers throughout its range that it may become Endangered if its present environment worsens. Rare species applies only to California native plants — these species are treated as State-listed species. Under CESA, “take” is defined as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The presence of any State-listed Rare, Threatened, or Endangered species generally imposes constraints on proposed actions, particularly if the action would result in “take” of the species or its habitat.

California Species of Special Concern is an informal designation used by the CDFW for some declining wildlife species that are not State Candidates. This designation does not provide legal protection, but signifies that these species are recognized as special status by the CDFW. Section 15380 of the State CEQA Guidelines states that a lead agency can consider a non-listed

species, e.g., California Species of Special Concern, to be Endangered, Rare, or Threatened for the purposes of CEQA if the species can be shown to meet the criteria in the definition of “Rare” or “Endangered.” In addition, CDFW maintains a Special Animals List. The designations within the Special Animals List includes listing status from CDFW, USFWS, USFS, and other conservation organizations. Within this list, CDFW also identifies migratory birds, nest sites, behaviors, or certain parts of a wildlife species range or life history that is of concern to the State. These areas are in described in parenthesis () in the Special Animals List and are included here accordingly. In this analysis, these species are considered “special status” on for the life cycle designated in the parenthetical.

Species that are California Fully Protected and Protected include those protected by special legislation for various reasons, such as the mountain lion and white-tailed kite (*Elanus leucurus*). Fully Protected species may not be taken or possessed at any time.

The California Rare Plant Rank (CRPR), formerly known as CNPS List, is a ranking system by the Rare Plant Status Review group⁶ and managed by the CNPS and the CDFW. A CRPR summarizes information on the distribution, rarity, and endangerment of California’s vascular plants. Plants with a CRPR of 1A are presumed extinct in California because they have not been seen in the wild for many years. Plants with a CRPR of 1B are Rare, Threatened, or Endangered throughout their range. Plants with a CRPR of 2A are presumed extirpated from California, but are more common elsewhere. Plants with a CRPR of 2B are considered Rare, Threatened, or Endangered in California, but are more common elsewhere. Plants with a CRPR of 3 require more information before they can be assigned to another rank or rejected; this is a “review” list. Plants with a CRPR of 4 are of limited distribution or infrequent throughout a broader area in California: this is a “watch” list. The Threat Rank is an extension added onto the CRPR to designate the level of endangerment by a 1 to 3 ranking. An extension of .1 is assigned to plants that are considered to be “seriously threatened” in California (i.e., over 80 percent of the occurrences are threatened or having a high degree and immediacy of threat). Extension .2 indicates the plant is “fairly threatened” in California (i.e., between 20 and 80 percent of the occurrences are threatened or have a moderate degree and immediacy of threat). Extension .3 is assigned to plants that are considered “not very threatened” in California (i.e., less than 20 percent of occurrences are threatened or have a low degree and immediacy of threat or no current threats known). The absence of a threat code extension indicates plants lacking any threat information.

5.4.2 Special Status Vegetation Types

In addition to providing an inventory of special status plant and wildlife species, the CNDDDB also provides an inventory of vegetation types that are considered special status by the State and federal resource agencies, academic institutions, and various conservation groups (such as the CNPS). Determination of the level of imperilment is based on the NatureServe Heritage Program Status Ranks that rank both species and vegetation types on a global (G) and statewide (S) basis according to their rarity, trend in population size or area, and recognized threats, e.g., proposed developments, habitat degradation, and non-native species invasion. The ranks are scaled from 1 to 5. NatureServe considers G1 or S1 communities to be critically imperiled and at a very high risk of extinction or elimination due to extreme rarity, very steep declines, or other factors; G2 or S2 communities to be imperiled and at high risk of extinction or elimination due to very restricted range, very few populations or occurrences, steep declines, or other factors; G3 or S3 communities to be vulnerable and at moderate risk of extinction or elimination due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors; G4 or S4 communities to be apparently secure and uncommon but not rare with some cause for

⁶ A group of over 300 botanical experts from the government, academia, non-governmental organizations, and the private sector.

long-term concern due to declines or other factors; and, G5 or S5 communities to be secure (Faber-Langendoen et al. 2009).

All vegetation alliances⁷ that have State ranks of S1, S2, or S3 are considered to be highly imperiled. Currently, association ranks are not provided, but associations ranked as S3 or rarer are noted. Most vegetation types have received these ranks based on the dominant species in the vegetation type corresponding to the rank of the vegetation alliance. Some vegetation types are not ranked due to the dominant species not being listed in Sawyer et al. (2009) as corresponding to a vegetation alliance, i.e., Flood Plain Scrub.

While the Global/State rankings of many coastal scrub communities indicate that they are secure or apparently secure, they are of local concern because they have potential to support Threatened or Endangered species. Coastal scrub had, as a whole, declined approximately 70 to 90 percent in its historic range in California by the mid-1990s (Noss and Peters 1995). Coastal scrub has largely been lost to land use changes in Southern California basins and foothills. The ecological function of Southern California's remaining coastal scrub is threatened by habitat fragmentation and degradation, which is largely the result of invasive non-native species, livestock grazing, off-highway vehicles, altered fire regime, and air pollution (O'Leary 1995; Allen et al. 2000). For these reasons, we are treating coastal scrub communities as special status.

Vegetation alliances dominated by hydrophytic vegetation occur in areas often considered wetlands and other "waters of the U.S.", which are protected under Section 404 of the CWA and Section 1600, *et seq.* of the *California Fish and Game Code*, and are thus under the respective jurisdictions of the USACE and CDFW. "Waters of the U.S." include navigable coastal and inland waters, lakes, rivers, streams and their tributaries; interstate waters and their tributaries; wetlands adjacent to such waters; intermittent streams; and other waters that could affect interstate commerce. A stream subject to CDFW jurisdiction includes all portions of the bed, banks, and channel of any stream, including intermittent and ephemeral streams, extending laterally to the upland edge of riparian vegetation. CDFW's jurisdiction includes wetlands when they are within or adjacent to state regulated streams. For these reasons, we are treating these vegetation alliances, designated JD in Table 4, as special status.

Fifty-five vegetation types in the Study Area are considered special status (Table 4; Exhibit 20).

**TABLE 4
SPECIAL STATUS VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Global/State Threat Ranking	Special Status Rationale
<u>Chaparral Communities</u>			
Chamise Chaparral	864.48	G5 S5	–
Disturbed Chamise Chaparral	1.01	G5 S5	–
Burned Chamise Chaparral	134.89	G5 S5	–
Chamise Chaparral/Annual Grass-Forb	216.03	G5 S5	–
Disturbed Chamise Chaparral/Annual Grass-Forb	9.99	G5 S5	–
Burned Chamise Chaparral/Annual Grass-Forb	59.42	G5 S5	–

⁷ A vegetation alliance is "a classification unit of vegetation, containing one or more associations and defined by one or more diagnostic species, often of high cover, in the uppermost layer or the layer with the highest canopy cover" (Sawyer et al. 2009).

**TABLE 4
SPECIAL STATUS VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Global/State Threat Ranking	Special Status Rationale
Chamise Chaparral–California Buckwheat Scrub	102.33	G5 S5	–
Chamise–California Buckwheat Scrub–Chaparral White Thorn Chaparral	1.37	G5 S5	–
Chamise–Black Sage Chaparral	9.80	G5 S5	–
Chamise–Black Sage–Mixed Shrub Chaparral	42.25	G5 S5	–
Chamise Chaparral–Hairy Yerba Santa Scrub	86.98	G5 S5	–
Chamise–Birch Leaf Mountain Mahogany Chaparral	12.71	G5 S5	–
Chamise Chaparral–Brittle Bush Scrub	7.36	G5 S5	–
Chamise Chaparral–Rubber Rabbitbrush Scrub	12.89	G5 S5	–
Chamise–Chaparral White Thorn Chaparral	13.70	G5 S5	–
Chaparral White Thorn Chaparral	73.87	G4 S4	–
Burned Chaparral White Thorn Chaparral	2.45	G4 S4	–
Chaparral White Thorn–Birch Leaf Mountain Mahogany Chaparral	41.36	G4 S4	–
Hoary Leaf Ceanothus Chaparral	11.58	G4 S4	–
Burned Hoary Leaf Ceanothus Chaparral	1.32	G4 S4	–
Hoary Leaf Ceanothus–Chamise Chaparral	99.27	G4 S4	–
Burned Hoary Leaf Ceanothus–Chamise Chaparral	32.95	G4 S4	–
Hoary Leaf Ceanothus–Birch Leaf Mountain Mahogany Chaparral	3.60	G4 S4	–
Scrub Oak Chaparral	6.97	G4 S4	–
Scrub Oak–Chamise–Hoary Leaf Ceanothus Chaparral	41.51	G4 S4	–
Tucker Oak Chaparral	188.10	G4 S4	–
Burned Tucker Oak Chaparral	132.23	G4 S4	–
Tucker Oak–Chamise Chaparral	19.06	G4 S4	–
Birch Leaf Mountain Mahogany Chaparral	35.86	G5 S4	–
Sugarbush Chaparral	11.71	G4 S4	–
<u>Coastal Scrub Communities</u>			
California Sagebrush Scrub	171.77	G5 S5	Coastal Scrub
Disturbed California Sagebrush Scrub	62.05	G5 S5	Coastal Scrub
California Sagebrush–California Buckwheat Scrub	20.95	G4 S4	Coastal Scrub
Disturbed California Sagebrush–California Buckwheat Scrub	5.68	G4 S4	Coastal Scrub
California Sagebrush–California Buckwheat–White Sage Scrub	14.16	G4 S4	Coastal Scrub
California Buckwheat Scrub	189.86	G5 S5	Coastal Scrub
Disturbed California Buckwheat Scrub	59.12	G5 S5	Coastal Scrub
California Buckwheat–Brittle Bush Scrub	3.22	G5 S5	Coastal Scrub

**TABLE 4
SPECIAL STATUS VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Global/State Threat Ranking	Special Status Rationale
California Buckwheat–White Sage Scrub	2.99	G5 S5	Coastal Scrub
California Buckwheat–Chaparral Yucca Scrub	4.46	G5 S5	Coastal Scrub
California Buckwheat–Rubber Rabbitbrush Scrub	0.93	G5 S5	Coastal Scrub
Brittle Bush Scrub	50.19	G5 S4	Coastal Scrub
Disturbed Brittle Bush Scrub	102.24	G5 S4	Coastal Scrub
Burned Brittle Bush Scrub	0.50	G5 S4	Coastal Scrub
Brittle Bush–California Sagebrush Scrub	2.42	G5 S4	Coastal Scrub
Deer Weed Scrub	17.39	G5 S5	Coastal Scrub
Basket Bush Thickets–Hairy Yerba Santa Scrub	10.19	G4 S3	S3
Hairy Yerba Santa Scrub	16.68	G3 S3	S3
Disturbed Hairy Yerba Santa Scrub	4.43	G3 S3	S3
Hairy Yerba Santa–Black Sage Scrub	21.54	G3 S3	S3
Black Sage Scrub	3.96	G4 S4	Coastal Scrub
Narrowleaf Goldenbush Scrub	6.33	G3 S3	S3
Desert Scrub Communities			
Joshua Tree Woodland	109.51	G4 S3	S3
Disturbed Joshua Tree Woodland	9.40	G4 S3	S3
Burned Joshua Tree Woodland	1.90	G4 S3	S3
Creosote Bush Scrub/Joshua Tree Woodland	22.76	G4 S3	S3
Creosote Bush–Nevada Joint Fir Scrub	2.96	G5 S5	–
Creosote Bush–Rubber Rabbitbrush Scrub	13.62	G5 S5	–
Creosote Bush–White Burr Sage Scrub	690.73	G5 S5	–
Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland	165.99	G4 S3	S3
Bladder Sage Scrub	6.23	G4 S4	–
Bladder Sage–Rubber Rabbitbrush Scrub	34.91	G4 S4	–
Big Sagebrush Scrub	14.84	G5 S5	–
Rubber Rabbitbrush Scrub	198.21	G5 S5	–
Disturbed Rubber Rabbitbrush Scrub	16.20	G5 S5	–
Fourwing Saltbush Scrub	17.95	G5 S4	–
Cheesebush Scrub	6.47	G5 S4	–
Disturbed Cheesebush Scrub	40.48	G5 S4	–
Nevada Joint Fir Scrub	59.86	G4 S4	–
Nevada Joint Fir Scrub/Joshua Tree Woodland	0.50	G4 S3	S3

**TABLE 4
SPECIAL STATUS VEGETATION TYPES IN THE STUDY AREA**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Global/State Threat Ranking	Special Status Rationale
<u>Herbaceous Communities</u>			
Salt Grass Flats–Mexican Rush Thicket	1.18	G5 S4	–
Disturbed Desert Needlegrass Grassland	38.36	G4 S2	S2
Red Brome Grasslands	422.35	–	–
Ruderal	168.56	–	–
<u>Riparian Communities</u>			
Fremont Cottonwood Forest	12.96	G4 S3	S3
Fremont Cottonwood Forest–Arroyo Willow Thickets	67.31	G4 S3	S3
Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets	7.86	G4 S3	S3
Fremont Cottonwood Forest/Mulefat Thickets	1.71	G4 S3	S3
California Sycamore Woodlands–Fremont Cottonwood Forest	0.69	G3 S3	S3
California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets	9.51	G3 S3	S3
Arroyo Willow Thickets	1.61	G4 S4	JD
Arroyo Willow/Mulefat Thickets	1.85	G4 S4	JD
Sandbar Willow Thickets	1.80	G5 S4	JD
Mulefat Thickets	9.68	G5 S5	JD
Disturbed Mulefat Thickets	1.40	G5 S5	JD
Scale Broom Scrub	92.05	G3 S3	S3
Scale Broom–California Buckwheat Scrub	20.47	G3 S3	S3
Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub	12.02	G3 S3	S3
Scale Broom Scrub–Mulefat Thickets	4.17	G3 S3	S3
Flood Plain Scrub	18.39	–	JD
Vegetated Channel	4.64	–	JD
Unvegetated Channel	38.93	–	JD
Open Water	4.09	–	–
<u>Woodland Communities</u>			
Coast Live Oak Woodland	5.01	G5 S4	–
California Walnut Woodland	4.74	G3 S3	S3
California Sycamore Woodlands	17.82	G3 S3	S3
Disturbed California Sycamore Woodlands	1.05	G3 S3	S3
Burned California Sycamore Woodlands	3.40	G3 S3	S3
Burned California Sycamore Woodlands/Chaparral White Thorn Chaparral	44.97	G3 S3	S3
Blue Elderberry Stands	3.89	G3 S3	S3
California Juniper Woodland	33.39	G4 S4	–
Burned California Juniper Woodland	2.74	G4 S4	–
<u>Non-Native and Disturbed Communities</u>			
Agriculture	698.89	–	–
Ornamental	165.32	–	–
Eucalyptus Groves	30.87	–	–

TABLE 4
SPECIAL STATUS VEGETATION TYPES IN THE STUDY AREA

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Global/State Threat Ranking	Special Status Rationale
Developed	5,058.09	–	–
Disturbed Habitat	561.41	–	–
<p>Global/State Threat Rankings G2/S2: imperiled and at high risk of extinction or elimination due to very restricted range, very few populations or occurrences, steep declines, or other factors. G3/S3: communities vulnerable and at moderate risk of extinction or elimination due to a restricted range, relatively few populations or occurrences, recent and widespread declines, or other factors. G4/S4: apparently secure and uncommon, but not rare with some cause for long-term concern due to declines or other factors. G5/S5: secure.</p> <p>Boldface type indicates Special Status vegetation types.</p> <p>Source (threat codes): Sawyer et al. 2009</p>			

5.4.3 Special Status Plant Species

Based on the results of the literature review described above in Section 4.1, 103 special status plant species have been reported from the Proposed Project region. Table 5 provides a list of special status plant species that were observed or have a low, moderate, or high potential to occur within the Study Area. The table identifies the species; their listing status; their preferred habitat; a determination if suitable habitat is present within the Study Area; and, whether or not they were observed during focused surveys. The potential occurrence for each species was identified by a botanist based on the following criteria:

Not expected: Species has an extremely limited or no potential to occur within the Study Area due to factors including, but not limited to: absence of suitable habitat; Study Area distance from nearest known location is greater than twenty miles; species is believed to be extirpated from the vicinity of the Study Area; elevation range over 200 feet of the lowest or highest recorded elevation for the species; and/or, required soils are not present.

Low: Species has low potential to occur within the Study Area due to factors including, but not limited to: very poor habitat quality; Study Area distance from nearest known location is greater than five miles; records in the vicinity of the Study Area are historic (i.e. greater than 20 years old); elevation range of the Study Area is within 200 feet of the lowest or highest recorded elevation for the species; and/or, required or preferred soils are of degraded quality.

Moderate: Species has moderate potential to occur within the Study Area. This species would have been characterized as having high potential; however, factors such as degraded habitat quality and/or absence of preferred soils reduce the potential of the species to occur.

High: Species has high potential to occur within the Study Area. The habitat and soil requirements are found in good or better condition within the Study Area and the Study Area is easily within the known elevation range for this species. Species that are observed within the Study Area have a high potential to occur.

In-depth descriptions of each plant species that was observed or has a low, moderate, or high potential to occur within the Study Area follow the table. Species that were observed during the focused surveys are displayed in Exhibit 21. A complete list of all special status plant species and in-depth descriptions of each with potential to occur in the Study Area, including those not expected to occur, are included in Appendix C. Note that plant species are grouped alphabetically according to their scientific name. The complete Results of Focused Special Status Plant Surveys for the Proposed Project, which includes detailed survey methods and collected data, is provided in Attachment 1.

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ³ /Occurrence
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	-/SBNF SS/-/1B.1	Annual herb. Sandy soils in chaparral, coastal scrub, and desert dunes; approximately 250–5,250 ft above msl. Blooming period: January–September	Yes	High potential to occur/not observed during focused surveys
<i>Acanthoscyphus parishii</i> var. <i>parishii</i>	Parish's oxytheca	-/-/-/4.2	Annual herb. Sandy to gravelly soil in chaparral and lower montane coniferous forest; approximately 4,000–8,500 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Asplenium vespertinum</i>	western spleenwort	-/-/-/4.2	Perennial rhizomatous herb. Rocky areas in chaparral, cismontane woodland, and coastal scrub; approximately 590–3,300 ft above msl. Blooming period: February–June	Yes	High potential to occur/not observed during focused surveys
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE/-/-/1B.2	Annual and perennial herb. Desert dunes and Sonoran desert scrub in sandy soils; approximately 130–2,150 ft above msl. Blooming period: February–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's bush milk-vetch	-/SBNF SS/-/1B.1	Perennial shrub. Sandy or rocky soils in chaparral, cismontane woodland, coastal scrub, and grassland; approximately 1,200–3,000 ft above msl. Blooming period: December–June	Yes	High potential to occur/not observed during focused surveys
<i>Astragalus tricarinatus</i>	triple ribbed milk-vetch	FE/-/-/1B.2	Perennial herb. Sandy to gravelly soil in Joshua tree woodland and Sonoran Desert scrub; approximately 1,500–3,900 ft above msl. Blooming period: February–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT/-/SE/1B.1	Perennial bulbiferous herb. Often found in clay soils in openings in chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools; approximately 80–3,700 ft above msl. Blooming period: March–June	No	Low potential to occur/not observed during focused surveys
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa lily	-/SBNF SS/-/1B.2	Perennial bulbiferous herb. Chaparral, lower montane coniferous forest, meadows and seeps; approximately 4,000–7,200 ft above msl. Blooming period: May–July	Yes	Low potential to occur/not observed during focused surveys
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	-/SBNF SS/-/1B.2	Perennial bulbiferous herb. Mesic soils in chaparral, lower montane coniferous forests, meadows and seeps; approximately 3,280–7,800 ft above msl. Blooming period: April–July	Yes	Low potential to occur/not observed during focused surveys
<i>Calochortus plummerae</i>	Plummer's mariposa lily	-/SBNF WL/-/4.2	Perennial bulbiferous herb. Granitic and rocky areas in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland; approximately 330–5,550 ft above msl. Blooming period: May–July	Yes	Observed during focused surveys

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ³ /Occurrence
<i>Canbya candida</i>	white pygmy-poppy	-/SBNF SS/-/4.2	Annual herb. Gravelly, sandy, or granitic soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; approximately 2,000–4,800 ft above msl. Blooming period: March–June	Yes	High potential to occur/not observed during focused surveys
<i>Castilleja plagiotoma</i>	Mojave paintbrush	-/SBNF SS/-/4.3	Hemiparasitic perennial herb. Great basin scrub (alluvial soils), lower montane coniferous forests, Joshua tree, pinyon and juniper woodland; approximately 1,000–8,200 ft above msl. Blooming period: April–June	Yes	High potential to occur/not observed during focused surveys
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	-/-/-/1B.1	Annual herb. Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland; approximately 0–2,100 ft above msl. Blooming period: April–September	Yes	Low potential to occur/not observed during focused surveys
<i>Chorizanthe leptotheca</i>	peninsular spineflower	-/-/-/4.2	Annual herb. Alluvial fans or granitic areas in chaparral, coastal scrub, and lower montane coniferous forest; approximately 1,000–6,200 ft above msl. Blooming period: May–August	Yes	High potential to occur/not observed during focused surveys
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	-/SBNF SS/-/1B.1	Annual herb. Sandy or rocky openings in chaparral, coastal scrub, cismontane woodland, and valley and foothill grassland; approximately 900–4,000 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys
<i>Chorizanthe spinosa</i>	Mojave spineflower	-/-/-/4.2	Annual herb. Sometimes alkaline soils in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; approximately 20–4,300 ft above msl. Blooming period: March–July	Yes	Moderate potential to occur/not observed during focused surveys
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	-/SBNF SS/-/1B.2	Annual herb. Sandy or gravelly soils in coastal scrub alluvial fans, Mojavean desert scrub, and pinyon and juniper woodland; approximately 1,000–4,000 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys
<i>Deinandra paniculata</i>	paniculate tarplant	-/-/-/4.2	Annual herb. Usually found in vernal mesic soils in coastal scrub, valley and foothill grassland, and vernal pools; approximately 80–3,100 ft above msl. Blooming period: April–November	Yes	High potential to occur/not observed during focused surveys
<i>Ditaxis serrata</i> var. <i>californica</i>	California ditaxis	-/-/-/3.2	Perennial herb. Sandy soil in Mojavean or Sonoran desert scrub; approximately 0–1,500 ft above msl. Blooming period: March–December	Yes	Observed during focused surveys
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE/-/SE/1B.1	Annual herb. Sandy soils in chaparral, cismontane woodland, and alluvial fan coastal scrub; approximately 650–2,500 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys (60 feet outside study area)

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ³ /Occurrence
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FE/-SE/1B.1	Perennial herb. Sandy to gravelly soil in chaparral and coastal scrub in alluvial fans; approximately 300–2,000 ft above msl. Blooming period: April–September	Yes	Observed during focused surveys
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	-/SBNF SS/-/1B.1	Annual herb. Sandy or gravelly soils in chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland; approximately 3,600–7,300 ft above msl. Blooming period: July–October	Yes	Low potential to occur/not observed during focused surveys
<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	San Antonio Canyon bedstraw	-/SBNF WL/-/4.3	Perennial herb. Granitic, sandy, or rocky soil in chaparral, lower montane coniferous forest; approximately 4,000–8,700 ft above msl. Blooming period: April–August	Yes	Low potential to occur/not observed during focused surveys
<i>Galium johnstonii</i>	Johnston's bedstraw	-/SBNF WL/-/4.3	Perennial herb. Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland; approximately 4,000–7,500 ft above msl. Blooming period: June–July	Yes	Low potential to occur /not observed during focused surveys
<i>Heuchera caespitosa</i>	urn-flowered alumroot	-/SBNF SS/-/4.3	Perennial rhizomatous herb. Rocky soil in montane riparian forest, cismontane woodland, lower and upper montane coniferous forest; approximately 3,800–8,700 ft above msl. Blooming period: May–August	Yes	Low potential to occur/not observed during focused surveys
<i>Hordeum intercedens</i>	vernal barley	-/-/-/3.2	Annual herb. Coastal dunes, coastal scrub, saline flats and depressions in valley and foothill grassland, and vernal pools; approximately 20–3,300 ft above msl. Blooming period: March–June	Yes	Low potential to occur/not observed during focused surveys
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	-/SBNF SS/-/1B.1	Perennial herb. Sandy and gravelly soils in maritime chaparral, cismontane woodland, and coastal scrub; approximately 230–2,700 ft above msl. Blooming period: February–September	Yes	High potential to occur/not observed during focused surveys
<i>Imperata brevifolia</i>	California satintail	-/SBNF SS/-/2B.1	Perennial rhizomatous herb. Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, riparian scrub, meadows and seeps (often alkali); approximately 0–4,000 ft above msl. Blooming period: September–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Juglans californica</i>	Southern California black walnut	-/SBNF WL/-/4.2	Deciduous tree. Alluvial areas in chaparral, cismontane woodland, and coastal scrub; approximately 160–3,000 ft above msl. Blooming period: March–August	Yes	Observed during focused surveys
<i>Lepechinia fragrans</i>	fragrant pitcher sage	-/SBNF SS/-/4.2	Perennial herb. Chaparral; approximately 70–4,300 ft above msl. Blooming period: March–October	Yes	High potential to occur/not observed during focused surveys
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	-/SBNF WL/-/4.3	Annual herb. Openings in chaparral and sage scrub; approximately 0–2,900 ft above msl. Blooming Period: January–July	Yes	High potential to occur/not observed during focused surveys

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ³ /Occurrence
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	-/SBNF WL-/4.2	Perennial bulbiferous herb. Openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland; approximately 100–5,900 ft) above msl. Blooming period: March–August	Yes	High potential to occur/not observed during focused surveys
<i>Linanthus maculatus</i>	Little San Bernardino Mountains linanthus	-/SBNF WL-/1B.2	Annual herb. Sandy soils in desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub; approximately 640–6,800 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	-/-/2B.2	Annual herb. Sandy soil in desert dunes, great basin scrub, and Sonoran desert scrub; approximately 2,300–5,300 ft above msl. Blooming period: April–May	Yes	Low potential to occur/not observed during focused surveys
<i>Mentzelia tricuspis</i>	spiny-hair blazing star	-/-/2B.1	Annual herb. Sandy or gravelly slopes, and washes in Mojavean desert scrub; approximately 500–4,200 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys
<i>Monardella saxicola</i>	rock monardella	-/SBNF SS-/4.2	Perennial rhizomatous herb. Rocky, usually serpentinite soils in chaparral, closed-cone and lower montane coniferous forest; approximately 1,640–5,900 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Muhlenbergia californica</i>	California muhly	-/SBNF WL-/4.3	Perennial rhizomatous herb. Mesic soils and seeps and streambeds; approximately 330–6,560 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Muilla coronata</i>	crowned muilla	-/SBNF WL-/4.2	Perennial bulbiferous herb. Chenopod scrub, Mojavean desert scrub, Joshua tree and pinyon and juniper woodland; approximately 2,500–6,400 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	-/-/2B.2	Annual herb. Coastal dunes, desert dunes, and Sonoran desert scrub; approximately 30–1,600 ft above msl. Blooming period: March–May	Yes	Low potential to occur/not observed during focused surveys
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	-/SBNF SS-/1B.2	Stem succulent shrub. Chaparral, Mojavean desert scrub, Joshua tree, pinyon and juniper woodland; approximately 1,400–5,900 ft above msl. Blooming period: April–August	Yes	Observed during focused surveys
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	-/-/1B	Perennial herb. Sandy washes and roadcuts in Joshua tree woodland and Mojavean desert scrub; approximately 2,000–5,000 ft above msl. Blooming period: April–May	Yes	High potential to occur/not observed during focused surveys
<i>Plagiobothrys collinus</i> var. <i>ursinus</i>	Bear Valley popcornflower	-/SBNF SS/-/-	Annual herb. Sandy to gravelly soils in open conifer forest; approximately 3,600–7,870 ft above msl. Blooming period: likely March–June (Baldwin et al. 2012).	Yes	High potential to occur/not observed during focused surveys

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a /Occurrence
<i>Quercus durata</i> var. <i>gabrielensis</i>	San Gabriel oak	-/-/4.2	Evergreen shrub. Chaparral and cismontane woodland; approximately 1,500–3,300 ft above msl. Blooming period: April–May	Yes	Observed during focused surveys
<i>Romneya coulteri</i>	Coulter's matilija poppy	-/-/4.2	Perennial rhizomatous herb. Chaparral and coastal scrub; often in burned areas; approximately 65–4,000 ft above msl. Blooming period: March–July	Yes	Observed during focused surveys
<i>Selaginella eremophila</i>	desert spike-moss	-/-/2B.2	Perennial rhizomatous herb. Chaparral and Sonoran desert scrub on gravelly or rocky soils; approximately 700–3,000 ft above msl. Blooming period: May–July	Yes	High potential to occur/not observed during focused surveys
<i>Senecio astephanus</i>	San Gabriel ragwort	-/-/4.3	Annual herb. Chaparral, cismontane woodland, coastal scrub, and alkaline flats; approximately 50–2,600 ft above msl. Blooming period: January–April	Yes	High potential to occur/not observed during focused surveys
<i>Senna covesii</i>	Cove's senna	-/-/2B.2	Perennial herb. Sandy Sonoran desert scrub; approximately 900–3,500 ft above msl. Blooming period: March–June.	Yes	High potential to occur/not observed during focused surveys
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom	-/SBNF SS/-/2B.2	Perennial herb. Alkaline and mesic soils within chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas; approximately 50–5,000 ft above msl. Blooming period: March–June	Yes	Moderate potential to occur/not observed during focused surveys
<i>Sphenopholis obtusata</i>	prairie wedge grass	-/-/2B.2	Perennial herb. Mesic soils within cismontane woodland, and meadows and seeps; approximately 1,000–6,600 ft above msl. Blooming period: April–July	Yes	Low potential to occur/not observed during focused surveys
<i>Streptanthus bernardinus</i>	Laguna Mountains jewel-flower	-/SBNF WL/-/4.3	Perennial herb. Chaparral and lower montane coniferous forest; approximately 2,200–8,200 ft above msl. Blooming period: May–August	Yes	High potential to occur/not observed during focused surveys
<i>Streptanthus campestris</i>	southern jewel-flower	-/SBNF SS/-/1B.3	Perennial herb. Rocky areas in chaparral, lower montane coniferous forest, pinyon and juniper woodland; approximately 3,000–7,500 ft above msl. Blooming period: April–July	Yes	High potential to occur/not observed during focused surveys
<i>Symphotrichum defoliatum</i>	San Bernardino aster	-/SBNF SS/-/1B.2	Perennial rhizomatous herb. Near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernal mesic grassland; approximately 0–7,000 ft above msl. Blooming period: July–November	Yes	Low potential to occur/not observed during focused surveys
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	-/-/2B.1	Annual herb. Alkaline soils in meadows, seeps, marshes, swamps, riparian forests, and vernal pools; approximately 20–1,400 f above msl. Blooming period: May–September	Yes	Not expected to occur/not observed during focused surveys

**TABLE 5
SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a /Occurrence									
<i>Viola purpurea</i> ssp. <i>aurea</i>	golden violet	-/SBNF WL/-/2B.2	Perennial herb. Sandy soils in Great Basin scrub and pinyon and juniper woodland; approximately 3,280–8,200 ft above msl. Blooming period: April–June	No	Not expected to occur/not observed during focused surveys									
<p>m: meters; ft: feet; msl: mean sea level</p> <table border="0"> <tr> <td>Federal (USFWS)</td> <td>Federal (SBNF)</td> <td>STATE (CDFW)</td> </tr> <tr> <td>FE Endangered</td> <td>SBNF SS SBNF Sensitive species</td> <td>SE Endangered</td> </tr> <tr> <td>FT Threatened</td> <td>SBNF WL SBNF Watch List species</td> <td>ST Threatened</td> </tr> </table> <p>CRPR List Categories List 1A Plants Presumed Extinct in California List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere List 2B Plants Rare, Threatened, or Endangered in California But More Common Elsewhere List 3 Plants that require more information before they can be assigned to another rank or rejected List 4 Plants of Limited Distribution – A Watch List</p> <p>CRPR Threat Code Extensions None Plants lacking any threat information .1 Seriously Endangered in California (over 80% of occurrences threatened; high degree and immediacy of threat) .2 Fairly Endangered in California (20–80% of occurrences threatened) .3 Not Very Threatened in California (less than 20% of occurrences threatened; low degree and immediacy of threat or no current threats known)</p> <p>* Source: CNPS 2015 unless otherwise indicated</p> <p>^a Potential (Low/Moderate/High) Definition</p> <p>Not expected: Species has an extremely limited or no potential to occur within the Study Area due to factors including, but not limited to: absence of suitable habitat; Study Area distance from nearest known location is greater than twenty miles; species is believed to be extirpated from the vicinity of the Study Area; elevation range over 200 feet of the lowest or highest recorded elevation for the species; and/or, required soils are not present.</p> <p>Low: Species has low potential to occur within the Study Area due to factors including, but not limited to: very poor habitat quality; Study Area distance from nearest known location is greater than five miles; records in the vicinity of the Study Area are historic, i.e. greater than 20 years old; elevation range of the Study Area is within 200 feet of the lowest or highest recorded elevation for the species; and, required or preferred soils are of degraded quality.</p> <p>Moderate: Species has moderate potential to occur within the Study Area. This species would have been characterized as having high potential; however, factors such as degraded habitat quality and/or absence of preferred soils reduce the potential of the species to occur.</p> <p>High: Species has high potential to occur within the Study Area. The habitat and soil requirements are found in good or better condition within the Study Area and the Study Area is easily within the known elevation range for this species.</p>						Federal (USFWS)	Federal (SBNF)	STATE (CDFW)	FE Endangered	SBNF SS SBNF Sensitive species	SE Endangered	FT Threatened	SBNF WL SBNF Watch List species	ST Threatened
Federal (USFWS)	Federal (SBNF)	STATE (CDFW)												
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Chaparral Sand-Verbena (*Abronia villosa* var. *aurita*)

The chaparral sand-verbena is an SBNF Sensitive species and has a CRPR of 1B.1. This annual herb in the Four O'Clock Family (Nyctaginaceae) is a California-endemic species. In the region of the Study Area, chaparral sand-verbena is known to occur in Imperial, Orange, Riverside, and San Diego Counties (CCH 2015). Chaparral sand-verbena can be found in sandy soils in Chaparral, Coastal scrub, and Desert dunes at an elevation range between approximately 250 and 5,250 feet above msl, and it blooms between January and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the chaparral sand-verbena has high potential to occur in the Study Area. Because this is an annual species, this species may not have germinated due to drought conditions even though suitable habitat is present.

Parish's Oxytheca (*Acanthoscyphus parishii* var. *parishii*)

Parish's oxytheca has a CRPR of 4.2. This annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, Parish's oxytheca is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). Parish's oxytheca can be found in sandy to gravelly soil in Chaparral and Lower montane coniferous forests at an elevation range between approximately 4,000 and 8,500 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The nearest observation is from the eastern San Gabriel Mountains, below Mount Baldy, approximately 10 miles from the Study Area. The Study Area does provide suitable habitat for this species, but the Study Area is at the lowest end of the elevation range; therefore, Parish's oxytheca has low potential to occur in the Study Area.

Singlewhorl Burrobush (*Ambrosia monogyra*)

The singlewhorl burrobush has a CRPR of 2B.2. This perennial shrub in the Sunflower Family (Asteraceae) is native to California, Arizona, New Mexico, and Texas. In the region of the Study Area, the singlewhorl burrobush is known to occur in Imperial, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The singlewhorl burrobush can be found in sandy soils in Chaparral, Coastal sage scrub, Sonoran desert scrub, and Washes at an elevation range between approximately 330 and 1,640 feet above msl, and it blooms between August and November (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round and would have been observed during surveys if present; therefore, the singlewhorl burrobush is not expected to occur in the Study Area.

Marsh Sandwort (*Arenaria paludicola*)

The marsh sandwort is a federally and State-listed Endangered species and it has a CRPR of 1B.1. This perennial stoloniferous herb in the Pink Family (Caryophyllaceae) is a California-endemic species. In the region of the Study Area, marsh sandwort is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The marsh sandwort can be found in sandy soils in marshes and swamps with brackish freshwater at an elevation range between approximately 10 and 600 feet above msl and blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable marsh and/or swamp habitat to support this species; therefore the marsh sandwort is not expected to occur in the Study Area.

San Diego Sagewort (Artemisia palmeri)

The San Diego sagewort has a CRPR of 4.2. This deciduous shrub in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the San Diego sagewort is known to occur in Orange, Riverside, and San Diego Counties (CCH 2015). The San Diego sagewort can be found in sandy soils in mesic areas in Chaparral, Coastal scrub, Riparian forest, Riparian scrub, and Riparian woodland at an elevation range between approximately 50 and 3,000 feet above msl, and it blooms between February and September (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round and would have been observed during surveys if present; therefore, the San Diego sagewort is not expected to occur in the Study Area.

Western Spleenwort (Asplenium vespertinum)

The western spleenwort has a CRPR of 4.2. This perennial rhizomatous herb in the Spleenwort Family (Aspleniaceae) is a California-endemic species. In the region of the Study Area, the western spleenwort is known to occur in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Western spleenwort can be found in rocky areas in Chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 590 and 3,300 feet above msl, and it blooms between February and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the western spleenwort has high potential to occur in the Study Area. However, due to drought conditions, the above ground structures of this perennial rhizomatous herb may not have been present even though there is suitable habitat.

Coachella Valley Milk-Vetch (Astragalus lentiginosus var. coachellae)

The Coachella Valley milk-vetch is a federally listed Endangered species that has a CRPR of 1B.2. This annual and perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the Coachella Valley milk-vetch is known to occur in Riverside County (CCH 2015). Coachella Valley milk-vetch can be found in Desert dunes and Sonoran desert scrub in sandy soils at an elevation range between approximately 130 and 2,150 feet above msl, and it blooms between February and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate elevation. However, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the Coachella Valley milk-vetch to be present. This species therefore has a moderate potential to occur in the Study Area.

Jaeger's Bush Milk-Vetch (Astragalus pachypus var. jaegeri)

Jaeger's bush milk-vetch is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial sub-shrub in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, Jaeger's bush milk-vetch is known to occur in Kern, Los Angeles, Orange, Riverside, and San Diego Counties (CCH 2015). Jaeger's bush milk-vetch can be found in sandy or rocky soils in Chaparral, Cismontane woodland, Coastal scrub, and Grassland at an elevation range between approximately 1,200 and 3,000 feet above msl, and it blooms between December and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate

elevation. This species has high potential to occur within the Study Area. However, due to drought conditions, this species may not have re-sprouted even though suitable habitat is present.

Triple Ribbed Milk-Vetch (Astragalus tricarinatus)

The Triple ribbed milk-vetch is a federally listed Endangered species and has a CRPR of 1B.2. This perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the triple ribbed milk-vetch is known to occur in Riverside and San Bernardino Counties (CCH 2015). Triple ribbed milk-vetch can be found in sandy to gravelly soil in Joshua tree woodland and Sonoran desert scrub at an elevation range between approximately 1,500 and 3,900 feet above msl, and it blooms between February and May (CNPS 2014). The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate elevation. However, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the triple ribbed milk-vetch to be present. This species therefore has a moderate potential to occur in the Study Area.

Thread-Leaved Brodiaea (Brodiaea filifolia)

The thread-leaved brodiaea is a federally listed Threatened and State-listed Endangered species that has a CRPR of 1B.1. This perennial cormous herb in the Brodiaea Family (Themidaceae) is a California-endemic species. In the region of the Study Area, the thread-leaved brodiaea is known to occur in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Thread-leaved brodiaea is often found in clay soils in openings in Chaparral, Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, and Vernal pools at an elevation range between approximately 80 and 3,700 feet above msl, and it blooms between March and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the thread-leaved brodiaea is not expected to occur in the Study Area.

San Jacinto Mariposa Lily (Calochortus palmeri var. munzii)

The San Jacinto mariposa lily is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, the San Jacinto mariposa lily is known to occur in Riverside and San Diego Counties (CCH 2015). The San Jacinto mariposa lily can be found in Chaparral, Lower montane coniferous forests, Meadows, and Seeps at an elevation range of approximately 4,000 and 7,200 feet above msl, and it blooms between May and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the Study Area is at the lowest end of the known elevation range; therefore, the San Jacinto mariposa lily has a low potential to occur in the Study Area.

Palmer's Mariposa Lily (Calochortus palmeri var. palmeri)

Palmer's mariposa lily is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, Palmer's mariposa lily is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). Palmer's mariposa lily can be found in mesic soils in Chaparral, Lower montane coniferous forests, Meadows, and Seeps at an elevation range of approximately 3,280 and 7,800 feet above msl, and it blooms from April to July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species,

but the Study Area is at the lowest end of the known elevation range; therefore, Palmer's mariposa lily has a low potential to occur in the Study Area.

Plummer's Mariposa Lily (Calochortus plummerae)

Plummer's mariposa lily (*Calochortus plummerae*) is an SBNF Watch List species and has a CRPR of 4.2. This purple-flowered herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, Plummer's mariposa lily can be found in Los Angeles, Orange, Riverside, and San Bernardino Counties (CCH 2015). Plummer's mariposa lily occurs in granitic and rocky soils in Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grasslands, and Lower montane coniferous forests at an elevation range of approximately 330 and 5,500 feet above msl, and it blooms between May and July (CNPS 2014). Approximately 190 individuals were observed from MPs 18 to 22. The specific habitat for Plummer's mariposa lily in the Study Area is on flat to gentle slopes that are generally east-to south-facing. These areas typically have rocky to loamy soils and are dominated by leafy California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), black sage, red brome, shortpod mustard, chamise, and one-sided blue grass.

White Pygmy-Poppy (Canbya candida)

The white pygmy-poppy is an SBNF Sensitive species and has a CRPR of 4.2. This annual herb in the Poppy Family (Papaveraceae) is a California-endemic species. In the region of the Study Area, the white pygmy-poppy is known to occur in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). The white pygmy-poppy can be found in gravelly, sandy, or granitic soils in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland at an elevation range of approximately 2,000 to 4,800 feet above msl, and it blooms from March to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the white pygmy-poppy has high potential to occur in the Study Area. However, due to drought conditions, this species may not have germinated even though suitable habitat is present. Therefore, it may occur in low numbers in the Study Area.

Mojave Paintbrush (Castilleja plagiotoma)

The Mojave paintbrush is an SBNF Sensitive species and has a CRPR of 4.3. This hemiparasitic perennial herb in the Broomrape Family (Orobanchaceae) is a California-endemic species. In the region of the Study Area, the Mojave paintbrush is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The Mojave paintbrush can be found in Great basin scrub, Lower montane coniferous forests, Joshua tree, and Pinyon and juniper woodland at an elevation range of approximately 1,000 to 8,200 feet above msl, and it blooms from April to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Mojave paintbrush has high potential to occur in the Study Area. However, due to drought conditions, this hemiparasitic perennial herb may not have re-sprouted even though suitable habitat is present.

Smooth Tarplant (Centromadia pungens ssp. laevis)

The smooth tarplant has a CRPR of 1B.1. This annual herb in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the smooth tarplant is known to occur in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The smooth tarplant can be found in Chenopod scrub, Meadows, Seeps, Playas, Riparian woodland, and Grasslands in alkaline soils at an elevation range of approximately 0 to 2,100 feet above msl, and it blooms from April to September (CNPS 2014). This species was not observed

in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the smooth tarplant has low potential to occur in the Study Area.

Peninsular Spineflower (Chorizanthe leptotheca)

The peninsular spineflower has a CRPR of 4.2. This annual herb in the Buckwheat Family is native to California and Baja California. In the region of the Study Area, the peninsular spineflower can be found in Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The peninsular spineflower can be found in alluvial fans or granitic areas in Chaparral, Coastal scrub, and Lower montane coniferous forests at an elevation range of approximately 1,000 to 6,200 feet above msl, and it blooms from May to August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the peninsular spineflower has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Parry's Spineflower (Chorizanthe parryi var. parryi)

Parry's spineflower is an SBNF Sensitive species and has a CRPR of 1B.1. This white-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, Parry's spineflower can be found in Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Parry's spineflower occurs in sandy or rocky openings of Chaparral, Coastal scrub, Cismontane woodland, and Valley and foothill grasslands at an elevation range of approximately 900 and 4,000 feet above msl, and it blooms between April and June (CNPS 2014). Approximately 300 individuals were observed near MP 25 and approximately 1,750 individuals were observed near MP 28 southeast of the I-15 and I-215 interchange. The specific habitat for Parry's spineflower in the Study Area consists of flat to slightly sloping land in gravelly soil in areas dominated by hairy yerba santa, chaparral yucca, chamise, red brome, and hairy rat-tail fescue (*Festuca myuros*).

Mojave Spineflower (Chorizanthe spinosa)

The Mojave spineflower has a CRPR of 4.2. This annual herb in the Buckwheat Family is a California-endemic species. In the region of the Study Area, the Mojave spineflower can be found in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). The Mojave spineflower can be found in Chenopod scrub, Joshua tree woodland, Playas, and Mojavean desert scrub sometimes in alkaline soils at an elevation range of approximately 20 to 4,300 feet above msl, and it blooms from March to July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the preferred soils for this species; therefore, the Mojave spineflower has moderate potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

White-Bracted Spineflower (Chorizanthe xanti var. leucotheca)

The white-bracted spineflower is an SBNF Sensitive species and has a CRPR of 1B.2. This white-to pink-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, the white-bracted spineflower is known to occur in Riverside and San Bernardino Counties (CCH 2015). The white-bracted spineflower is found in sandy or gravelly soils in Coastal scrub alluvial fans, Mojavean desert scrub, and Pinyon and juniper woodland at an elevation range of approximately 900 and 4,000 feet above msl, and it blooms from April to June (CNPS 2014). Approximately 150 individuals were observed near MP

25; 75 individuals were observed between MPs 25 and 26; and one individual was observed between MPs 28 and 29. The specific habitat for the white-bracted spineflower in the Study Area consists of flat wash areas dominated by leafy California buckwheat, ripgut brome, hairy yerba santa, and California scale-broom.

Paniculate Tarplant (Deinandra paniculata)

The paniculate tarplant has a CRPR of 4.2. This annual herb in the Sunflower Family (Asteraceae) is native to California and Baja California, Mexico. In the region of the Study Area, the paniculate tarplant is known to occur in Los Angeles, Riverside, Orange, and San Diego Counties (CCH 2015). The paniculate tarplant is usually found in vernal mesic soils in Coastal scrub, Valley and foothill grassland, and Vernal pools at an elevation range between approximately 80 and 3,100 feet above msl, and it blooms from April to November. The paniculate tarplant was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the paniculate tarplant has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

California Ditaxis (Ditaxis serrata var. californica)

The California ditaxis has a CRPR of 3.2. This white-flowered perennial herb in the Spurge Family (Euphorbiaceae) is native to California and Sonora, Mexico. In the region of the Study Area, the California ditaxis can be found in Riverside and San Diego Counties (CCH 2015). The California ditaxis occurs in sandy soil in scrub habitats in the Mojave and Sonoran deserts at an elevation between approximately 0 and 1,500 feet above msl, and it blooms between March and December (CNPS 2014). One individual was observed to the east of the Desert Center Compression Station. Numerous individuals of the non-special status serrated silverbush, a taxon which co-occurs with and closely resembles the special status taxon, were observed around the station as well. The specific habitat for the California ditaxis in the Study Area consists of flat terrain in a moderately disturbed area dominated by white-bur-sage, creosote bush, and rattlesnake spurge (*Euphorbia melanadenia*).

Slender-Horned Spineflower (Dodecahema leptoceras)

The slender-horned spineflower is a federally and State-listed Endangered species and has a CRPR of 1B.1. This white-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, the slender-horned spineflower can be found in Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The slender-horned spineflower is found in sandy soils in Chaparral, Cismontane woodland, and alluvial fan Coastal scrub at an elevation range of approximately 650 to 2,500 feet above msl, and it blooms from April to June (CNPS 2014). Approximately 30 individuals were observed near MP 25 occurring approximately 60 feet outside the Study Area. The specific habitat for the slender-horned spineflower near the Study Area consists of an instream island of the Cajon Wash with sandy soil that is darker in color than surrounding soil. The habitat is dominated by redstem filaree, red brome, wild oat, leafy California buckwheat, and cane cholla. The Study Area does support suitable habitat for this species; however, it is expected to be limited to sandy soils in Cajon Wash and Santa Ana River. The slender-horned spineflower has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Santa Ana River Woollystar (Eriastrum densifolium ssp. sanctorum)

The Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) is federally and State-listed Endangered species and has a CRPR of 1B.1. This blue-flowered, long-lived perennial herb in the Phlox Family (Polemoniaceae) is a California-endemic species. In the region of the Study Area, the Santa Ana River woollystar can be found in Orange, Riverside, and San Bernardino Counties (CCH 2015). The Santa Ana River woollystar occurs in sandy to gravelly soil in Chaparral, Coastal scrub, and alluvial fans and drainages at an elevation range of approximately 300 and 2,000 feet above msl, and it blooms between April and September (CNPS 2014). Near MP 45 in the Santa Ana River Wash (in between the Tippecanoe Avenue Bridge and Mountain View Avenue), 134 individuals were observed in 15 locations. The specific habitat for the Santa Ana River woollystar in the Study Area is on flat in-channel islands in the Santa Ana River Wash in sandy soil dominated by leafy California buckwheat, deerweed, mule fat, upright sessileflower false goldenaster, California croton, and Fremont cottonwood. Within the Study Area, this species is not expected to occur outside of the Santa Ana River.

Vanishing Wild Buckwheat (Eriogonum evanidum)

The vanishing wild buckwheat is an SBNF Sensitive species and has a CRPR of 1B.1. This annual herb in the Buckwheat Family (Polygonaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the vanishing wild buckwheat is known to occur in San Bernardino, Riverside, and San Diego Counties (CCH 2015). The vanishing wild buckwheat can be found in sandy or gravelly soils in Chaparral, Cismontane woodland, Lower montane coniferous forest, and Pinyon and juniper woodland at an elevation range between approximately 3,600 and 7,300 feet above msl, and it blooms from July to October. The vanishing wild buckwheat was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it occurs at the lowest end of this species' elevation range; therefore, the vanishing wild buckwheat has a low potential to occur in the Study Area.

San Antonio Canyon Bedstraw (Galium angustifolium ssp. gabrielense)

The San Antonio Canyon bedstraw is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Madder Family (Rubiaceae) is a California-endemic species. In the region of the Study Area, the San Antonio Canyon bedstraw is known to occur in Los Angeles and San Bernardino Counties (CNPS 2014). The San Antonio Canyon bedstraw can be found in granitic, sandy, or rocky soil in Chaparral and Lower montane coniferous forest at an elevation range between approximately 4,000 and 8,700 feet above msl, and it blooms from April to August. The San Antonio Canyon bedstraw was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is at the lowest part of this species elevation range; therefore, the San Antonio Canyon bedstraw has low potential to occur in the Study Area.

Johnston's Bedstraw (Galium johnstonii)

Johnston's bedstraw is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Madder Family (Rubiaceae) is a California-endemic species. In the region of the Study Area, Johnston's bedstraw is known to occur in Los Angeles, San Bernardino, and Riverside Counties; the reported occurrences in San Diego County date back to 1927 (CCH 2015). Johnston's bedstraw can be found in Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, and Riparian woodland at an elevation range between approximately 4,000 and 7,500 feet above msl, and it blooms from June to July. Johnston's bedstraw was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but the

elevation range is at the lowest level for this species; therefore, Johnston's bedstraw has low potential to occur in the Study Area.

Urn-Flowered Alumroot (Heuchera caespitosa)

The urn-flowered alumroot is an SBNF Sensitive species and has a CRPR of 4.3. This perennial rhizomatous herb in the Saxifrage Family (Saxifragaceae) is a California-endemic species. In the region of the Study Area, the urn-flowered alumroot is known to occur in Los Angeles, Kern, and Riverside Counties (CCH 2015). The urn-flowered alumroot can be found in rocky soil in Montane riparian forest, Cismontane woodland, and Lower and upper montane coniferous forest at an elevation range between approximately 3,800 and 8,700 feet above msl, and it blooms from May to August. The urn-flowered alumroot was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is at the lowest end of this species' elevation range; therefore, the urn-flowered alumroot has low potential to occur in the Study Area.

Vernal Barley (Hordeum intercedens)

The vernal barley has a CRPR of 3.2. This annual herb in the Grass Family (Poaceae) is native to California and is also found elsewhere in North America and beyond including Baja California, Mexico. In the region of the Study Area, it is known to occur in Los Angeles, Kern, Riverside, Orange, and San Diego Counties (CCH 2015). The vernal barley can be found in Coastal dunes, Coastal scrub, saline flats and depressions in Valley and foothill grassland, and Vernal pools at an elevation range between approximately 20 and 3,300 feet above msl, and it blooms from March to June. The vernal barley was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support limited suitable habitat for this species, but these areas are heavily infested by non-native species and degraded by erosion; therefore, the vernal barley has low potential to occur in the Study Area.

Mesa Horkelia (Horkelia cuneata var. puberula)

The mesa horkelia is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial herb in the Rose Family (Rosaceae) is a California-endemic species. In the region of the Study Area, the mesa horkelia is known to occur in Los Angeles, San Bernardino, and San Diego Counties (CCH 2015). The mesa horkelia can be found in sandy and gravelly soils in Maritime chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 230 and 2,700 feet above msl, and it blooms from February to September. The mesa horkelia was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the mesa horkelia has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted and may not have developed even though suitable habitat is present.

California Satintail (Imperata brevifolia)

The California satintail is an SBNF Sensitive species and has a CRPR of 2B.1. This perennial rhizomatous herb in the Grass Family (Poaceae) is native to California and western North America. The California satintail can be found in mesic soils in Chaparral, Coastal scrub, Mojavean desert scrub, Riparian scrub, Meadows, and Seeps (often alkali) at an elevation between sea level and 4,000 feet above msl, and it blooms from September to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but the required soils are degraded by erosion; therefore, the California satintail has moderate potential to occur in the Study Area.

Southern California Black Walnut (Juglans californica)

The Southern California black walnut is an SBNF Watch List species and has a CRPR of 4.2. This catkin-flowered tree in the Walnut Family (Juglandaceae) is a California-endemic species. In the region of the Study Area, the Southern California black walnut can be found in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The Southern California black walnut occurs in alluvial areas in Chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 160 and 3,000 feet above msl, and it blooms from March to August (CNPS 2014). Eight individuals were observed between MPs 25 and 26; three individuals were observed between MPs 42 and 43; three individuals were observed near MP 45; and three individuals were observed near MP 59. The specific habitat for the Southern California black walnut in the Study Area consists of generally flat ground in relatively disturbed areas or adjacent to riparian washes with some co-occurring shrubs such as California sagebrush, hairy yerba santa, leafy California buckwheat, and deerweed with an understory of non-native herbs including red brome, riggut brome, and redstem filaree.

Fragrant Pitcher Sage (Lepechinia fragrans)

The fragrant pitcher sage is an SBNF Sensitive species and has a CRPR of 4.2. This perennial herb in the Mint Family (Lamiaceae) is a California-endemic species. In the region of the Study Area, the fragrant pitcher sage is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The fragrant pitcher sage can be found in Chaparral at an elevation range between approximately 70 and 4,300 feet above msl, and it blooms from March to October. The fragrant pitcher sage was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the fragrant pitcher sage has high potential to occur in the Study Area. However, due to drought conditions, of this perennial herb may not have re-sprouted even though suitable habitat is present.

Robinson's Pepper-Grass (Lepidium virginicum var. robinsonii)

Robinson's pepper-grass is an SBNF Watch List species and has a CRPR of 4.3. This annual herb in the Mustard Family (Brassicaceae) is native to California and Baja California. In the region of the Study Area, Robinson's pepper-grass is known to occur in Los Angeles, Kern, San Bernardino, Riverside, Orange, and San Diego Counties (CCH 2015). Robinson's pepper-grass can be found in openings in Chaparral and Sage scrub at an elevation range between sea level and 2,900 feet above msl, and it blooms from January to July. Robinson's pepper-grass was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, Robinson's pepper-grass has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Ocellated Humboldt Lily (Lilium humboldtii ssp. ocellatum)

The ocellated Humboldt lily is an SBNF Watch List species and has a CRPR of 4.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, the ocellated Humboldt lily is known to occur in Kern, Los Angeles, San Bernardino, Orange, and San Diego Counties (CCH 2015). The ocellated Humboldt lily can be found in openings in Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, and Riparian woodland at an elevation range between approximately 100 and 5,900 feet above msl, and it blooms from March to August. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the ocellated Humboldt lily

has high potential to occur in the Study Area. However, due to drought conditions, this bulbiferous herb may not have re-sprouted even though suitable habitat is present.

Little San Bernardino Mountains Linanthus (Linanthus maculatus)

The Little San Bernardino Mountains linanthus is an SBNF Watch List species and has a CRPR of 1B.2. This annual herb in the Phlox Family (Polemoniaceae) is a California-endemic species. In the region of the Study Area, the Little San Bernardino Mountains linanthus is known to occur in San Bernardino, Riverside, and Imperial Counties (CCH 2015). The Little San Bernardino Mountains linanthus can be found on sandy soils in Desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub at an elevation range between approximately 640 and 6,800 feet above msl, and it blooms from March to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Little San Bernardino Mountains linanthus has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Sagebrush Loeflingia (Loeflingia squarrosa var. artemisiarum)

The sagebrush loeflingia has a CRPR of 2B.2. This annual herb in the Pink Family (Caryophyllaceae) is native to California and western North America. In the region of the Study Area, the sagebrush loeflingia is known to occur in Los Angeles, Kern, San Bernardino, Riverside, and San Diego Counties (CCH 2015). The sagebrush loeflingia can be found on sandy soil in Desert dunes, Great basin scrub, and Sonoran desert scrub at an elevation range between approximately 2,300 and 5,300 feet above msl, and it blooms from April to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the required soils are of marginal quality due to erosion and high occurrences of non-native weeds; therefore, the sagebrush loeflingia has low potential to occur in the Study Area.

Spiny-Hair Blazing Star (Mentzelia tricuspis)

The spiny-hair blazing star has a CRPR of 2B.1. This annual herb in the Loasa Family (Loasaceae) is native to California, Nevada, Utah, and Arizona. In the region of the Study Area, the spiny-hair blazing star is known to occur in Imperial, Kern, Riverside, and San Bernardino Counties (CCH 2015). Spiny-hair blazing star can be found in Mojavean desert scrub in sandy or gravelly slopes and washes at an elevation range between approximately 500 and 4,200 feet above msl, and it blooms between March and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the spiny-hair blazing star has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Rock Monardella (Monardella saxicola)

The rock monardella is an SBNF Sensitive species and has a CRPR of 4.2. This perennial rhizomatous herb in the Mint Family is a California-endemic species. In the region of the Study Area, the rock monardella is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The rock monardella can be found in Chaparral or Closed-cone and lower montane coniferous forests in rocky, usually serpentine, soils at an elevation range of approximately 1,640 to 5,900 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to

protocols established by the CDFW. The Study Area does not provide preferred soils to support this species; therefore, the rock monardella has only a low potential to occur in the Study Area.

California Muhly (Muhlenbergia californica)

The California muhly is an SBNF Watch List species and has a CRPR of 4.3. This perennial rhizomatous herb in the Grass Family is a California-endemic species. In the region of the Study Area, the California muhly is known to occur in Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The California muhly can be found in Seeps and Streambeds in mesic soils at an elevation range from approximately 330 to 6,560 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide preferred soils to support this species; therefore, the California muhly has only low potential to occur in the Study Area.

Crowned Muilla (Muilla coronata)

The crowned muilla is an SBNF Watch List species and has a CRPR of 4.2. This perennial cormous herb in the Brodiaea Family is native to California and Nevada. In the region of the Study Area, the crowned muilla is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). Crowned muilla can be found in Chenopod scrub, Mojavean desert scrub, Joshua tree, and Pinyon and juniper woodland at an elevation range from approximately 2,500 to 6,400 feet above msl, and it blooms between March and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the crowned muilla has high potential to occur in the Study Area. However, due to drought conditions, this perennial cormous herb may not have re-sprouted even though suitable habitat is present.

Slender Cottonheads (Nemacaulis denudata var. gracilis)

The slender cottonheads has a CRPR of 2B.2. This annual herb in the Buckwheat Family (Polygonaceae) is native to California, Arizona, and Baja California and Sonora, Mexico. In the region of the Study Area, the slender cottonheads is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties, although there are reported occurrences in Los Angeles County between 1901 and 1905. The slender cottonheads can be found on Coastal dunes, Desert dunes, and Sonoran desert scrub at an elevation range between approximately 30 and 1,600 feet above msl, and it blooms from March to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species only at the Whitewater Pressure Limiting Station, but the station is approximately 300 feet above its known elevation range. In addition, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the slender cottonheads to be present. Therefore, the slender cottonheads has low potential to occur in the Study Area.

Short-Joint Beavertail (Opuntia basilaris var. brachyclada)

The short-joint beavertail is an SBNF Sensitive species and has a CRPR of 1B.2. This magenta-flowered succulent shrub in the Cactus Family (Cactaceae) is a California-endemic species. In the region of the Study Area, the short-joint beavertail can be found in Los Angeles and San Bernardino Counties (CCH 2015). The short-joint beavertail occurs in Chaparral, Mojavean desert scrub, Joshua tree woodland, and Pinyon and juniper woodland at an elevation range between approximately 1,400 and 5,900 feet above msl, and it blooms from April to August (CNPS 2014). Using *Short-Joint Beavertail Cactus Identification for TRTP 2010 Botanical Surveys* (ICF 2010)

as a guide, it was determined that nearly all observations of beavertail cactus are a hybrid between the special status taxon (*Opuntia basilaris* var. *brachyclada*) and the common taxon (*Opuntia basilaris* var. *basilaris*). As such, the hybrid populations were treated conservatively and were determined to be the special status taxon. Numerous populations were observed roughly from MPs 12 to 22, although some populations of the common taxon occur. The total number of short-joint beavertail cactus individuals in the Study Area is estimated to be 100. The specific habitat for the short-jointed beavertail cactus consists of northeast- to east-facing sandy to gravelly, slight to moderate slopes (near MP 13) and gentle south-facing slopes in sandy to gravelly soil or relatively flat areas of granitic gravelly soil (between MPs 15 and 22). This species is readily observable and no additional occurrences are expected within the Study Area. These areas also include the following species: bristly fiddleneck (*Amsinckia tessellata*), round-nut pectocarya, red brome, chamise, burned Tucker's oak, desert needle grass, chaparral woollystar, chaparral yucca, leafy California buckwheat, Mediterranean schismus, interior goldenbush, and hairy yerba santa.

Beaver Dam Breadroot (*Pediomelum castoreum*)

The Beaver Dam breadroot has a CRPR of 1B. This perennial herb in the Legume Family (Fabaceae) is native to California and western North America. In the region of the Study Area, the Beaver Dam breadroot is known to occur in San Bernardino County (CCH 2015). The Beaver Dam breadroot can be found in sandy washes and roadcuts in Joshua tree woodland and Mojavean desert scrub at an elevation range between approximately 2,000 and 5,000 feet above msl, and it blooms from April to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Beaver Dam breadroot has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Bear Valley Popcornflower (*Plagiobothrys collinus* var. *ursinus*)

The Bear Valley popcornflower is an SBNF Sensitive species. This annual herb in the Borage Family (Boraginaceae) is native to California and western North America. In the region of the Study Area, the Bear Valley popcornflower is known to occur in San Bernardino, Riverside and San Diego Counties (CCH 2015). The Bear Valley popcornflower can be found on Sandy to gravelly soils in open conifer forest at an elevation range between approximately 3,600 and 7,870 feet above msl, and it likely blooms between March and June (Baldwin et al. 2012). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Bear Valley popcornflower has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

San Gabriel Oak (*Quercus durata* var. *gabrielensis*)

The San Gabriel oak has a CRPR of 4.2. This catkin-flowered shrub in the Oak Family (Fagaceae) is a California-endemic species. In the region of the Study Area, the San Gabriel oak can be found in Los Angeles and San Bernardino Counties (CCH 2015). The San Gabriel oak occurs in Chaparral and Cismontane woodland at an elevation range between approximately 1,500 and 3,300 feet above msl, and it blooms between April and May (CNPS 2014). Four individuals were observed between MPs 21 and 22. The specific habitat for the San Gabriel oak in the Study Area is on west-facing slopes in loamy soil dominated by black sage, western poison oak, hoary leaf ceanothus (*Ceanothus crassifolius*), fruitful interior live oak (*Quercus wislizeni* var. *frutescens*), and leafy California buckwheat.

Coulter's Matilija Poppy (*Romneya coulteri*)

Coulter's matilija poppy has a CRPR of 4.2. This white-flowered perennial herb in the Poppy Family (Papaveraceae) is native to California and Baja California, Mexico. In the region of the Study Area, Coulter's matilija poppy can be found in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Coulter's matilija poppy occurs in Chaparral and Coastal scrub habitats, often in burned areas, at an elevation range between approximately 65 and 4,000 feet above msl, and it blooms between March and July (CNPS 2014). Approximately 100 individuals were observed in the Study Area near MP 27. The specific habitat for Coulter's matilija poppy in the Study Area consists of a roadside stand at the top of a steep east-facing slope dominated by deerweed (*Acmispon glaber* var. *glaber*), California sagebrush, tarragon sagebrush (*Artemisia dracunculus*), hairy yerba santa, and California everlasting (*Pseudognaphalium californicum*).

Desert Spike-Moss (*Selaginella eremophila*)

The desert spike-moss has a CRPR of 2B.2. This perennial rhizomatous herb in the Spike-Moss Family (Selaginellaceae) is native to California, Arizona, New Mexico, Texas, and Baja California, Mexico. In the region of the Study Area, the desert spike-moss is known to occur in Riverside, Imperial, and San Diego Counties (CCH 2015). The desert spike-moss can be found in Chaparral and Sonoran desert scrub on gravelly or rocky soils at an elevation range between approximately 700 and 3,000 feet above msl, and it blooms between May and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the desert spike-moss has high potential to occur in the Study Area. However, due to drought conditions, this perennial rhizomatous herb may not have re-sprouted even though suitable habitat is present.

San Gabriel Ragwort (*Senecio astephanus*)

The San Gabriel ragwort has a CRPR of 4.3. This annual herb in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the San Gabriel ragwort is known to occur in Los Angeles, San Bernardino, and San Diego Counties (CCH 2015). The San Gabriel ragwort can be found in Chaparral, Cismontane woodland, Coastal scrub, and Alkaline flats at an elevation range between approximately 50 and 2,600 feet above msl, and it blooms between January and April (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the San Gabriel ragwort has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Cove's Senna (*Senna covesii*)

Cove's senna has a CRPR of 2B.2. This perennial herb in the Legume Family (Fabaceae) is native to California, Arizona, and Baja California, Mexico. In the region of the Study Area, Cove's senna is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties (CCH 2015). Cove's senna can be found in sandy Sonoran desert scrub at an elevation range between approximately 900 and 3,500 feet above msl, and it blooms between March and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, Cove's senna has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Salt Spring Checkerbloom (Sidalcea neomexicana)

The Salt Spring checkerbloom is an SBNF Sensitive species and has a CRPR of 2B.2. This perennial herb in the Mallow Family (Malvaceae) is native to California and is also found elsewhere in western North America. In the region of the Study Area, the Salt Spring checkerbloom is known to occur in San Bernardino, Riverside, Orange, and San Diego Counties, although there are records for Los Angeles County that date back to the early 1890s (CCH 2015). The Salt Spring checkerbloom can be found on alkaline and mesic soils in Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, and Playas at an elevation range between approximately 50 and 5,000 feet above msl, and it blooms between March and June. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the Salt Spring checkerbloom has moderate potential to occur in the Study Area.

Prairie Wedge Grass (Sphenopholis obtusata)

The prairie wedge grass has a CRPR of 2B.2. This perennial herb in the Grass Family (Poaceae) is native to California and elsewhere in North America. In the region of the Study Area, the prairie wedge grass is known to occur in San Bernardino, Riverside, Orange, and San Diego Counties (CCH 2015). The prairie wedge grass can be found on mesic soils in Cismontane woodland and Meadows and seeps at an elevation range between approximately 1,000 and 6,600 feet above msl, and it blooms between April and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the prairie wedge grass has low potential to occur in the Study Area.

Laguna Mountains Jewel-Flower (Streptanthus bernardinus)

The Laguna Mountains jewel-flower is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Mustard Family (Brassicaceae) is native to California and Baja California, Mexico. In the region of the Study Area, it is known to occur in San Bernardino, Riverside, and San Diego Counties, although there is one record for Los Angeles County dating to 1906 (CCH 2015). The Laguna Mountains jewel-flower can be found in Chaparral and Lower montane coniferous forest at an elevation range between approximately 2,200 and 8,200 feet above msl, and it blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Laguna Mountains jewel-flower has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Southern Jewel-Flower (Streptanthus campestris)

The southern jewel-flower is an SBNF Sensitive species and has a CRPR of 1B.3. This perennial herb in the Mustard Family (Brassicaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the southern jewel-flower is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties, although there is one record for Los Angeles County dating to 1896 (CCH 2015). The southern jewel-flower can be found in rocky areas in Chaparral, Lower montane coniferous forest, and Pinyon and juniper woodland at an elevation range between approximately 3,000 and 7,500 feet above msl, and it blooms between April and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the southern jewel-flower has high potential to occur in

the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

San Bernardino Aster (Symphyotrichum defoliatum)

The San Bernardino aster is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial rhizomatous herb in the Sunflower Family (Asteraceae) is native to California. In the region of the Study Area, the San Bernardino aster is known to occur in Los Angeles, San Bernardino, Riverside, Orange and San Diego Counties (CCH 2015), although many of the occurrences date back to the early 1900s. The San Bernardino aster can be found near ditches, streams, and springs in Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, and grasslands that are vernal mesic at an elevation range between approximately 0 and 6,700 feet above msl, and it blooms between July and November (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the San Bernardino aster has low potential to occur in the Study Area.

Lemmon's Syntrichopappus (Syntrichopappus lemmonii)

Lemmon's syntrichopappus is an SBNF Watch List species and has a CRPR of 4.3. This annual herb in the Sunflower Family (Asteraceae) is endemic to California. In the region of the Study Area, Lemmon's syntrichopappus is known to occur in Los Angeles, Kern, San Bernardino, and Riverside Counties (CCH 2015). Lemmon's syntrichopappus can be found on sandy to gravelly soil in Chaparral, Joshua tree woodland, and Pinyon and juniper woodland at an elevation range between approximately 1,640 and 6,000 feet above msl, and it blooms between April and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, Lemmon's syntrichopappus has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may have germinated even though suitable habitat is present.

5.4.4 Weeds

A total of 23 invasive/non-native species, per a list established by the SBNF (SBNF 2014), were found in the weed Study Area (Table 6). Exhibit 22 depicts the distribution of each discrete weed occurrence. Several species were found to be so prolific that discrete mapping was determined to be unwarranted in some or all places, as described below. The complete Weed Survey Memorandum for the Proposed Project, which includes detailed survey methods and collected data, is provided in Attachment 2.

- Red brome was found to occur throughout the entire weed Study Area in every habitat; therefore, its distribution was not mapped.
- Mediterranean schismus (*Schismus barbatus*)⁸ was found to occur within three feet of the outer edge of every paved and unpaved road in every habitat south of MP 15. Populations outside this area that were found to be more discrete are shown on Exhibit 22.
- Cheat grass was found to occur along every paved and unpaved road along Cajon Boulevard (roughly MPs 22 to 27). Populations outside this area that were found to be more discrete are shown on Exhibit 22.

⁸ Weed species nomenclature in Section 5.5.4 follows the SBNF weed list.

- Tocalote was found to occur along every paved and unpaved road along Cajon Boulevard (roughly MPs 22 to 27). Populations outside this area that were found to be more discrete or in larger polygon areas are shown on Exhibit 22.

**TABLE 6
WEED SPECIES OBSERVED DURING
FOCUSED WEED SURVEY**

Species Name	Common Name	Cal-IPC/USFS Designation*
<i>Arundo donax</i>	giant reed	A-1
<i>Avena fatua</i>	wild oat	D
<i>Brassica tournefortii</i>	African mustard	A-2
<i>Bromus diandrus</i>	ripgut brome	D
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome	A-2
<i>Bromus tectorum</i>	cheat grass	A-1
<i>Centaurea melitensis</i>	tocalote	B
<i>Conium maculatum</i>	poison hemlock	B
<i>Cortaderia selloana</i>	pampas grass	A-1
<i>Eucalyptus globulus</i>	Tasmanian blue gum	A-1
<i>Festuca perenne</i>	ryegrass	D
<i>Foeniculum vulgare</i>	wild fennel	A-1
<i>Melilotus albus</i>	white sweet clover	C
<i>Nicotiana glauca</i>	tree tobacco	C
<i>Robinia pseudoacacia</i>	black locust	B
<i>Salsola tragus</i>	prickly Russian thistle	C
<i>Schismus barbatus</i>	Mediterranean schismus	D
<i>Silybum marianum</i>	milk thistle	C
<i>Spartium junceum</i>	Spanish broom	B
<i>Stipa miliaceum</i>	smilo grass	C
<i>Tamarix ramosissima</i>	tamarix	A-1
<i>Tribulus terrestris</i>	puncture vine	C
<i>Verbascum thapsus</i>	woolly mullein	B

Cal-IPC: California Invasive Plant Council; USFS: U.S. Forest Service

***LEGEND**

Cal-IPC/USFS Designations

List A-1: Widespread pests that are invasive in more than 3 Jepson regions.
List A-2: Regional pests that are invasive in 3 or fewer Jepson regions.
List B: Wildland Pest Plants of Lesser Invasiveness; invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption; may be widespread or regional.
List C: Species that need more information and other weeds of note.
List D: Annual grasses that pose significant threat.

Sources: USFS 2014; Cal-IPC 2006

5.4.5 Tree Resources

A total of 1,029 trees that meet the minimum requirements as described in the City of Adelanto, the City of Highland, and the San Bernardino County Codes are present within the Study Area boundaries. Joshua tree documentation included only the specimen-sized individuals, as described in the County of San Bernardino Code. Additionally, 40 Mexican fan palm trees (*Washingtonia robusta*) are included in the survey as they are located in a grouping of palm trees

that may be considered to be a linear planting greater than 50 feet in length, though they do not meet the native tree requirement that would qualify for regulation as isolated trees.

A summary of regulated trees in the Study Area is provided below in Table 7 and their locations are shown on Exhibit 23. The complete Tree Report for the Proposed Project, which includes detailed survey methods and collected data, is provided in Attachment 3.

**TABLE 7
TREE ASSESSMENT SUMMARY**

Tree Species		City of Adelanto	City of Highland	Unincorporated San Bernardino County	Total
Scientific Name	Common Name				
Trees Meeting Minimum Regulation Requirements					
<i>Acer negundo</i>	box elder			2	2
<i>Ailanthus altissima</i> *	tree of heaven*		5		5
<i>Alnus rhombifolia</i>	white alder			111	111
<i>Arctostaphylos glauca</i>	bigberry manzanita			3	3
<i>Calocedrus decurrens</i>	California incense-cedar			3	3
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birch-leaf mountain-mahogany			17	17
<i>Fraxinus latifolia</i>	Oregon ash			30	30
<i>Fraxinus velutina</i>	velvet ash		5	8	13
<i>Hesperocyparis glabra</i>	smooth cypress		2		2
<i>Jacaranda mimosifolia</i>	jacaranda		1		1
<i>Juglans californica</i>	Southern California black walnut		1	12	13
<i>Juniperus californica</i>	California juniper			73	73
<i>Liquidambar styraciflua</i>	sweet gum		1		1
<i>Melia azedarach</i>	chinaberry		7		7
<i>Morus alba</i>	white mulberry		1		1
<i>Pinus coulteri</i>	Coulter pine			1	1
<i>Pinus halepensis</i>	Aleppo pine		1		1
<i>Pinus ponderosa</i>	Ponderosa pine			5	5
<i>Platanus racemosa</i>	western sycamore		2	120	122
<i>Populus fremontii</i> ssp. <i>Fremontii</i>	Fremont cottonwood			183	183
<i>Populus trichocarpa</i> [<i>P. balsamifera</i> ssp. <i>t.</i>]	black cottonwood			1	1
<i>Prunus ilicifolia</i>	holly-leaved cherry			2	2
<i>Quercus agrifolia</i>	coast live oak			46	46
<i>Quercus john-tuckeri</i>	Tucker oak			44	44
<i>Quercus berberidifolia</i>	scrub oak			3	3
<i>Quercus wislizenii</i>	interior live oak			39	39
<i>Salix laevigata</i>	red willow			10	10
<i>Salix lasiolepis</i>	arroyo willow			3	3
<i>Sambucus nigra</i> ssp. <i>caerulea</i> [<i>S. mexicana</i>]	blue elderberry			70	70

**TABLE 7
TREE ASSESSMENT SUMMARY**

Tree Species		City of Adelanto	City of Highland	Unincorporated San Bernardino County	Total
Scientific Name	Common Name				
<i>Unknown**</i> sp.	unknown			23	23
<i>Yucca brevifolia</i>	Joshua tree	4		150	154
<i>Subtotal</i>		4	26	959	989
Trees included as part of a linear palm planting					
<i>Washingtonia robusta</i>	Mexican fan palm			40	40
<i>Subtotal</i>				40	40
Total		4	26	999	1,029
* California Invasive Plant Council (Cal-IPC) Invasive Plant					
** Trees identified as "Unknown" were not able to be assessed in close proximity due to restricted access by field arborists/botanists.					

The health and aesthetics of all trees in the Study Area were generally good. The majority of the trees documented have established naturally in undeveloped open space areas. Trees in urban settings are in the minority, but were generally in better health with a greater variety of interspersed non-native tree species.

The portion of the Study Area regulated by the City of Adelanto begins at the Adelanto Compressor Station and extends approximately 2.2 miles south along the alignment (Exhibit 23). This portion of the high desert contains sparse tree cover. Little development has occurred in this area, which allows vegetation to establish naturally. Although drought conditions persist, there were no visible signs of stress on existing trees, as the trees of this region are biologically adapted to desert climatic conditions. A total of four trees that meet the regulatory requirements, as described in the City of Adelanto Code, are present within the Study Area boundaries. The documented individuals consist of four Joshua trees. The health and aesthetics of these trees are good, which is to be expected as they have established naturally in open space areas. The trees exhibit new growth, with little dieback, and no root restrictions were observed.

The portion of the Study Area regulated by the City of Highland includes approximately 1.3 miles along the alignment (Exhibit 23). The area consists mainly of developed residential and commercial uses with interspersed agriculture. A total of 26 trees that meet the regulatory requirements described in the City of Highland Code are present within the Study Area boundaries. Four trees of heaven (*Alianthus altissima*) were documented as they meet the requirements of the City; however, the California Invasive Plant Council (Cal-IPC) lists this species as invasive.

Other regulated trees in this area mainly consist of various ornamentals interspersed with a fewer number of native trees. Few of the trees appear to have established naturally, with artificially planted areas apparent along private property and in commercial areas. Naturally established trees appear to have received less maintenance than those that were artificially planted, although both exhibit new growth.

The health and aesthetics of the trees in the City of Highland are generally good, which is consistent with their establishment within primarily urban and residential areas where they are regularly maintained. Root restriction due to pavement, structures, and other objects was observed on many of the regulated trees. Drought stress was observed in the form of drooping branches, yellowing leaves, and dieback on a minor portion of the trees.

The portion of the Study Area in unincorporated San Bernardino County begins south of the City of Adelanto and includes approximately 29.4 miles moving south along the alignment (Exhibit 23). Of this area, about 13 miles are within the SBNF. A total of 999 trees that meet the regulatory requirements described in the San Bernardino County Development Code are present in the Study Area boundaries. The documented individuals consist of a wide variety of mostly naturally established native trees. Some of the native trees are ornamental individuals that were planted near or on private property. Two clusters of Mexican fan palm trees were recorded and included in the survey data, as they were found in a grouping that may be interpreted to be a linear row greater than 50 feet in length, which results from plantings near private property.

Trees in this portion of the Study Area have established in a variety of landscape types including open space, montane, riparian, residential, rural residential, commercial, industrial, agricultural, and transportation. Many areas in the SBNF exhibit signs of previous fire damage, which may have destroyed mature trees that would otherwise have met the code requirements.

In open or natural areas, trees consistently exhibited signs of minor stress due to the extended drought. Drought stress in these areas consisted of dieback, yellowing, and sunburn. Few signs of new growth were observed on the majority of trees observed. However, the vast majority of trees in natural areas generally appear to be in good health and are in good shape aesthetically.

In developed areas, trees have generally received maintenance and/or additional water input that would not be available otherwise; these trees appear in better health overall with signs of new growth on the majority of trees. Many have been pruned and trimmed to accommodate for electrical wires, structures, and traffic. Root restriction is a common problem for trees in developed areas due to buildings, roads, and other surfaces that roots have difficulty penetrating.

The vast majority of the trees in unincorporated San Bernardino County appear to be in good health and aesthetic standing, despite environmental and anthropogenic stressors. Notably, the riparian area in Cajon Pass exhibits many trees in good health in a dense cluster.

5.4.6 Special Status Wildlife Species

Based on the results of the literature review described in Section 4.1 above, 159 special status wildlife species have been reported from the Proposed Project region. Table 8 provides a list of special status wildlife species that were observed or have a low, moderate, or high potential to occur within the Study Area. The table identifies the species; their listing status; their preferred habitat type; their potential to occur in the Study Area; and whether or not they were observed during focused surveys. Note that they are grouped by type and listed in taxonomic order. In-depth descriptions of each wildlife species follow the table.

In-depth descriptions of each wildlife species that was observed or has a low, moderate, or high potential to occur within the Study Area follow the table. A complete list of all special status wildlife species and in-depth descriptions of each with potential to occur in the Study Area, including those not expected to occur, are included in Appendix D.

**TABLE 8
SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
Invertebrates					
<i>Glaucopsyche piasus</i>	Arrowhead blue butterfly	-/-/SBNF SS	Chaparral and coastal sage scrub (lupine species [<i>Lupinus</i> spp.] are host plants)	Yes	Low potential
<i>Cicindela tranquebarica viridissim</i>	greenest tiger beetle	-/-/SBNF WL	Sandy flats along streams	Yes	Low potential
<i>Hydroporus simplex</i>	simple hydroporus diving beetle	-/-/SBNF WL	Creeks, lakes or ponds, and probably microhabitats in shallow edge areas	Yes	Low potential
Fish					
<i>Rhinichthys osculus</i>	Santa Ana speckled dace	-/SSC/SBNF SS	Permanent streams with cool, flowing, rocky-bottomed washes, shallow cobble and gravel riffles	Yes	Observed
Amphibians					
<i>Ensatina klauberi</i>	large-blotched ensatina	-/SSC/SBNF SS	Moist and shaded evergreen and deciduous woodlands	Yes	High potential
<i>Ensatina eschscholtzii</i>	Monterey ensatina	-/-/SBNF WL	Deciduous and evergreen forests and shaded canyons, oak woodlands, mixed grasslands, and chaparral	Yes	High potential
<i>Aneides lugubris</i>	arboreal salamander	-/-/SBNF WL	Yellow pine and black oak forests in the Sierra Nevada and in coastal oak forests	Yes	Low potential
<i>Batrachoseps major</i>	garden slender salamander	-/-/SBNF WL	Riparian, woodlands, grasslands, meadows, chaparral and coastal sage scrub	Yes	High potential
<i>Batrachoseps gabrieli</i>	San Gabriel Mountain slender salamander	-/-/SBNF SS	Talus, mixed conifer forests, riparian	Yes	Low potential
<i>Spea hammondi</i>	western spadefoot toad	-/SSC/SBNF WL	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture.	Yes	Moderate potential
<i>Anaxyrus californicus</i>	arroyo toad	FE/SSC/SBNF MIS	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically 3 rd order); adjacent stream terraces and uplands for foraging and wintering.	Yes	Not observed within Crowder Creek, Cleghorn Creek, and Pitman Creek. Present within Cajon Wash.
<i>Anaxyrus punctatus</i>	red spotted toad	-/-/SBNF WL	Associated with rocky desert streams, and also found in oases, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, river floodplains. Prefers rocky areas where it can hide in cracks and under rocks.	Yes	Low potential
Reptiles					
<i>Gopherus agassizii</i>	desert tortoise	FT/ST/-	Arid and semi-arid habitats including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides.	Yes	Scat/Burrow Observed
<i>Crotaphytus bicinctores</i>	Mojave black-collared lizard	-/-/SBNF WL	Desert, sparsely vegetated, rocky habitats, including alluvial fans, lava flows, hillsides, canyons, and rocky plains	Yes	High potential
<i>Callisaurus draconiodes rhodostictus</i>	zebra-tail lizard	-/-/SBNF WL	Desert, sandy washes	Yes	Expected
<i>Phrynosoma blainvillii</i>	coast horned lizard	-/SSC/SBNF WL	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland	Yes	Observed
<i>Xantusia henshawi</i>	granite night lizard	-/-/SBNF WL	Found exclusively in association with cracks and crevices in exfoliating granitic and volcanic rocks. Found in association with coastal sage scrub, chaparral, oak and sycamore woodland, and desert intergrade vegetation.	Yes	Low potential
<i>Xantusia vigilis</i>	desert night lizard	-/-/SBNF WL	Desert, chaparral and lower pine woodlands	Yes	Observed
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	-/-/SBNF WL	Chaparral, woodlands, riparian, mixed conifer forests from sea level to 5,495 feet above msl.	Yes	High potential
<i>Aspidoscelis hyperythrus</i>	orange-throated whiptail	-/SSC/SBNF SS	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood	Yes	Moderate potential
<i>Anniella stebinsi [pulchra pulchra]</i>	Southern California (silvery) legless lizard	-/SSC/SBNF SS	Stabilized dunes, beaches, dry washes, chaparral, scrubs, pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Yes	Moderate potential
<i>Lichanura orcutti [trivigata]</i>	three-lined boa	-/-/SBNF SS	Chaparral, grasslands, cliffs and rocky outcrops, riparian	Yes	Moderate potential
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	-/-/SBNF SS	Moist habitats including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed conifer forest, and woodland.	Yes	High potential
<i>Lampropeltis zonata parvirubra</i>	San Bernardino mountain kingsnake	-/SSC/SBNF SS	Wide range of habitats including conifer forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal scrub.	Yes	Moderate potential
<i>Thamnophis hammondi</i>	two-striped garter snake	-/SSC/SBNF SS	Riparian, aquatic habitats	Yes	High potential

**TABLE 8
SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Crotalus ruber</i>	northern red-diamond rattlesnake	-/SSC/SBNF SS	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Yes	Observed
<i>Crotalus mitchellii pyrrhus</i>	southwestern speckled rattlesnake	-/-/SBNF WL	Chaparral and coastal sage scrub, woodlands, desert, cliffs and rocky outcrops	Yes	High potential
Birds					
<i>Cathartes aura</i>	turkey vulture (Breeding)	-/-/SBNF WL	Aerial, grasslands, chaparral and coastal sage scrub, woodlands, desert, cliffs and rocky outcrops	Yes	Observed
<i>Pandion haliaetus</i>	osprey (Nesting)	-/FP, WL/SBNF WL	Occurs near large bodies of water, including rivers, lakes, reservoirs, bays, estuaries, and surf zones.	No	Not expected for nesting
<i>Elanus leucurus</i>	white-tailed kite (Nesting)	-/FP/SBNF WL	Nests primarily in oaks (<i>Quercus</i> spp.), willows (<i>Salix</i> spp.), and sycamores (<i>Platanus</i> sp.) and forages in grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees.	Yes	Observed
<i>Haliaeetus leucocephalus</i>	bald eagle (Nesting and Wintering)	-/SE, FP/SBNF SS	Large bodies of water or free-flowing rivers with abundant fish and adjacent snags or perches, and nests in large, old growth trees or snags in remote stands near water.	No	Not expected for nesting
<i>Circus cyaneus</i>	northern harrier (Nesting)	-/SSC/SBNF WL	Occurs year-round over open habitats, nesting on the ground within dense vegetation.	Yes	Observed
<i>Accipiter striatus</i>	sharp-shinned hawk (Nesting)	-/WL/SBNF WL	Breeds in high elevation forests in the western United States and boreal forests in Canada and Alaska.	Yes	Observed
<i>Accipiter cooperii</i>	Cooper's hawk (Nesting)	-/WL/SBNF WL	Wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores (<i>Platanus</i> sp.) and willows (<i>Salix</i> spp.).	Yes	Observed
<i>Buteo swainsoni</i>	Swainson's hawk (Nesting)	-/ST/SBNF WL	Breeds over grassland-dominated habitats in North America.	No	Not expected for nesting
<i>Buteo regalis</i>	ferruginous hawk (Wintering)	-/WL/SBNF WL	Inhabits open, dry habitats such as grasslands, shrublands, rangelands, and plowed agricultural fields.	Yes	Observed
<i>Aquila chrysaetos</i>	golden eagle (Nesting and Wintering)	-/FP, WL/SBNF WL	Open and semi-open country such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions.	Yes	Observed
<i>Otus [Megascops] kennicottii</i>	western screech owl	-/-/SBNF WL	Occupies a wide variety of woodland and forest habitats, with highest densities in riparian deciduous woodlands at low elevations.	Yes	Moderate potential
<i>Glaucidium gnoma</i>	northern pygmy-owl	-/-/SBNF WL	Occupies forests or open woodlands in foothills and mountains, including adjacent meadows while foraging.	Yes	Observed
<i>Asio otus</i>	long-eared owl (Nesting)	-/SSC/SBNF WL	Occupies coniferous, deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, desert oases.	Yes	Low potential
<i>Cypseloides niger</i>	black swift (Nesting)	-/SSC/SBNF WL	Nests in dark inaccessible sites with unobstructed flight paths on ledges or shallow caves in steep rock faces and canyons, usually behind or next to waterfalls.	No	Not expected
<i>Selasphorus [Stellula] calliope</i>	Calliope hummingbird	-/-/SBNF WL	Mountain meadows and streamside thickets of willows within arid mixed coniferous forest	No	Not expected
<i>Melanerpes lewis</i>	Lewis's woodpecker (Nesting)	-/-/SBNF WL	Occurs west of the Great Plains and breeds in open forests ranging from low-elevation riparian habitats to higher-elevation burns and pine forest.	Yes	No potential for nesting
<i>Sphyrapicus ruber</i>	red-breasted sapsucker (Nesting)	-/-/SBNF WL	Common breeder in mountains west of the deserts; breeds in coniferous forests that have an admixture of deciduous trees.	Yes	No potential for nesting
<i>Picoides nuttallii</i>	Nuttall's woodpecker (Nesting)	-/-/SBNF WL	Occupies oak woodlands, but is also found in riparian woodlands; rarely found in conifer forests.	Yes	Observed
<i>Falco columbarius</i>	merlin (Wintering)	-/WL/SBNF WL	Prefers vast open space areas such as estuaries, grasslands, and deserts.	Yes	Moderate potential
<i>Falco peregrinus anatum</i>	American peregrine falcon (Nesting)	-/FP/SBNF WL	Uses a variety of habitats, particularly wetlands and coastal areas. Prefers inaccessible areas such as those provided by cliffs, high building ledges, bridges, or other such structures for nesting.	Yes	Observed
<i>Falco mexicanus</i>	prairie falcon (Nesting)	-/WL/SBNF WL	Foraging habitats include grassland and scrub vegetation types and nest almost exclusively on cliffs.	Yes	Observed
<i>Contopus cooperi</i>	olive-sided flycatcher (Nesting)	-/SSC/-	Most often associated with openings, edges, or human-made openings in forest habitats.	Yes	Observed
<i>Empidonax wrightii</i>	gray flycatcher	-/-/SBNF WL	Breeds in arid woodlands and scrub habitats of the interior western United States.	No	Not expected
<i>Lanius ludovicianus</i>	loggerhead shrike (Nesting)	-/SSC/SBNF WL	Inhabits open habitats with short vegetation such as pastures, agricultural fields, riparian areas, and open woodlands.	Yes	Observed
<i>Vireo bellii pusillus</i>	least Bell's vireo (Nesting)	FE/SE/-	Breeds primarily in riparian habitats dominated by willows with dense understory vegetation.	Yes	Observed

**TABLE 8
SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Vireo plumbeus</i>	plumbeous vireo	-/-/SBNF WL	Found primarily in montane coniferous and mixed forests in Transition Zones.	No	Not expected
<i>Vireo cassinii</i>	Cassin's vireo	-/-/SBNF WL	Occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills.	Yes	Low potential for nesting ^c
<i>Vireo gilvus</i>	warbling vireo	-/-/SBNF WL	Occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills.	Yes	Low potential for nesting
<i>Eremophila alpestris actia</i>	California horned lark	-/WL/SBNF WL	Occupies open, generally barren country, avoids forests, and prefers bare ground to grasses taller than a few centimeters.	Yes	Observed
<i>Progne subis</i>	purple martin (Nesting)	-/SSC/SBNF WL	Forages over riparian areas, forests, and woodland; it is found in a variety of habitats during migration.	Yes	Not expected
<i>Tachycineta bicolor</i>	tree swallow	-/-/SBNF WL	Occupies open areas near bodies of water that include fields, marshes, shorelines, and wooded swamps with standing dead trees.	Yes	High potential
<i>Catharus ustulatus</i>	Swainson's thrush	-/-/SBNF WL	Occupies riparian woodland and thickets of willow or alder, aspen forests, and sometimes coastal scrub.	Yes	Low potential nesting
<i>Catharus guttatus</i>	hermit thrush (Breeding)	-/-/SBNF WL	Common migrant and winter visitor along the coast, uncommon in the interior, and an uncommon and local summer resident in mountain forests where it is most numerous at higher elevations of the San Bernardino Mountains.	No	Not expected
<i>Toxostoma lecontei</i>	Le Conte's thrasher	-/SSC/SBNF WL	Occupies open desert scrub habitats, particularly saltbush and creosote in association with sandy washes.	Yes	Observed
<i>Anthus rubescens</i>	American pipit (water pipit) (Breeding)	-/-/SBNF WL	Frequents alpine meadows of <i>Carex</i> , <i>Salix</i> , and <i>Deschampsia</i> , and fell fields associated with cushion plants (<i>Silene</i> , <i>Trifolium</i> , <i>Phlox</i> , and <i>Arenaria</i>).	No	Not expected for nesting
<i>Oporornis tolmiei</i>	MacGillivray's warbler	-/-/SBNF WL	Breeds in dense shrubby areas, such as coniferous forest undergrowth and edge, brushy hillsides, riparian thickets, and chaparral.	No	Not expected for nesting
<i>Geothlypis trichas</i>	common yellowthroat	-/-/SBNF WL	Breeds in marshes (especially cattail) thickets near water, bogs, brushy pastures, old fields, and, locally, undergrowth of humid forest; migration and winter habitats include brushy and shrubby areas in both moist and arid regions.	Yes	Observed
<i>Setophaga petechia</i>	yellow warbler (Nesting)	-/SSC/SBNF WL	Breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats.	Yes	Observed
<i>Wilsonia pusilla</i>	Wilson's warbler	-/-/SBNF WL	Mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone	Yes	Not expected for nesting
<i>Icteria virens</i>	yellow-breasted chat (Nesting)	-/SSC/SBNF WL	Occupies second growth, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows, including low wet places near streams, pond edges, or swamps; thickets with few tall trees; early successional stages of forest regeneration; commonly in sites close to human habitation.	Yes	Observed
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	-/WL/SBNF WL	Occupies moderate to steep slopes vegetated with low scattered scrub cover interspersed with patches of grasses, forbs or rock outcrops, and shows a preference for coastal sage scrub dominated by California sagebrush (<i>Artemisia californica</i>), but also may occur in coastal bluff scrub and chaparral.	Yes	Observed
<i>Spizella atrogularis</i>	black-chinned sparrow (Nesting)	-/-/SBNF WL	Breeds in chaparral, sagebrush, arid scrub, and brushy hillsides.	Yes	Observed
<i>Artemisiospiza belli</i>	Bell's (sage) sparrow	-/WL/SBNF WL	Breeds in low, dense chamise chaparral and in dry scrub vegetation types, often with stands of cactus.	Yes	Observed
<i>Ammodramus savannarum</i>	grasshopper sparrow (Nesting)	-/SSC/-	Prefers more lush areas with some shrub cover in arid grasslands.	Yes	Low potential
<i>Melospiza melodia</i>	song sparrow	-/-/SBNF MIS	Common year-round resident of riparian and other wet, scrub habitats, along the coast, as well as locally into the mountains and deserts.	Yes	Observed
<i>Melospiza lincolni</i>	Lincoln's sparrow	-/-/SBNF WL	Breeds locally in the high mountains of the western United States.	Yes	Not expected for nesting
<i>Agelaius tricolor</i>	tri-colored blackbird (Nesting Colony)	-/SSC/SBNF WL	Colonially nesting birds prefer to breed in marsh vegetation of bulrushes and cattails and have also been recorded nesting in willows, blackberries, and mustard.	Yes	Not expected for nesting
<i>Spinus [Carduelis] lawrencei</i>	Lawrence's goldfinch (Nesting)	-/-/SBNF WL	Breeding habitat typically consists of arid and open woodlands near three features: chaparral or other brushy areas; tall annual weedy fields; and a water source provided by a stream, small lake, or farm pond.	Yes	Observed

**TABLE 8
SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
Mammals					
<i>Chaetodipus fallax</i>	northwestern San Diego pocket mouse	-/SSC/SBNF WL	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Prefers areas with sandy, graveled, or rocky substrates.	Yes	Observed
<i>Perognathus fallax pallidus</i>	pallid San Diego pocket mouse	-/SSC/SBNF WL	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper woodland. Elevational range is from sea level to 6,000 feet above msl.	Yes	High potential
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC/-	Sparse scrub habitat, alluvial scrub/coastal scrub habitats on gravelly and sandy soils near river and stream terraces	Yes	Observed
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST/-	Annual and perennial grassland habitats, coastal scrub, or sagebrush with sparse canopy cover or in disturbed areas	Yes	Observed
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	-/SSC/SBNF WL	Alluvial systems containing fine, loose, and deep sandy soils, or in adjacent areas. Higher benches adjacent to sandy washes and broader areas of sandy soils in grasslands outside washes and dense sage scrub.	Yes	Observed
<i>Neotoma bryanti [lepida] intermedia^d</i>	Bryant's woodrat	-/SSC/SBNF WL	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, coastal sage scrub, and most desert habitats. Most abundant in rocky areas with Joshua trees. Elevational range from sea level to 8,500 feet above msl.	Yes	Observed
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	-/SSC/SBNF WL	Arid desert habitats of the Mojave Desert and other habitats, including succulent shrub, wash, and riparian areas, but also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats	Yes	Observed
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	-/SSC/SBNF WL	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Yes	Observed
<i>Myotis ciliolabrum</i>	western small-footed myotis	-/-/SBNF WL	Arid woodlands and shrublands near water; roosts in caves, crevices, mines, and abandoned buildings	Yes	Observed
<i>Myotis yumanensis</i>	Yuma myotis	-/-/SBNF WL	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Yes	Low potential
<i>Myotis volans</i>	long-legged myotis	-/-/SBNF WL	Primarily coniferous forests, but also seasonally in riparian and desert habitats; roosts in crevices in cliffs, caves, mines, buildings, exfoliating tree bark, and snags	Yes	Observed
<i>Myotis lucifugus</i>	little brown myotis (San Bernardino Mountains Population)	-/-/SBNF WL	Chaparral and coastal sage scrub, marshes, meadows, grasslands, fields, agricultural areas, woodlands	Yes	Observed
<i>Myotis evotis</i>	long-eared myotis	-/-/SBNF WL	Nearly all brush, woodland, and forest habitats from sea level to 9,000 feet above msl, but prefers coniferous habitats; forages along habitat edges, in open habitats, and over water; roosts in buildings, crevices, under bark, and snags; caves are used as night roosts	Yes	Observed
<i>Myotis thysanodes</i>	fringed myotis	-/-/SBNF SS	Primarily drier woodlands, including oak, pinyon-juniper, ponderosa pine; also occurs in desert scrub, mesic coniferous forest, grassland, and sage-grass steppe from sea level to 9,350 feet above msl. Roosts in crevices in buildings, mines, rocks, cliff faces, and bridges, and large, decadent trees and snags	Yes	Low potential
<i>Lasionycteris noctivagans</i>	silver-haired bat	-/-/SBNF WL	Mixed conifer forests (old growth); roosts under bark and large snags	Yes	Low potential/
<i>Lasiurus xanthius</i>	western yellow bat	-/SSC/SBNF WL	Riparian, desert, washes, palm oasis; roosts in tree foliage	Yes	Low potential
<i>Lasiurus blossevillii</i>	western red bat	-/SSC/SBNF WL	Mixed conifer forests, riparian	Yes	Observed
<i>Lasiurus cinereus</i>	hoary bat	-/-/SBNF WL	Desert, woodlands, mixed conifer forests; roosts in tree foliage	Yes	Observed
<i>Euderma maculatum</i>	spotted bat	-/SSC/SBNF WL	Foothills, mountains, and desert regions of Southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Yes	Low potential
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	-/SC, SSC/SBNF SS	Forages in mixed conifer forests, riparian, aquatic, woodlands, chaparral and coastal sage scrub. Roosts in caves and mines.	Yes	Low potential
<i>Antrozous pallidus</i>	pallid bat	-/SSC/SBNF SS	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in manmade structures and trees	Yes	Observed
<i>Eumops perotis californicus</i>	western mastiff bat	-/SSC/SBNF WL	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels	Yes	Observed

**TABLE 8
SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA**

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Nyctinomops femerosaccus</i>	pocketed free-tailed bat	-/-/SBNF WL	Woodlands (pinyon-juniper), desert	Yes	Low potential
<i>Felis concolor</i>	mountain lion	-/-/SBNF WL, SBNF MIS	Riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree/brush edges	Yes	High potential
<i>Bassariscus astutus</i>	ringtail	-/-/SBNF WL	Riparian habitats and brush stands of most forest, oak woodlands, pinyon juniper, chaparral, desert, and shrub habitats at elevations from sea level to 8,800 feet above msl. Use hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses for cover, and are usually found close to permanent water.	Yes	Moderate potential
<i>Spilogale gracilis</i>	western spotted skunk	-/-/SBNF WL	Occurs in shrub and brush habitats with moderate canopy-closure; in pen forest and woodland with scattered openings; and in riparian habitats.	Yes	Low potential
<i>Taxidea taxus</i>	American badger	-/SSC/SBNF WL	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Yes	Moderate potential
<i>Odocoileus hemionus</i>	mule deer	-/-/SBNF MIS	Occur in early to intermediate successional stages of most forest, woodland, and brush habitats. Prefers a mosaic of various-aged vegetation that provides woody cover, meadow and shrubby openings, and free water.	Yes	Observed
<i>Ovis canadensis nelsoni</i>	Nelson's bighorn sheep	-/-/SBNF WL	Occur between from 3,000 to 10,000 feet above msl and graze and browse in areas of low growing vegetation close to steep terrain. Occur in steep slopes and cliffs, rough and rocky topography, sparse vegetation, canyons, washes, and alluvial fans. Water is a critical factor in the distribution of Nelson's bighorn sheep.	Yes	Low potential

msl: mean sea level;

SBNF: San Bernardino National Forest

Potential (Low/Moderate/High) Definition

Low: Species has low potential to occur within the Study Area due to factors including, but not limited to: very poor habitat quality; Study Area distance from nearest known location is greater than five miles; records in the vicinity of the Study Area are historic, i.e. greater than 20 years old; elevation range of the Study Area is within 200 feet of the lowest or highest recorded elevation for the species; and, required or preferred soils are of degraded quality.

Moderate: Species has moderate potential to occur within the Study Area. This species would have been characterized as having high potential; however, factors such as degraded habitat quality and/or absence of preferred soils reduce the potential of the species to occur.

High: Species has high potential to occur within the Study Area. The habitat and soil requirements are found in good or better condition within the Study Area and the Study Area is easily within the known elevation range for this species. Species that are observed within the Study Area have a high potential to occur.

** Limited habitat, species believed to be extirpated from the region.

^a Suitable habitat takes into consideration habitat and range/elevation restrictions. If the Study Area is outside the range/elevation, no suitable habitat is present.

^b The expectation finding is predominantly based on the resident/nesting status of a species; further explanation is provided in Section 5 when suitable habitat is present, but the species is not expected (e.g., wintering, migrant) or not observed due to lack of detection during focused surveys.

^c Refer to Section 5 of Species Accounts

^d *Neotoma ledipda intermedia* has been recently split into two species by Patton et al. 2014. All woodrats west of the coastal mountains are now considered *N. bryanti*.

Federal Status

FE: Federally Endangered

FT: Federally Threatened

State Status

SSC: California Species of Special Concern

SC: Candidate for State listing as Threatened or Endangered

SE: State-listed as Endangered

ST: State-listed as Threatened

WL: California Department of Fish and Wildlife Watch List

SBNF Status

MIS: Management Indicator species

SBNF WL: San Bernardino National Forest Watch List species

SBNF SS: San Bernardino National Forest Sensitive species

Invertebrates

Arrowhead Blue Butterfly (*Glaucopshyche piasus*)

The Arrowhead blue butterfly is an SBNF Sensitive species (USFS 2014). In Southern California, the subspecies occurs at high elevations in the San Bernardino Mountains north to the Frazier Park area in the mountains of Kern and Ventura Counties, and on the east and west slopes of the Sierra Nevada in Kern, Tulare, and Inyo Counties (Emmel and Emmel 1973). Habitats include chaparral and coastal sage scrub. Its food plant consists of lupine species (*Lupinus* spp.) including interior bush lupine (*L. excubitus*) and stinging lupine (*L. hirsutissimus*) (Emmel and Emmel 1973; Garth and Tilden 1988). The Study Area provides suitable habitat for this species; therefore, this species has a low potential because of its limited range in the San Bernardino Mountains.

Greenest Tiger Beetle (*Cicindela tranquebarica viridissima*)

The greenest tiger beetle is an SBNF Watch List species (USFS 2014). This species' habitat includes sandy flats along streams (Boyd 1982). It occurs in the San Bernardino Mountains along the Santa Ana River into Orange County (USFWS 1994). The historic range of the greenest tiger beetle spanned the coast of Southern California and included Orange, San Bernardino, and Riverside Counties including Mentone and along the San Jacinto River. It is currently known from the upper Santa Ana River wash area at the base of the San Bernardino Mountains and was observed in Bautista Canyon in the 1970s (Ballmer 1992; Stephenson and Calcarone 1999). The Santa Ana River in the Study Area provides marginally suitable habitat for this species; however, because of this species restricted range there is a low potential for this species to occur at the Santa Ana River portion of the Study Area.

Simple Hydroporus Diving Beetle (*Hydroporus simplex*)

The simple hydroporus diving beetle is an SBNF Watch List species (USFS 2014). This species' habitat is unknown and could be creeks, lakes or ponds, and probably microhabitats in shallow edge areas (Poole 1996). It occurs in the San Bernardino Mountains (CDFW 2015). Simple hydroporus diving beetle has been reported in a temporary pool in Big Bear 32 miles east of the survey area (CDFW 2015). There is a low potential for this species to occur because the Study Area provides limited suitable habitat, and passes through the San Bernardino Mountains.

Fish

Santa Ana Speckled Dace (*Rhinichthys osculus*)

The Santa Ana speckled dace is a California Species of Special Concern and an SBNF Sensitive species (USFS 2014). The species was historically distributed throughout the upland portions of the Santa Ana, San Gabriel, and Los Angeles River systems, but it currently has a limited distribution in the headwaters of the Santa Ana and San Gabriel Rivers (Moyle et al. 1995). This species prefers permanent streams with cool, flowing, rocky-bottomed washes with shallow cobble and gravel riffles. The closest CNDDDB record for Santa Ana speckled dace is from Cajon Wash, just north of Keenbrook Road, which is in the Study Area. It is also known to occur in City Creek (approximately 3.7 miles east of the Proposed Project) and Mill Creek (approximately 10.1 miles east of the Proposed Project). Both City and Mill Creeks are tributaries to the Santa Ana River. This species was observed in Cajon Wash at the Cleghorn Creek confluence during the arroyo toad surveys. There are no Santa Ana speckled dace occurrences in the vicinity of the portion of the Santa Ana River that crosses by the Proposed Project alignment.

Amphibians

Large-Blotched Ensatina (*Ensatina klauberi*)

The large-blotched ensatina is a California Species of Special Concern and an SBNF Sensitive species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It inhabits deciduous and evergreen forests as well as well shaded canyons, oak woodlands, mixed grasslands, and chaparral. Permanent water is not necessary for large-blotched ensatina (Stebbins 2003). It is found in Southern California and northern Baja California, Mexico. In California, it is found in the peninsular ranges and part of the eastern San Bernardino Mountains, where it is known to hybridize with the yellow-blotched ensatina. The large blotched ensatina has been reported from Strawberry Creek in Idyllwild, approximately ten miles south of the Study Area (CDFW 2015a). The Study Area supports suitable habitat for this species. This species has a high potential to occur within the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Monterey Ensatina (*Ensatina eschscholtzii eschscholtzii*)

The Monterey ensatina is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It inhabits deciduous and evergreen forests and shaded canyons, oak woodlands, mixed grasslands, and chaparral. Permanent water is not necessary for the Monterey ensatina (Stebbins 2003). They are found in Southern California and northern Baja California, Mexico from San Luis Obispo County south along the coast to the extreme northwest coast of Baja California. They are also found in the San Bernardino and San Gabriel Mountains up to 6,000 feet above msl. The Study Area supports suitable habitat for this species. This species has a high potential to occur within the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Arboreal Salamander (*Aneides lugubris*)

The arboreal salamander is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It is found on moist, mossy rock faces, under rocks and woody debris on land, inside stumps, and in urban yards and buildings (Stebbins 2003). The arboreal salamander occurs in yellow pine and black oak forests in the Sierra Nevada, and in coastal oak forests from Northern California to Baja California (Petranka 2010). This species is reported from the foothills of the National Forests in the Study Area (Stephenson and Calcarone 1999). In Southern California, this salamander is also associated with sycamores along seasonal streams. Limited suitable oak habitat for this species is present in the Study Area. Therefore, this species has a low potential to occur.

Garden Slender Salamander (*Batrachoseps major*)

The garden slender salamander is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. Habitat includes oak woodland, open chaparral, riparian woodlands, canyon bottoms, lower mountain slopes, grasslands, and washes. (Stebbins 2003). This species is often found in suburban yards and gardens where they benefit from the moisture from irrigation. This subspecies is endemic to California and Baja California Norte, Mexico. It is found in the coastal interior of Southern California from the foothills of the Santa Monica, San Gabriel and San Bernardino Mountains,

south into Baja California, Mexico to the vicinity of El Rosario. It is also found in a few desert localities where it has extended its range eastward from San Geronio Pass, through Cabazon and Snow Creek Village in Riverside County, and into the City of Palm Springs. This species has a high potential to occur because of the presence of suitable moist habitats for this species is present in the Study Area and the Study Area is within this species known range.

San Gabriel Mountain Slender Salamander (*Batrachoseps gabrieli*)

The San Gabriel Mountain slender salamander is an SBNF Sensitive species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. Habitat includes talus slopes, mixed conifer forests, and riparian habitat (Stebbins 2003). This subspecies is a California-endemic found in at least 13 locations from San Gabriel Canyon in the eastern San Gabriel Mountains to Kimbark and Waterman Canyon in the extreme western San Bernardino Mountains. This species also occurs in Lytle Creek (Stephenson and Calcarone 1999). This species has a low potential to occur because of the marginally suitable riparian habitat for this species within the Study Area.

Western Spadefoot Toad (*Spea hammondi*)

The western spadefoot toad is a California Species of Special Concern and an SBNF Watch List species. This species breeds in slow-moving streams, vernal pools, and temporary ponds, and is rarely encountered outside its breeding season (i.e., January-March) given that it aestivates in burrows during the driest summer months and hibernates in the coldest winter months, emerging occasionally to forage during suitable conditions (Lannoo 2005). It occurs in the Great Valley and bordering foothills, and in the Coast Ranges from Monterey Bay south to Baja California, Mexico (Stebbins 2003). Western spadefoot toads inhabit valley and foothill grasslands, open chaparral, and pine-oak woodlands. From the Santa Clara River Valley in Los Angeles and Ventura Counties southward, an estimated 80 percent of the habitat for this species has been lost (Stebbins 2003). The western spadefoot toad has been reported from March Air Force Base, less than 6.5 miles west of the Study Area (CDFW 2015a). Suitable chaparral and temporary ponded habitat for this species is present in the Study Area. This species has a moderate potential to occur in the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Arroyo Toad (*Anaxyrus californicus*)

The arroyo toad is a federally listed Endangered species, a California Species of Special Concern, and an SBNF Management Indicator species. Early descriptions of the habitat requirements for the arroyo toad are based on detailed life history studies conducted over a period of 16 year by Dr. Samuel Sweet (1992, 1993). Much of that work was conducted in the Los Padres National Forest in Santa Barbara County. Subsequently, additional population-level studies in other portions of the range have resulted in a somewhat broader habitat description (e.g., Griffin et al. 1999; Ramirez 1999, 2000, 2001, 2002a, 2002b, 2002c). It can generally be said that the arroyo toad frequents third order washes, streams, and arroyos in semi-arid parts of the southwest; however, they are also found in first or second order headwaters. Stream substrates range from sands to small cobble, with sandy banks supporting mule fat willows (*Salix* spp.), cottonwoods (*Populus* spp.), and/or western sycamore. The arroyo toad breeds both within streams and in small backwater pools that form along the stream margins, usually in relatively shallow water (ten centimeters or four inches) with sand or gravel substrate.

On February 9, 2011, the USFWS published a Final Rule designating 98,366 acres of critical habitat in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, California. The Study Area overlaps portions of Unit 20 of designated critical

habitat, which encompasses 1,775 acres in Cajon Wash from approximately 0.4 mile upstream of I-15 to SR-138. The closest known population for this species occurs in Cajon Wash, approximately 0.5 mile downstream of the Crowder Creek confluence, approximately 0.3 mile to the west of the Proposed Project alignment.

On March 27, 2014, the USFWS proposed a rule to reclassify the arroyo toad from Endangered to Threatened. The public comment period closed on November 17, 2014, and a determination was anticipated by March 27, 2015 (USFWS 2014). A final determination has not yet been announced.

The nearest reported occurrence of this species occurs in Cajon Wash, approximately 0.25 mile west of the Study Area (CDFW 2015a). Suitable breeding habitat for this species is present in the Study Area within Cajon Wash, Crowder Creek, Cleghorn Creek, and Pitman Creek; however, this species was determined to be absent from the Study Area based on negative protocol level surveys conducted in 2015 within Crowder Creek, Cleghorn Creek, and Pitman Creek. The native upland habitat areas adjacent to Cajon Wash, including those upland areas within the Study Area adjacent to Cajon Wash, may also provide suitable estivating habitat for this species. The complete Arroyo Toad Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 5.

Red Spotted Toad (*Anaxyrus punctatus*)

The red spotted toad is an SBNF Watch List species. It inhabits desert streams and oases, open grassland and scrubland, oak woodland, rocky canyons, and arroyos (Stebbins 2003). This species has an extensive range through the American southwest and into Mexico, including the full length of Baja California, Mexico. In California, it is found throughout the southeastern deserts as far north as Death Valley, and in localized populations in the peninsular ranges. It is associated with rocky desert streams and can be found in oases, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, and river floodplains. It prefers rocky areas where it can hide in cracks and under rocks. Suitable habitat for this species is present in the Study Area; but this species has a low potential to occur because of this species' limited range within the Study Area.

Reptiles

Desert Tortoise (*Gopherus agassizii*)

The desert tortoise is a federally and State-listed Threatened species. It has two distinct populations, the Mojave and Sonoran, of which the Mojave population is divided into two subpopulations, the eastern and western Mojave. It has been suggested that these populations could be divided into species, subspecies, distinct population segments, and evolutionarily significant units or management units (Berry et al. 2002); however, these designations remain unresolved. In 1994, the USFWS published the *Desert Tortoise (Mojave Population) Recovery Plan* (USFWS 1994b), which was subsequently revised in 2011 (USFWS 2011). This plan identified threats to the desert tortoise and its habitat. It also recommended actions to recover tortoise populations to the point where the species would persist as viable populations in the wild and eventually be removed from protections provided by the FESA.

Within the western Mojave range, tortoises occur in creosote bush, cactus (*Opuntia* spp.), and shadscale scrub habitats, and Joshua tree woodland between sea level and 4,000 feet above msl (Berry 1990). Desert tortoises have unique characteristics that enable them to survive in a desert environment. Elephantine limbs and well-developed claws enable tortoises to burrow into desert soils to escape the heat of the day. Introduced plant species have greatly encroached upon native plant species in the desert tortoise's natural range and have, therefore, degraded the existing

natural ecosystem. Desert tortoises have, however, adapted to eating filaree (*Erodium* spp.) and other non-native species (Brooks 1999).

In 1994, the USFWS designated approximately 6.4 million acres as “critical habitat” for the Mojave population of the desert tortoise (USFWS 1994a). The Study Area is located within designated critical habitat.

The protocol-level desert tortoise surveys performed within the Survey Area identified five burrows that could potentially be used by desert tortoises and one that was definitely used by desert tortoise. The latter was a Class 3 burrow that was found at the Shaver Summit Pressure Limiting Station. Additionally, ten scat from four different locations were found at the Shaver Summit Pressure Limiting Station. Five of the scat from two locations were from the current year while the remaining five scat in the two other locations were deposited in a year prior to the survey. Throughout the rest of the Survey Area, three of the burrows identified during the survey were classified as Class 4, and two burrows were classified as Class 5. Although suitable habitat for desert tortoise was observed in the Study Area, no live tortoises, tortoise carcasses, scat, or egg shell fragments were observed in the Study Area except at the Shaver Summit Pressure Limiting Station location, where scat and a Class 3 burrow were observed. The presence of only Class 4 and 5 burrows in other portions of the Survey Area, combined with the absence of other diagnostic desert tortoise sign, indicates that desert tortoises likely do not occur in the Survey Area outside of the Shaver Summit Pressure Limiting Station. The complete Desert Tortoise Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 6.

Mojave Black-Collared Lizard (*Crotaphytus bicinctores*)

The Mojave black-collared lizard is a SBNF Watch List species. This medium-sized lizard inhabits the Great Basin, Mojave, and Sonoran Deserts and is associated with sparsely vegetated, rocky habitats, including alluvial fans, lava flows, hillsides, canyons, and rocky plains (Jones and Lovich 2009). Scattered populations are known approximately one mile west of the Study Area in the Middle and North Forks of Lytle Creek, but the majority of this species distribution is in the Mojave Desert (Stebbins 2003). There is suitable habitat for this species in the Mojave Desert portion of the Study Area. Therefore, the Mojave black-collared lizard has a high potential to occur in the Study Area.

Zebra-Tail Lizard (*Callisaurus draconoides rhodostictus*)

The zebra-tail lizard is an SBNF Watch List species. This medium-sized lizard is widely distributed throughout the Great Basin, Mojave, and Sonoran Deserts. In California, it inhabits the Mojave and Sonoran Deserts up to the desert slopes of the Peninsular and Transverse Mountains, and from the Owens Valley north along the eastern edge of the Sierra Nevada Mountains. It inhabits flat, sandy, and open terrain such as dunes, desert pavement, floodplains, arroyos, and drainages in foothills and bajadas from sea level to approximately 4,760 feet above msl (Jones and Lovich 2009). Suitable habitat for this species occurs in the Study Area. This species has a high potential to occur in the Mojave and Sonoran Desert portion of the Study Area because of the presence of suitable habitat sandy habitat and drainages.

Coast Horned Lizard (*Phrynosoma blainvillii*)

The coast horned lizard is a California Species of Special Concern and a SBNF Watch List species. Coast horned lizard occurs throughout much of California, west of the desert and Cascade-Sierra highlands south to Baja California, Mexico (Stebbins 2003). This species is a small, spiny, somewhat rounded lizard that occurs in scrubland, grassland, coniferous forests, and broadleaf woodland vegetation types (Stebbins 2003). It prefers open areas for basking and

loose, friable soil for burrowing (Stebbins 2003). It has been reported north of the Cajon Pass, less than 0.25 mile east of the Study Area (CDFW 2015a), and was observed in the Study Area during 2015 focused surveys for arroyo toad.

Granite Night Lizard (*Xantusia henshawi*)

The granite night lizard is an SBNF Watch List species. This small lizard is endemic to the northern Peninsular Ranges in California and Baja California, Mexico. This species is found exclusively in association with cracks and crevices in exfoliating granitic and volcanic rocks. It is found in coastal sage scrub, chaparral, oak and sycamore woodland, and desert intergrade vegetation types (Jones and Lovich 2009). The Study Area is located in the northern extent of its range, near City of Banning, California. Marginally suitable habitat for this species occurs in the Study Area. Therefore, this species has a low potential to occur because the Study Area is at this species northern range limit and supports marginally suitable habitat that lacks exfoliating granitic and lava rocks.

Desert Night Lizard (*Xantusia vigilis*)

The desert night lizard is an SBNF Watch List species. This small lizard inhabits the Mojave and Sonoran Deserts in California, Nevada, Arizona, and Utah. This species lives in and under decaying yuccas, agaves, Bigelow's Nolin, Saguaro, prickly pears, and pine logs (Jones and Lovich 2009). Although associated primarily with the desert, this species ranges up into the adjacent chaparral and lower pine woodland habitats (Jones and Lovich 2009). Desert night lizard was observed in the Study Area during 2015 burrowing owl surveys.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

The Coronado skink is an SBNF Watch List species. This wide spread species occupies a wide variety of habitats west of the Rocky Mountains. It is found in treeless meadows, grasslands, riparian areas, chaparral, piñon/juniper, juniper/sage woodland, and open pine/oak forests. Coronado skinks are secretive, and are seldom found on the surface of the ground, as they prefer to hide under rocks, woody debris, leaves, and thick vegetation (Jones and Lovich 2009). Suitable chaparral and piñon/juniper habitat is present in the Study Area; therefore, the Coronado skink has a high potential to occur in the Study Area (Stephenson and Calcarone 1999).

Orange-Throated Whiptail (*Aspidoscelis hyperythrus*)

The orange-throated whiptail is a California Species of Special Concern and an SBNF Sensitive species. This species occurs between sea level and 2,000 feet above msl in the western Peninsular Ranges from Orange and San Bernardino Counties south to Baja California, Mexico (Stebbins 2003). It occurs in washes and in open areas of sage scrub and chaparral with gravelly soils, often with rocks. It prefers well drained, friable soil on slopes with a southern exposure that are barren or only sparsely covered with vegetation. Approximately 75 percent of its former range has been lost to development, and remaining populations are highly fragmented (Stebbins 2003). Suitable habitat for this species is present and the orange-throated whiptail has been reported from the Study Area (CDFW 2015a); therefore, this species has a moderate potential to occur because of the Study Area supports suitable habitat.

Southern California (Silvery) Legless Lizard (*Anniella stebbinsi [pulchra pulchra]*)

The Southern California legless lizard is a California Species of Special Concern and an SBNF Sensitive species. The taxonomy of the species was recently changed, but CDFW still uses the name silvery legless lizard (*A. pulchra pulchra*) to describe Southern California legless lizard. It is a small, secretive lizard that spends most of its life beneath the soil, under stones, logs, debris,

or in leaf litter. This species occurs throughout Southern California south of the Transverse Ranges into northern Baja California, Mexico (Papenfuss and Parham 2013). It requires areas with loose sandy soil, moisture, warmth, and plant cover. This subspecies occurs in chaparral, pine-oak woodland, beach, and riparian vegetation types at elevations between sea level and approximately 5,100 feet above msl (Stebbins 2003). This species has been reported in the San Gorgonio River Wash less than a mile south of the Study Area (CDFW 2015a). Suitable habitat for this subspecies is present in the Study Area; therefore, the Southern California legless lizard has a moderate potential to occur because of the presence of suitable habitat and a known location less than a mile from the Study Area.

Three-Lined Boa (*Lichanura orcutti*)

The three-lined boa is an SBNF Sensitive species. The taxonomy of the species was recently changed, but CDFW still uses the name rosy boa (*Charina trivirgata*) to describe the three-lined boa. This species occurs north of the US-Mexico border in San Diego County along the coastal Peninsular Ranges, northward into the Mojave Desert and eastward in the Sonoran Desert of California and Arizona. The three-lined boa is a rather secretive snake that is found from the deserts to the coast, but it is generally uncommon throughout its Southern California range. This species typically inhabits rocky, chaparral covered slopes and canyons up to approximately 6,600 feet above msl (Ernst and Ernst 2003). The three-lined boa is now quite rare in much of its historic range. It is known to occur in Lytle Creek approximately two miles west of the Study Area and also approximately two miles east of the Study Area at the east fork of Badger Canyon (CDFW 2015a). Suitable habitat for this species is present in the Study Area; therefore, the three-lined boa has a moderate potential to occur because of the presence of suitable habitat, known occurrence in Lytle Creek, but is generally rare across its historic range.

San Bernardino Ringneck Snake (*Diadophis punctatus modestus*)

The San Bernardino ringneck snake is an SBNF Sensitive species. Its range is limited to the Southern California coast from Santa Barbara south along the coast to San Diego County and inland into the San Bernardino Mountains. The San Bernardino ringneck snake inhabits moist habitats including sycamore alder riparian woodlands, and moist areas along perennial and intermittent streams, forests, grasslands, and chaparral (CDFW 2015a, Stebbins 2003). It occurs at elevations from sea level to 7,200 feet above msl (Stebbins 2003). This species is difficult to detect due to its secretive behavior, spending the majority of its life under cover. Suitable habitat for this species is present in the Study Area; therefore, this species has a high potential to occur in riparian and moist habitats in the Study Area along streams.

San Bernardino Mountain Kingsnake (*Lampropeltis zonata parvirubra*)

The San Bernardino mountain kingsnake is a California Species of Special Concern and an SBNF Sensitive species. This California endemic occurs in the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel Mountains and in the Verdugo Hills. It typically occurs in coniferous forests in the interior mountains, but at lower elevations and in coastal ranges it occurs in riparian woodlands, usually in canyon bottoms (Jennings and Hayes 1994). It may be found in narrow riparian woodlands in association with chaparral and coastal sage scrub. Rocks or rocky outcrops appear to be an important feature of suitable habitat (Jennings and Hayes 1994). It is found from sea level to an elevation of 9,480 feet above msl (Ernst and Ernst 2003). The nearest reported occurrence of this species is from Icehouse Canyon, approximately seven miles west of the Study Area (CDFW 2015a). Marginally suitable habitat for this species is present in the Study Area; therefore, this species has a moderate potential to occur because of the presence of suitable habitat in the Study Area, but the nearest known occurrence is seven miles from the Study Area.

Two-Striped Garter Snake (*Thamnophis hammondi*)

The two-striped garter snake is a California Species of Special Concern and an SBNF Sensitive species. It occurs from Monterey County south to El Rosario in Baja California, Mexico at elevations between sea level and approximately 8,000 feet above msl (Stebbins 2003). It is considered locally rare in southwestern California. This highly aquatic species occurs primarily in or near perennial or intermittent freshwater streams with rocky beds bordered by willows or other dense vegetation (Jennings and Hayes 1994; Stebbins 2003). It is estimated that development and other human impacts have reduced the historic range of this species in California by 40 percent (Stebbins 2003). The nearest reported occurrence of this species in the Study Area is approximately one mile southeast of the Cajon junction (CDFW 2015a). Suitable aquatic habitat for this species is present in the Study Area; therefore, this species has a high potential to occur in the Study Area because the presence of suitable aquatic habitats and the known reported occurrence one mile from the Study Area.

Northern Red-Diamond Rattlesnake (*Crotalus ruber ruber*)

The northern red-diamond rattlesnake is a California Species of Special Concern and an SBNF Sensitive species. This species ranges from approximately Orange County and San Bernardino Counties south to Baja California, Mexico at elevations from sea level to about 5,000 feet above msl (Stebbins 2003; Zeiner et al. 1988). It inhabits open scrub, chaparral, woodland, and grassland vegetation types. Suitable habitat for this species is present and this species has been reported from the Study Area (CDFW 2015a). The northern red-diamond rattlesnake was observed during the coastal California gnatcatcher surveys.

Southwestern Speckled Rattlesnake (*Crotalus mitchellii pyrrhus*)

The southwestern speckled rattlesnake is an SBNF Watch List species. This heavy bodied pit viper occurs in much of Southern California north to approximately the Mojave River, east into Nevada and extreme southwest Utah, south into Arizona and southern Baja California Norte, Mexico. This species usually occupies the hottest, driest, rocky microhabitats, such as canyons, foothills, buttes, and erosional gullies vegetated with thickets of chaparral, creosote bush, sagebrush, thorn scrub, and piñon-juniper woodlands (Ernst and Ernst 2003). Suitable habitat for this species occurs in the Mojave and Sonoran desert portions of the Study Area. This species has a high potential to occur in the Study Area because of the presence of suitable dry rocky habitats and erosional gullies.

Birds

Turkey Vulture (*Cathartes aura*) (Breeding)

The turkey vulture is an SBNF Watch List species. This is a widespread species from southern Canada and the United States south to Central and South America (AOU 1998; Kirk and Mossman 1998). Birds that breed in Canada and much of the northern states migrate south for the winter (Kirk and Mossman 1998). In Southern California, this species is a common migrant, but very local winter visitor that occurs primarily along the coast and at the Salton Sea and the Colorado River. It is uncommon throughout Southern California in summer (Garrett and Dunn 1981). In the western United States, they primarily nest in caves and protected rocky outcrops (Kirk and Mossman 1998). The Study Area provides suitable foraging, but a limited amount of suitable nesting habitat for this species; the turkey vulture was observed during focused winter raptor surveys but no nest was found (Exhibit 24). This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

Osprey (*Pandion haliaetus*) (Nesting)

The osprey is a California Fully Protected and Watch List species and is an SBNF Watch List species. A former California Species of Special Concern, numbers of this raptor in California have increased in recent decades (Shuford and Gardali 2008). This species occurs near large bodies of water including rivers, lakes, reservoirs, bays, estuaries, and surf zones (Zeiner et al. 1990a). Along the coast, ospreys occur most commonly through the fall and winter, although a few birds remain throughout the summer (Garrett and Dunn 1981). This species nests on platforms of sticks at the top of large snags, dead-topped trees, cliffs, or man-made structures (Zeiner et al. 1990a). As many as seven individuals of this species were observed along Lake Perris during focused raptor surveys. Except for Lake Perris (which is within the four-mile buffer area for the Focused Raptor Survey), the 1,300-foot wide Study Area does not provide suitable habitat (i.e., large bodies of water) for this species and no osprey have been observed in any other part of the Study Area during protocol level surveys. This species has a low potential to occur, only expected to fly over the Study Area periodically.

White-Tailed Kite (*Elanus leucurus*) (Nesting)

The white-tailed kite is a California Fully Protected species and an SBNF Watch List species. This species is an uncommon to locally fairly common resident in coastal Southern California, and a rare visitor and local nester on the western edge of the deserts (Garrett and Dunn 1981). This species nests primarily in oaks (*Quercus* spp.), willows, and sycamores, and forages in grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees. Many populations in North America have declined in the 1980s and 1990s, including those in Southern California (Dunk 1995). This species was observed along San Timoteo Canyon Road in the South Coast Region of the Study Area during focused raptor surveys observed. The South Coast Region of the Study Area provides suitable foraging and nesting habitats for this species, and it was observed during the surveys.

Bald Eagle (*Haliaeetus leucocephalus*) (Nesting and Wintering)

The bald eagle is a State-listed Endangered species, a California Fully Protected species, and an SBNF Sensitive species. This species was recently delisted by the USFWS and will be monitored for the next 20 years as part of the Post-Delisting Monitoring Plan for the species. This species requires large bodies of water or free-flowing rivers with abundant fish and adjacent snags or perches, and nests in large, old-growth trees or snags in remote stands near water (Zeiner et al. 1990a). This species was not observed during focused raptor surveys; however, there are records for the bald eagle at Lake Perris and Glen Helen Regional Park (eBird 2015). The 1,300-foot Study Area does not provide suitable habitat for this species (i.e., large bodies of water or free-flowing rivers); therefore, the bald eagle is not expected to occur. This species has a low potential to occur, only expected to fly over the Study Area periodically.

Northern Harrier (*Circus cyaneus*) (Nesting)

The northern harrier is a California Species of Special Concern and an SBNF Watch List species. It is a regular winter migrant in marshes and fields throughout Southern California, but is very scarce as a local breeder (Garrett and Dunn 1981). Some breeding populations may be resident, though the species appears to be nomadic, both between years and during the breeding season. This raptor occurs year-round over open habitats, nesting on the ground within dense vegetation (Shuford and Gardali 2008). This species was observed east of Lake Perris during focused raptor surveys. The South Coast Region of the Study Area provides suitable foraging, but only a limited amount of suitable nesting habitat for this species, and it was observed during the surveys.

Sharp-Shinned Hawk (*Accipiter striatus*) (Nesting)

The sharp-shinned hawk is a California and SBNF Watch List species. This small raptor breeds in high elevation forests in the western United States and boreal forests in Canada and Alaska (Bildsein and Meyer 2000). It is a fairly common migrant and winter visitor, but very rare summer breeder in the mountains of Southern California (Garrett and Dunn 1981). Nesting records exist for higher elevations of the San Gabriel and San Bernardino Mountains (Garrett and Dunn 1981; Stephenson and Calcarone 1999). Two individuals were observed on the north slope of the San Gabriel Mountains in February during focused raptor surveys. The Study Area provides foraging opportunities for this species, but not suitable nesting habitat. It was observed during the surveys.

Cooper's hawk (*Accipiter cooperii*) (Nesting)

Cooper's hawk (*Accipiter cooperii*) is a California and SBNF Watch List species. Breeding populations of this former California Species of Special Concern have increased in recent years as they have expanded into urban areas (Shuford and Gardali 2008). Both resident and migratory populations occur in the region. Wintering Cooper's hawks are often seen in wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. The Transverse Mountain and South Coast Regions of the Study Area provide both suitable foraging and nesting habitat for this species, and it was observed during the surveys.

Swainson's Hawk (*Buteo swainsoni*) (Nesting)

Swainson's hawk is a State-listed Threatened species and a SBNF Watch List species. This gregarious raptor migrates and forages in flocks that sometimes number in the thousands. Swainson's hawk formerly bred along the Southern California coast, but breeding is now mostly limited to the Sacramento and San Joaquin Valleys, extreme northeast California, and Mono and Inyo Counties. It breeds over grassland-dominated habitats in North America where its prey generally consists of small rodents, birds, and reptiles. During winter and migration or for non-breeding individuals in summer, this raptor forages primarily on insects (Bechard et al. 2010). Focused surveys for nesting Swainson's hawk in the Study Area were negative. There was one observation of this species, a migrant northeast of Lake Perris on March 20, 2015. This individual was with a flock of turkey vultures, as is common for migrating individuals of this species. Therefore, Swainson's hawk is not expected to nest within the Study Area but is expected to occur as a migrant. The complete Raptor Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 10.

Ferruginous Hawk (*Buteo regalis*) (Wintering)

The ferruginous hawk is a California and SBNF Watch List species. This is an open-country raptor that inhabits grasslands, shrublands, rangelands, and plowed agricultural fields. It winters exclusively in California (Bechard and Schmutz 1995). In Southern California, it is a rare to uncommon winter visitor to coastal areas, but is fairly common locally around agricultural areas and some valleys in the interior of Southern California (Garrett and Dunn 1981). One individual was observed over the San Bernardino Airport on March 6, 2015 during focused raptor surveys. The Study Area provides a limited amount of suitable foraging (i.e., grasslands/shrublands). This species does not nest in Southern California. It was observed during the surveys as a winter visitor. This species has a low potential to occur for foraging, and no potential for nesting.

Golden Eagle (*Aquila chrysaetos*) (Nesting and Wintering)

The golden eagle is a California Fully Protected species and a California and SBNF Watch List species. Golden eagles generally inhabit open and semi-open country such as prairies,

sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions in areas with sufficient mammalian prey base and near suitable nesting sites. Breeding occurs primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas of western U.S. (Kochert et al. 2002). During focused golden eagle aerial surveys, two adult golden eagles were observed flying just above Lone Pine Canyon Road in the Cajon Pass area. The Study Area provides suitable habitat for this species, and the observation made during the focused survey indicates that this species is expected to winter and/or nest in the Study Area. This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

Western Screech-Owl (*Otus [Megascops] kennicottii*)

The western screech owl is an SBNF Watch List species. Although considered a resident throughout California, its distribution is often patchy; it is apparently absent from the higher regions of northern and north-central mountains, Warner Mountains, Cascade-Sierra axis, White Mountains, southern mountains, central and western Mojave Desert, Salton Sea Basin, and recently, highly urbanized areas in coastal lowlands from Ventura County south to San Diego County (Garrett and Dunn 1981; Unitt 2004). This species occupies a wide variety of woodland and forest habitats, with the highest densities in riparian deciduous woodlands at low elevations (Canning and Angell 2001). The Transverse Mountain and South Coast Regions of the Study Area provide a limited amount of suitable habitat for this species; therefore, the western screech owl has a moderate potential to occur based on the limited amount of woodland/riparian habitat within the Study Area.

Northern Pygmy-Owl (*Glaucidium gnoma*)

The northern pygmy-owl is an SBNF Watch List species. This species occupies forests or open woodlands in foothills and mountains, including adjacent meadows while foraging (AOU 1998). Specific nesting habitat is more variable and includes pure and mixed species coniferous forests, mixed coniferous-deciduous riparian forests, aspen stands in pine forests, and highland pine forests (Holt and Petersen 2000). The southern limits of the northern pygmy-owl are the San Bernardino Mountains; previous reports of observations south of San Diego County (Unitt 2004) and the San Jacinto Mountains have been recanted. During the focused raptor surveys, this species was heard calling on Lytle Creek Road in the Transverse Mountain Region of the Study Area. The Transverse Mountain Region of the Study Area provides a limited amount of suitable habitat for this species, and it was observed during the surveys.

Long-Eared Owl (*Asio otus*) (Nesting)

The long-eared owl is a California Species of Special Concern and an SBNF Watch List species. The breeding range of this species in California includes Central and coastal Southern California (AOU 1998). This species occupies coniferous, deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, and desert oases. Wooded areas with dense vegetation are needed for roosting and nesting, while open grasslands or shrublands are needed for hunting (Marks et al. 1994; AOU 1998). Population declines in Southern California are attributed to loss of riparian and grassland habitats to development (Marti and Marks 1989; Bloom 1994). This species was not detected during focused raptor surveys; however there are records for this species at Lake Perris and the nearby San Jacinto Wildlife Area. The Transverse Mountain and South Coast Regions of the Study Area provide a limited amount of suitable habitat for this species; therefore, the long-eared owl has a low potential to occur.

Black Swift (*Cypseloides niger*) (Nesting)

The black swift is a California Species of Special Concern and a SBNF Watch List species. The breeding range in California includes the Cascade-Sierra Nevada region, from Shasta and Siskiyou Counties south to Tulare and Mono Counties; along and near the coast from Santa Cruz County south to San Luis Obispo County and in Southern California, in the San Gabriel, San Bernardino, and San Jacinto Mountains (Garrett and Dunn 1981; Foerster and Collins 1990). This species nests in dark, inaccessible sites with unobstructed flight paths on ledges or shallow caves in steep rock faces and canyons, usually behind or next to waterfalls, on sea cliffs and in sea caves, and occasionally in limestone caves (Knorr and Knorr 1990; Foerster and Collins 1990; Legg 1956; Davis 1964). Threats to this species are largely unknown (Lowther et al. 2002). The Study Area does not provide suitable habitat and is outside the known range for this species; therefore, the black swift is not expected to occur for breeding but may occur as rare migrant.

Calliope Hummingbird (*Selasphorus [Stellula] calliope*)

The calliope hummingbird is an SBNF Watch List species. This is a neotropical migrant that breeds in the mountains of southwest Canada, western United States, and northern Baja California, Mexico (Calder and Calder 1994; AOU 1998). It primarily winters in western Mexico from southern Sinaloa and Durango south to Oaxaca (Calder and Calder 1994). In Southern California, it is a fairly common but local breeder in the mountains, including the northern side of the San Gabriel Mountains, the northern and eastern slopes of the San Bernardino Mountains, and the San Jacinto Mountains. Breeding habitat in Southern California consists of mountain meadows and streamside thickets of willows within arid mixed coniferous forest (Garrett and Dunn 1981). The Study Area does not provide suitable breeding habitat for this species; therefore, the calliope hummingbird is not expected to occur for breeding but may occur as a rare migrant.

Lewis's Woodpecker (*Melanerpes lewis*) (Nesting)

Lewis's woodpecker is an SBNF Watch List species. This species occurs west of the Great Plains and breeds in open forests ranging from low-elevation riparian habitats to higher-elevation burns and pine forests. Throughout its range, it has an irregular distribution and is relatively uncommon (Vierling et al. 2013). Its movements in Southern California are very erratic, but it is generally a fairly common winter visitor to interior areas of the coastal zone, the lower slopes of the mountains, and in the northern deserts. Although rare, breeding has primarily occurred in the northern part of the region, but there are nesting records for the San Bernardino Mountains (near Big Bear Lake in 1968 and near Pioneertown in 1979) and at Big Pine, Inyo County (Garrett and Dunn 1981). The Transverse Mountain and South Coast regions of the Study Area provide a limited amount of suitable wintering habitat; therefore, Lewis's woodpecker has a moderate potential to occasionally winter in the Transverse Mountain and South Coast Regions of the Study Area.

Red-Breasted Sapsucker (*Sphyrapicus ruber*) (Nesting)

The red-breasted sapsucker is an SBNF Watch List species. This species breeds in woodlands and forests of coastal lowlands and mountain ranges from southeast Alaska to northwest Baja California, Mexico extending inland to the Sierra Nevada and extreme western Nevada (Lake Tahoe); locally in southern Nevada; and possibly in western Arizona (Mohave County). It winters throughout much of the breeding range, but expands southward to include most of California (west of deserts) and northwest Baja California, Mexico (AOU 1998, Walters et al. 2014). In Southern California, this is a fairly common breeder in mountains west of the deserts, and it breeds in coniferous forests that have a mixture of deciduous trees (Garrett and Dunn 1981). The Transverse Mountain and South Coast regions of the Study Area provide suitable wintering habitat (i.e., lowland mixed woodlands), but no suitable breeding habitat (higher elevation conifer

forests); therefore, the red-breasted sapsucker has a moderate potential to occur in the Study Area in winter, but not in summer.

Nuttall's Woodpecker (*Picoides nuttallii*) (Nesting)

Nuttall's woodpecker is an SBNF Watch List species. Nuttall's woodpecker is a resident from Northern California south to Baja California, Mexico and is generally found west of the Sierra divide and deserts. This species primarily occupies oak woodlands, but is also found in riparian woodlands and, rarely, in conifer forests. It tends to be found in greater numbers in riparian habitats in Southern California as oaks decrease in abundance. Human activities such as urban, suburban, or agricultural development that result in reducing extent or quality of oak woodlands and riparian habitats impact total numbers (Lowther 2000). The Transverse Mountain and South Coast regions of the Study Area provide suitable habitat for Nuttall's woodpecker, and it was observed in both regions during the surveys.

Merlin (*Falco columbarius*) (Wintering)

The merlin is a California and SBNF Watch List species. This small falcon is widespread in North America and prefers vast open space areas such as estuaries, grasslands, and deserts where it hunts small flocking birds such as sandpipers, larks, sparrows, and pipits (Warkentin et al. 2005). This species is generally a rare to uncommon migrant and winter visitor to California (Garrett and Dunn 1981). The Study Area provides suitable foraging, but no suitable nesting habitat for this species; therefore, the merlin is expected to occur throughout the Study Area as a migrant, but only in the South Coast Region during the winter season. This species has a moderate potential to occur during the winter within the Study Area.

American Peregrine Falcon (*Falco peregrinus anatum*) (Nesting)

The American peregrine falcon is a California Fully Protected species and an SBNF Watch List species. Due to recent population gains, this species was delisted from the federal list of Endangered species by the USFWS (1999a), and the California Fish and Wildlife Commission voted for its removal on December 12, 2008, from the California list of Endangered species by the CDFW. As a delisted species, the peregrine falcon will continue to be periodically monitored until 2015 (USFWS 2006a). Peregrine falcons prey almost exclusively on birds and use a variety of habitats, particularly wetlands and coastal areas. While this falcon is a rare summer resident in Southern California, it is more common during migration and the winter season. For nesting, this falcon prefers inaccessible areas such as those provided by cliffs, high building ledges, bridges, and other such structures. A single peregrine falcon was observed in the Study Area during focused raptor surveys, perched in a tree. The Transverse Mountain and South Coast regions of the Study Area provide suitable foraging and a limited amount of suitable nesting habitat for this species, but no nests or nesting sites were identified. This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

Prairie Falcon (*Falco mexicanus*) (Nesting)

The prairie falcon is a California and SBNF Watch List species. Preferred foraging habitats include grassland and scrub vegetation types. It is an uncommon year-round resident in the interior of Southern California (Garrett and Dunn 1981). Prairie falcons nest almost exclusively on cliffs (Clark and Wheeler 2001). The prairie falcon is an increasingly scarce winter resident and very rare summer resident along the Southern California coast (Unitt 1984; Lehman 1994; Hamilton and Willick 1996). All four Study Area regions provide suitable foraging and a limited amount of potentially suitable nesting habitat for this species. One prairie falcon was observed near Lake Perris during focused raptor surveys, but no nests or nesting sites were identified.

Olive-Sided Flycatcher (*Contopus cooperi*) (Nesting)

The olive-sided flycatcher is a California Species of Special Concern. This species is a long-distance migrant between its North American breeding grounds and Central and South American wintering grounds (Murphy 1989). Olive-sided flycatcher breeds throughout Alaska, Canada, and down into western and northeastern North America, and Mexico (AOU 1998). Within the forest habitats that this species breeds in, it is most often associated with openings, edges, or human-made openings (Altman and Sallabanks 2012). The Transverse Mountain Region of the Study Area provides a limited amount of suitable nesting habitat for this species; however, only migrant olive-sided flycatchers were observed during the surveys. This species has a low potential to occur for nesting within the Study Area.

Gray Flycatcher (*Empidonax wrightii*)

The gray flycatcher is an SBNF Watch List species. This species breeds in pinyon/juniper woodlands and scrub habitats of the interior western United States, and it winters in Mexico and southeastern Arizona (Schlossberg and Sterling 2013). In Southern California, it is a common summer resident of the desert mountain ranges and locally on the arid slopes of the Transverse Ranges including the San Gabriel and San Bernardino Mountains (Garrett and Dunn 1981). Breeding locations include Sheep Creek near Wrightwood in the San Gabriel Mountains and areas east of Baldwin Lake in the San Bernardino Mountains (Stephenson and Calcarone 1999). Possible threats to this species include nest parasitism by brown-headed cowbird (*Molothrus ater*) and stand replacement due to increased fires (Stephenson and Calcarone 1999). The Study Area does not provide suitable nesting habitat for this species; therefore, the gray flycatcher is not expected to occur for breeding, but may occur as a rare migrant.

Loggerhead Shrike (*Lanius ludovicianus*) (Nesting)

The loggerhead shrike is a California Species of Special Concern and an SBNF Watch List species. This species has a wide distribution across the United States, including south-central Canada and much of Mexico, but it has declined throughout much of this range in recent decades. The loggerhead shrike was considered to be a fairly common year-round resident in Southern California (Garrett and Dunn 1981). It still occupies much of its former California range, but has been extirpated locally or shown reduction in overall numbers at many locations (Humble 2008). Shrikes inhabit open habitats with short vegetation such as pastures, agricultural fields, riparian areas, and open woodlands (Yosef 1996). They can often be seen perched on fences and posts from which they hang prey items (e.g., large insects, small mammals, and lizards). The Study Area provides suitable habitat for this species and it was observed primarily in the Mojave Desert Region during the surveys.

Least Bell's Vireo (*Vireo bellii pusillus*) (Nesting)

The least Bell's vireo is a federally and State-listed Endangered species. The vireo is now a rare and local summer resident of Southern California's lowland riparian woodlands. While destruction of lowland riparian habitats has played a large role in driving this species to its present situation, brood parasitism by brown-headed cowbirds is the most important factor in its decline (Garrett and Dunn 1981). The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation (USFWS 1986). A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species (Goldwasser 1981). The Transverse Mountain and South Coast Regions of the Study Area provide suitable nesting and foraging habitat for this species.

A total of 15 least Bell's vireo territories were established in the riparian bird Study Area during these focused surveys (Exhibits 25). A territory is defined as a singing male observed or heard

consistently in the same location on multiple surveys. Many of these males were likely paired and had nests, but this wasn't documented during these surveys due to the visibility limitations of the dense vegetation, the secretive behavior of females, and the difficulties of finding nests. Fledglings were observed and heard later in the season at a few locations that confirmed these territories were suitable for breeding.

The majority of these territories (at least 13) were present in the Santa Ana River upstream and downstream of South Waterman Avenue. The other two least Bell's vireo territories were upstream in the Santa Ana River at Orange Show Road and Tippecanoe Avenue. The only other least Bell's vireo sighting in the riparian bird Study Area during these surveys was of a singing male, which was detected along Cajon Creek on June 27, 2015. At this late date in the spring, and since it was not observed again, this male least Bell's vireo is considered to be an unpaired male that was wandering and not in an established territory.

The complete Least Bell's Vireo and Southwestern Willow Flycatcher Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 9.

Plumbeous Vireo (*Vireo plumbeus*)

The plumbeous vireo is an SBNF Watch List species. This species is found primarily in montane coniferous and mixed forests in Transition Zone at an elevation range of approximately 3,800 feet to 8,200 feet above msl, but also found in Upper Sonoran Zone, and locally in deciduous riparian woodland in arid intermontane basins above 3,000 feet above msl that are typically dominated by ponderosa pine (*Pinus ponderosa*) (Barlow 1977). This species breeds predominantly in the interior, mostly montane regions of western U.S., south through Mexico to Honduras and El Salvador. In California, it breeds along the eastern slope of the southern Sierra Nevada (central and eastern Mono and Inyo Counties), irregularly at Clark Mountain and in the San Bernardino Mountains in San Bernardino County, and possibly elsewhere in the central and eastern portions of the state (Goguen and Curson 2012). It winters in small numbers in coastal Southern California (Lehman 1994). The Transverse Mountain and South Coast Regions of the Study Area do not provide suitable habitat for this species; therefore, the plumbeous vireo is not expected to occur for breeding, but is expected to occur as a migrant or winter visitor.

Cassin's Vireo (*Vireo cassinii*)

Cassin's vireo is an SBNF Watch List species. This species breeds in the extreme western, mostly montane, regions of North America from British Columbia to Baja California, Mexico (AOU 1998). This species occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills at elevations from approximately 400 feet to 7,770 feet above msl in the southern part of its range and from sea level to 3,900 feet above msl in the north; however, it is found mostly in deciduous-dominated habitats, particularly oak in coastal regions and coniferous habitats of the Transition Zone, particularly ponderosa pine and Douglas fir (*Pseudotsuga menziesii*), in the interior (Small 1994; Campbell et al. 1997; AOU 1998). In Southern California, it breeds in the San Jacinto Mountains, Santa Rosa Mountains, and on the coastal slope of mountains in San Diego County (Garrett and Dunn 1981; Unitt 2004). It winters in small numbers in San Diego County, and casually in interior Southern California (Garrett and Dunn 1981). The primary threat to this species includes breeding habitat degradation due to land-use practices (Goguen and Curson 2002). The Transverse Mountain and South Coast Regions of the Study Area provide suitable nesting habitat for this species; therefore, Cassin's vireo is expected to occur either as a breeder or migrant. This species has a low potential to occur for nesting within the Study Area.

Warbling Vireo (*Vireo gilvus*)

The warbling vireo is an SBNF Watch List species. This species breeds in the extreme western, mostly montane, regions of North America from British Columbia to Baja California, Mexico; it is widespread in Northern California in the Klamath Mountains, the Coast Ranges, the Cascades and Warner Mountains, south through Sierra Nevada (mostly confined to west slope) and Tehachapi Mountains; and from San Francisco south through the Diablo Range and coastal ranges to San Gabriel Mountains and southern and western parts of San Bernardino Mountains (Gardali and Ballard 2000). In extreme southwestern California, it breeds in the San Jacinto Mountains, the Santa Rosa Mountains, and on the coastal slope of mountains in San Diego County (Garrett and Dunn 1981). This species occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills at elevations from approximately 400 feet to 7,900 feet above msl in the southern part of its range, and from sea level to 4,000 feet above msl in the north; however, it is found mostly in deciduous-dominated habitats, particularly oak in coastal regions and in coniferous habitats of the Transition Zone, particularly ponderosa pine and Douglas fir, in the interior (Campbell et al. 1997; AOU 1998; Gardali and Ballard 2000). The Transverse Mountain Region of the Study Area provides suitable breeding habitat for this species; therefore, the warbling vireo has a low potential to occur for nesting within the Study Area. This species was observed as a migrant.

California Horned Lark (*Eremophila alpestris actial*)

The California horned lark is a California and SBNF Watch List species. The California horned lark is a year-round resident in California (Zeiner et al. 1990a), and it breeds in Canada and Alaska (Beason 1995). This species occupies open, generally barren country, avoids forests, and prefers bare ground to grasses taller than a few centimeters (Wiens et al. 1987). The Study Area provides suitable habitat for this species and it was observed in the Mojave Desert and South Coast Regions of the Study Area during surveys.

Purple Martin (*Progne subis*) (Nesting)

The purple martin is a California Species of Special Concern and an SBNF Watch List species. This species is an uncommon to rare local summer resident in a variety of woodland and low-elevation habitats in the state, where it is a rare migrant in spring and fall. This species feeds on flying insects as it forages over riparian areas, forests, and woodland; it is found in a variety of habitats during migration (Zeiner et al. 1990a). Purple martins are secondary cavity nesters, usually selecting a nest site in a conifer or sycamore (Gallagher 1997). The Transverse Mountain Region of the Study Area provides a limited amount of suitable habitat, but it is outside known areas of breeding for this species; therefore, the purple martin is not expected to occur for breeding but may occur as rare migrant.

Tree Swallow (*Tachycineta bicolor*)

The tree swallow (*Tachycineta bicolor*) is an SBNF Watch List species. This species occupies open areas near bodies of water that include fields, marshes, shorelines, and wooded swamps with standing dead trees. Although found throughout the North American continent, in California this species winters in Southern California and breeds from the extreme southwest north through Central and Northern California. The Study Area provides suitable habitat for this species; therefore, the tree swallow is expected to occur. This species has a high potential to occur for nesting within the Study Area.

Swainson's Thrush (*Catharus ustulatus*)

Swainson's thrush is an SBNF Watch List species. This species occupies dense vegetation in coniferous forests, mixed hardwood-conifer forests, e.g., across Canada and northern New England, predominantly hardwood forests, e.g., in Northeast, riparian woodland and thickets of willow or alder, e.g., California and other western states at south end of range, aspen forests, e.g., southwest part of range, and sometimes coastal scrub. Depending on the location, this species may be associated with young, mature, or old-growth forests (Mack and Wong 2000). In California, this species breeds from the Oregon border south through coast range to Sonoma County (except higher elevations in northwest and eastern portions and grasslands in southeast); throughout the lower elevations of Marin County, along the central California coast to northern Santa Barbara County, locally along the South Coast (including San Gabriel and western San Bernardino Mountains) through San Diego County, and intermittently on Santa Catalina Island (Garrett and Dunn 1981). The Transverse Mountain and South Coast Regions of the Study Area provide suitable breeding habitat for this species; therefore, Swainson's thrush has a low potential to occur as a breeder and a high potential to occur as a migrant.

Hermit Thrush (*Catharus guttatus*) (Breeding)

The hermit thrush is an SBNF Watch List species. This species breeds in the boreal zone of Canada and locally in the high mountains of the western United States. It is a neotropical migrant that winters in the southern United States and Mexico south to Guatemala and east to Bermuda, but also along the Pacific Coast north to southwest British Columbia and north in the east to New England; it is the only *Catharus* thrush to winter in North America (AOU 1998; Dellinger et al. 2012). In Southern California, this species is a common migrant and winter visitor along the coast, uncommon in the interior, and an uncommon and local summer resident in mountain forests where it is most numerous at higher elevations of the San Bernardino Mountains (Garrett and Dunn 1981). The Study Area provides suitable winter habitat for this species and it is expected to occur during migration and winter; no suitable nesting habitat is present and the hermit thrush is not expected to occur in the Study Area in the summer.

Le Conte's Thrasher (*Toxostoma lecontei*)

Le Conte's thrasher is a California Species of Special Concern and an SBNF Watch List species. This species is endemic to the southwestern United States and northwestern Mexico (AOU 1998; Sheppard 1996). The northern breeding limits are central California from the Carrizo Plain of eastern San Luis Obispo County; the San Joaquin Valley of Fresno and Kern Counties, and east of the Sierra Nevada north to Mono County; and southern Nevada and southwestern Utah (Sheppard 1996; AOU 1998). It occupies open desert scrub habitats, particularly saltbush and creosote in association with sandy washes (AOU 1998). A single Le Conte's thrasher was located atop a California juniper just east of Baldy Mesa Road, south of the California Aqueduct, on February 4, 2015, during the raptor surveys. The Study Area provides suitable habitat in the Mojave Desert region, at the Shaver Summit Pressure Limiting Station, and at the Desert Center Compressor Station; therefore, Le Conte's thrasher has a low potential to occur.

American Pipit (Water Pipit) (*Anthus rubescens*) (Breeding)

The American pipit (water pipit) is an SBNF Watch List species. This species breeds largely in arctic meadows and alpine tundra throughout the range. In California, this species frequents alpine meadows of sedges (*Carex* spp.), dwarf *Salix*, and *Deschampsia*, and fell fields associated with cushion plants (*Silene*, *Trifolium*, *Phlox*, and *Arenaria*) (Hendricks and Verbeek 2012). It breeds above the tree line in the Sierra Nevada and on San Geronio Mountain, California. The Study Area does not provide suitable breeding habitat, and it is outside the known range for this

species; therefore, the American pipit is not expected to occur for breeding but is expected to occur as a migrant and winter visitor.

MacGillivray's Warbler (*Oporornis tolmiei*)

MacGillivray's warbler (*Oporornis tolmiei*) is an SBNF Watch List species. This species breeds in dense shrubby areas, such as coniferous forest undergrowth and edge, brushy hillsides, riparian thickets, and chaparral, often in cut-over or burned areas (AOU 1998). Although it primarily breeds in the Pacific Northwest, in California MacGillivray's warbler breeds in Southern California north to the Yukon and increasingly in the San Gabriel and San Bernardino Mountains. It may also breed in appropriate habitat in the eastern Mojave Desert near the Kingston Mountains and has increased in mountain habitats along the northern coast of California in response to regeneration after logging (Pitocchelli 2013; Shuford 1993). The Transverse Mountain Region of the Study Area does not provide suitable breeding habitat for this species; therefore, MacGillivray's warbler is not expected to occur as a breeder but is expected to occur as a migrant.

Common Yellowthroat (*Geothlypis trichas*)

The common yellowthroat is an SBNF Watch List species. Although it primarily breeds in Canada, northern and eastern U.S., common yellowthroat breeds and winters throughout western California (west of Cascade-Sierra axis and eastern deserts) north to the San Francisco Bay area and northern Central Valley (Guzy and Ritchison 1999). This species breeds in marshes (especially cattail), thickets near water, bogs, brushy pastures, old fields, and, locally, undergrowth of humid forest, while migration and winter habitats include brushy and shrubby areas in both moist and arid regions (AOU 1983). The Study Area provides suitable habitat for this species, and the common yellowthroat was observed throughout the Study Area during surveys.

Yellow Warbler (*Setophaga petechia*) (Nesting)

The yellow warbler is a California Species of Special Concern and an SBNF Watch List species. Although found largely in Canada and the northern U.S., the breeding range in California includes northern parts of the state, the coastal regions, and extends into Baja California Norte, Mexico; it is largely absent from the Central Valley and southern and eastern desert areas (Lowther et al. 1999). This species breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats (Dunn and Garrett 1997). The Transverse Mountain and South Coast Regions of the Study Area provide suitable habitat for this species, and it was observed during surveys.

Wilson's Warbler (*Wilsonia pusilla*)

Wilson's warbler is an SBNF Watch List species. This species' habitat is restricted to mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone; it may reach into alpine zone for western montane, northern, and northeastern populations (Finch 1989). Pacific coast populations use a variety of mesic shrub habitats in humid coastal forests, such as clear-cuts, rhododendron thickets, and stands of young conifers, alders, and maples. They also breed in dryer scrub habitats consisting of coyote bush and blackberry mixed with Douglas fir and in shrub understory of forests, including riparian woodlands, broadleaf evergreen, mixed coastal forests, and California bay (Dunn and Garrett 1997; Morrison 1981; Morrison and Meslow 1983). Its distribution roughly matches that of boreal and humid coastal forests in North America (Ammon and Gilbert 1999). Pacific coast populations of Wilson's warbler range from southwestern British Columbia south to coastal Santa Barbara County in California, and through the Sierra Nevada into mountains bordering the Los Angeles basin (Dunn and Garrett 1997). The Transverse Mountain and South Coast Regions of the Study

Area provide suitable habitat for this species; however, it is has been extirpated as a breeder from this portion of its range and not expected to nest in the Study Area (Dunn and Garrett 1997). It does occur as migrant in region and was observed during the surveys.

Yellow-Breasted Chat (*Icteria virens*) (Nesting)

The yellow-breasted chat is a California Species of Special Concern and an SBNF Watch List species. During the breeding season, this species occupies second growth, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows, including low wet places near streams, pond edges, or swamps; thickets with few tall trees; early successional stages of forest regeneration; and commonly occurs in sites close to human habitation (AOU 1983). In California, the yellow-breasted chat breeds in varied numbers and habitats. They are most numerous in the northwest, but are uncommon from Klamath Mountains region west to the inner Northern Coast Range and south to the San Francisco Bay area. They very locally distributed throughout the Southern Coast Range and Peninsular Range from Santa Clara County south to San Diego County likely breeding in the local in the mountains of Mono and Inyo Counties in eastern California (Small 1994). The South Coast Region of the Study Area provides suitable breeding habitat for this species and it was observed during the surveys.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

The Southern California rufous-crowned sparrow is a California and SBNF Watch List species. This species occupies moderate to steep slopes vegetated with low scattered scrub cover interspersed with patches of grasses, forbs or rock outcrops, and shows a preference for coastal sage scrub dominated by California sagebrush, but also may occur in coastal bluff scrub and chaparral (Cogswell 1968; Garrett and Dunn 1981; Collins 1999). This species is a resident of Southwestern California on the coastal slopes of the Transverse and Peninsular Ranges from northwestern Los Angeles County south to northwestern Baja California, Mexico. This species' range has been restricted due to loss, degradation, and fragmentation of suitable open scrub habitats on moderate to steep slopes as result of urban and agricultural development (Collins 1999). The Study Area provides suitable habitat for the Southern California rufous-crowned sparrow and it was observed in the Transverse Mountain and South Coast Regions of the Study Area during surveys.

Black-Chinned Sparrow (*Spizella atrogularis*) (Nesting)

The black-chinned sparrow is an SBNF Watch List species. This sparrow is endemic to the southwestern United States and Baja California and northwest to central Mexico where it breeds in chaparral, sagebrush, arid scrub, and brushy hillsides (AOU 1998). The northern limits of its breeding range are the western slopes of the Sierra Nevada in Mariposa County, California, southern Nevada, and southernmost Utah west of the Colorado River (Tenney 1997). It winters primarily in southern Arizona and New Mexico into north and central Mexico, and in southern Baja California, Mexico (AOU 1998; Tenney 1997). In Southern California, it breeds in open chaparral on arid rocky slopes of coastal and desert mountain ranges (Garrett and Dunn 1981). The Transverse Mountain Region of the Study Area provides suitable breeding habitat for the black-chinned sparrow, and it was observed during surveys.

Bell's (Sage) Sparrow (*Artemisiospiza belli*)

Bell's (sage) sparrow is a California and SBNF Watch List species. This coastal subspecies is an uncommon to fairly common local resident in the interior foothills of coastal Southern California. Bell's sparrow breeds in low, dense chamise chaparral and in dry scrub vegetation types, often with stands of cactus (Garrett and Dunn 1981). The Transverse Mountain Region of the Study

Area provides suitable breeding habitat for this Bell's sparrow, and it was observed during surveys.

Grasshopper Sparrow (*Ammodramus savannarum*) (Nesting)

The grasshopper sparrow is a California Species of Special Concern. This sparrow is an uncommon and very local summer resident along the coastal slope of Southern California (Garrett and Dunn 1981). In the southwestern part of its breeding range, this sparrow prefers more lush areas with some shrub cover in arid grasslands (Vickery 1996). The South Coast Region of the Study Area provides suitable habitat for this species; therefore, the grasshopper sparrow has a low potential to occur for nesting within the Study Area.

Song Sparrow (*Melospiza melodia*)

The song sparrow is an SBNF Management Indicator species. This common sparrow occurs throughout much of the United States and the southern half of Canada (AOU 1998). It is a polymorphic species for which 52 subspecies have been named (Arcese et al 2002). In California, it is a common year-round resident of riparian and other wet, scrub habitats along the coast, as well as locally into the mountains and deserts (Garrett and Dunn 1981). Although many populations in North America are migratory, there appears to be limited movement of migrant song sparrows into Southern California during the fall and winter seasons (Unitt 2004; eBird 2015). The Study Area provides suitable habitat for this species, and it was observed during surveys.

Lincoln's Sparrow (*Melospiza lincolni*)

Lincoln's sparrow is an SBNF Watch List species. This sparrow breeds in the boreal zone of Canada and locally in the high mountains of the western United States (Ammon 1995). This is a neotropical migrant that winters in the southern United States and Mexico south to El Salvador and Honduras, and also along the Pacific Coast north to southwest British Columbia (AOU 1998). In Southern California, this species is a fairly common migrant and winter visitor throughout the region and an uncommon and local summer resident in mountain meadows (Garrett and Dunn 1981). Southern California nesting localities in the vicinity of the Study Area include Big Bear Lake, Green Valley, and South Fork of the Santa Ana River in the San Bernardino Mountains and Tahquitz and Round Valleys in the San Jacinto Mountains (Stephenson and Calcarone 1999). The Study Area provides suitable wintering but no breeding habitat for this species; therefore, only migrants or wintering birds are expected and were observed during the surveys.

Tricolored Blackbird (*Agelaius tricolor*) (Nesting Colony)

The tricolored blackbird is a California Species of Special Concern and an SBNF Watch List species. In response to a petition received on October 21, 2014, to list the tricolored blackbird as an Endangered species, the California Fish and Game Commission voted on December 3, 2014, to approve an Emergency Listing of this species as Endangered or Threatened with effective dates of regulation being December 29, 2014, to June 30, 2015. On June 11, 2015, the California Fish and Game Commission voted to reject the CDFW's recommendation to proceed with the listing; thus, the tricolored blackbird will no longer have protections of CESA after June 30, 2015. This species is essentially a California endemic as an estimated 99 percent of the population occurs in the state (Meese et al. 2014). These colonially nesting birds prefer to breed in marsh vegetation of bulrushes and cattails and have also been recorded nesting in willows, blackberries, and mustard (Beedy et al. 1991). Tricolored blackbirds are a nomadic, wandering species during the non-breeding season and occupy colony sites intermittently (Unitt 1984). Preferred foraging habitats include agricultural fields, such as rice, alfalfa, irrigated pastures, and ripening or cut grain fields, e.g., oats, wheat, silage, as well as annual grasslands, cattle feedlots, and dairies

(Beedy and Hamilton 1999). They also forage in remnant native habitats, including wet and dry vernal pools and other seasonal wetlands, riparian scrub habitats, and open marsh borders. The Study Area provides no suitable nesting habitat for this species, but Study Area provides a limited amount of suitable foraging habitat. Therefore, the tricolored blackbird is not expected to occur in the Study Area for nesting, but has a low potential to occur for foraging.

Lawrence's Goldfinch (*Spinus [Carduelis] lawrencei*) (Nesting)

Lawrence's goldfinch is an SBNF Watch List species. This species breeds only in California and northern Baja California, Mexico, but winters to the east in Arizona, New Mexico, and Sonora, Mexico (Davis 1999). Garrett and Dunn (1981) considered this species a primarily summer resident that is occasionally common. It is a nomadic breeder that shows little loyalty to former breeding sites. Breeding habitat typically consists of arid and open woodlands near three features: chaparral or other brushy areas; tall annual weedy fields; and, a water source provided by either a stream, small lake, or farm pond (Davis 1999). The Study Area provides suitable breeding habitat, and it was observed during the surveys.

Mammals

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

The northwestern San Diego pocket mouse is a California Species of Special Concern (CDFW 2015) and an SBNF Watch List species (USFS 2014). The northwestern San Diego pocket mouse is one of six subspecies of the San Diego pocket mouse. This species occupies southwestern California including the eastern Mojave desert and the coastal basin between of the San Gabriel and San Bernardino Mountains from Cajon Pass, south through San Diego County. This nocturnal mouse utilizes sandy herbaceous areas, usually in association with rocks or coarse gravel. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, pinyon-juniper, and annual grassland from sea level to 6,000 feet above msl (Zeiner et al. 1990). The Study Area provides suitable habitat for this species; therefore, the northwestern San Diego pocket mouse is expected to occur in the Study Area. This species was observed during 2015 San Bernardino kangaroo rat focused trapping surveys.

Pallid San Diego Pocket Mouse (*Perognathus fallax pallidus*)

The pallid San Diego pocket mouse is a California Species of Special Concern and an SBNF Watch List species. The pallid San Diego pocket mouse is one of six subspecies of San Diego pocket mouse. This subspecies occupies the Mojave Desert areas to the east of the coastal mountains. This nocturnal subspecies utilizes sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. Habitats include sagebrush, coastal scrub, chamise-redshank, chaparral, mixed chaparral, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland from sea level to 6000 feet above msl (Zeiner et al. 1990). The Study Area provides suitable desert and sandy habitats in the Mojave and Sonoran desert portions of the Study Area for this species. Therefore, this species has high potential to occur in the Study Area.

San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*)

The San Bernardino kangaroo rat is federally Endangered and a California Species of Special Concern. Current known localities include Lytle Creek Wash, Cajon Wash near Devore, Santa Ana River Wash near Redlands, and Etiwanda Wash (all San Bernardino County) and Laborde Canyon in the Badlands, San Timoteo Canyon, Murrieta Hot Springs, Rimrock Reserve, and near Hemet (all Riverside County) (Bolster 1998; Zeiner et al. 1990). This species is active year-round and prefers sparse alluvial scrub/coastal sage scrub habitats on gravelly and sandy soils adjoining

river and stream terraces and on alluvial fans; they rarely occur in dense vegetation or rocky washes (Jameson and Peters 1988).

The USFWS designated critical habitat for the San Bernardino kangaroo rat in 2002. Critical habitat for this species includes four Units, two of which (Lytle Creek/Cajon Wash Unit [Unit 2] and Santa Ana River and Wash Unit [Unit 1]) are located within the Study Area.

Trapping results confirmed that the San Bernardino kangaroo rat is present in the Cajon Wash in close proximity to the I-15/I-215 interchange, immediately adjacent to the SBNF (Exhibit 26). Habitat conditions in these areas consist of alluvial fan sage scrub vegetation amidst fine sandy soils with a rock-boulder component varying in location, density, and diameter. Based on these results, it is estimated that the San Bernardino kangaroo rat occupies a minimum of 28.13 acres in Cajon Wash within the Study Area. Additionally, 132.17 acres of suitable but unoccupied habitat is considered present in Cajon Wash within the Study Area.

Trapping surveys also confirmed the presence of the San Bernardino kangaroo rat at all trapping locations within the Santa Ana River floodplain. Based on these results, it is estimated that the San Bernardino kangaroo rat occupies a minimum of 55.99 acres in the Santa Ana River within the Study Area. It is assumed that the San Bernardino kangaroo rat also occupies available habitat between the trapping areas. The San Bernardino kangaroo rat was not found along Cajon Boulevard south of the I-15/I-215 Interchange, in central Reche Canyon, or in north Moreno Valley. The complete San Bernardino Kangaroo Rat Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 12.

Stephens' Kangaroo Rat (*Dipodomys stephensi*)

Stephens' kangaroo rat is a federally Endangered and State-listed Threatened species. This nocturnal rodent has a small geographic range as it is endemic to Riverside County and adjacent north-central San Diego County, California. Stephens' kangaroo rat is active year-round and typically occupies disturbed annual grassland habitat characterized by a relatively sparse cover of both shrubs and herbaceous vegetation (Zeiner et al. 1990). Burrows may be excavated in firm soil (USWFS 1997).

Stephens' kangaroo rats were captured in the eastern portion of Reche Canyon during focused trapping protocol level surveys. Approximately 41.98 acres of suitable habitat within this area is considered to be occupied. Also based on these results, it is estimated that 6.42 acres of suitable but unoccupied habitat is present in Reche Canyon and north Moreno Valley within the Study Area. No Stephens' kangaroo rat were captured in other trapping areas within the Study Area.

Separately from the trapping survey, Stephens' kangaroo rat was reported as occurring at the elevational high point of Reche Canyon Road, comprising an additional 47.5 acres (O'Farrell and Uptain 1989). While this area was not trapped during the focused survey, it was determined to be suitable for Stephens' kangaroo rat during the habitat assessment conducted in spring 2015 in preparation for the trapping survey. Sign typical of Stephens' kangaroo rat was observed during the assessment. The observation of unique sign, combined with the presence of suitable habitat and known historic occurrence at the location of interest (O'Farrell and Uptain 1989), suggests that Stephens' kangaroo rat occupies this area. Based on the results of the focused trapping survey and the habitat assessment, it is estimated that Stephens' kangaroo rat occupies a total of 89.48 acres within the Study Area, specifically Reche Canyon and north Moreno Valley. The complete San Bernardino Kangaroo Rat Report, which includes data collected for Stephens' kangaroo rat, is provided in Attachment 12.

Los Angeles Pocket Mouse (*Perognathus longimembris brevipennis*)

The Los Angeles pocket mouse is a California Species of Special Concern and an SBNF Watch List species. It occurs from the Los Angeles Basin, from approximately Burbank and San Fernando in the northwest to San Bernardino on the northeast and Cabazon, Hemet, and Aguanga on the east and southeast. Its southwest range is not clear, but probably lies somewhere near the Hollywood Hills. Its preferred habitat is generally thought to be associated with alluvial systems containing fine, loose, and deep sandy soils or in areas immediately adjacent to such habitats (Bolster 1998). This species is nocturnal and active seasonally, hibernating to avoid colder temperatures in the fall and winter (Bolster 1998; Zeiner et al. 1990).

Focused trapping surveys confirmed that the Los Angeles pocket mouse is common in sandy habitats throughout most of the Study Area in Cajon Pass. Based on the trapping results, it is estimated that Los Angeles pocket mouse occupies 115.78 acres within Cajon Wash. This area is situated east of the I-15/I-215 interchange, north to Keenbrook Road. It is also estimated that 44.52 acres of suitable but unoccupied habitat is present in Cajon Wash within the Study Area. The species was not detected in the trapped areas within and immediately outside of the Santa Ana River floodplain; however, Los Angeles pocket mouse are known from nearby locations upstream (Stephen Montgomery, personal trapping records), and the species could feasibly colonize these areas over time. The habitat is considered currently unoccupied based on the results of the focused trapping survey.

Trapping results confirmed the presence of Los Angeles pocket mouse in Reche Canyon and north Moreno Valley. Based on the trapping results, it is estimated that Los Angeles pocket mouse occupies 43.17 acres within Reche Canyon. It is also estimated that 53.92 acres of suitable but unoccupied habitat is present in Reche Canyon and north Moreno Valley within the Study Area. The complete San Bernardino Kangaroo Rat Report, which includes data collected for Los Angeles pocket mouse, is provided in Attachment 12.

Bryant's Woodrat (*Neotoma bryanti*)

Bryant's woodrat is a California Species of Special Concern and an SBNF Watch List species. It is found throughout Southern California living in a variety of habitats including Mojave Desert scrub, pinyon-juniper woodlands, mixed and chamise-redshank chaparral, sagebrush, and coastal sage scrub. It occurs from sea level to 8,500 feet above msl (Patton et al 2014; Reid 2006; Zeiner et al. 1990). Woodrat houses are constructed with twigs, sticks, cactus parts, rocks, and are usually built against a rock crevice at the base of creosote or cactus or in the lower branches of trees (Ingles 1965; Zeiner et al. 1990). Desert woodrats are particularly abundant in rock outcrops, rocky cliffs, and slopes and are although primarily nocturnal (Zeiner et al. 1990). In 2014, the *Neotoma lepida* species complex was split into *Neotoma lepida*, which occupies habitats in the Mojave Desert, and *Neotoma bryanti*, which occupies habitats in all of Los Angeles County and the coastal slopes of the coastal mountains and coastal plain scrub habitats (Patton et al. 2014). The Study Area provides suitable habitat for this species; therefore, Bryant's woodrat was observed during the 2015 San Bernardino kangaroo rat focused trapping surveys.

Southern Grasshopper Mouse (*Onychomys torridus ramona*)

The southern grasshopper mouse is a California Species of Special Concern and an SBNF Watch List. This nocturnal species is active year-round in arid desert habitats of the Mojave Desert and other habitats, including succulent shrub, wash, and riparian areas, but also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats (Bolster 1998; Reid 2006). The Study Area provides suitable habitat for this species; therefore, the southern grasshopper mouse is expected to occur in the Study Area, and this species was observed during 2015 focused trapping surveys for Mohave ground squirrel.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit is a California Species of Special Concern and an SBNF Watch List species. This diurnal species is found year-round throughout California except at the highest elevations over 12,000 feet above msl (Ingles 1965; Zeiner et al. 1990). They are abundant at lower elevations in herbaceous and desert-shrub areas and open, early stages of forest and chaparral habitats. The San Diego black-tailed jackrabbit is a habitat generalist occurring in open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub. The Study Area provides suitable habitat for this species; therefore, the San Diego black-tailed jackrabbit is expected to occur in the Study Area, and this species was observed during 2015 focused surveys for coastal California gnatcatcher.

Western Small-Footed Myotis (*Myotis ciliolabrum*)

The western small-footed myotis is an SBNF Watch List species. It is a common bat of arid uplands in California. In coastal California, it occurs from Contra Costa County south to the Mexican border. It also occurs on the west and east sides of the Sierra Nevada, and in the Great Basin and desert habitats from Modoc to Kern and San Bernardino Counties. It occurs in a wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water. This species forages over water in riparian areas and ponds, and it also forages in and around trees in forests and over open rocky terrain and brush (Wilson and Ruff 1999). The species is found from sea level to 8,900 feet above msl (CDFW 2015). Individuals are known to roost singly or in small groups in cliffs and rock crevices, buildings, concrete overpasses, caves, and mines (Bogden 2015). The Study Area provides suitable roosting and foraging habitat for this species, and it was observed in the Study Area during 2015 acoustic bat surveys. The complete Bat Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 13.

Yuma Myotis (*Myotis yumanensis*)

The Yuma myotis is an SBNF Watch List species. It occurs across the western third of North America from British Columbia, Canada to Baja California and southern Mexico. In the United States, it occurs in all the Pacific coastal states, as far east as western Montana in the north and western Oklahoma in the south. It occurs in a variety of habitats including riparian, arid scrublands and deserts, and forests. This species is closely associated with water and wooded canyon bottoms throughout its range. The Yuma Myotis forages over riparian areas and adjacent habitats where water is present (Wilson and Ruff 1999). The species roosts in bridges, buildings, cliff crevices, caves, mines, and trees (Navo 2015). The Study Area provides suitable roosting and foraging habitat for this species, and it was observed during 2015 acoustic bat surveys within the Study Area.

Long-Legged Myotis (*Myotis volans*)

The long-legged myotis is an SBNF Watch List species. It occurs across western North America from southeastern Alaska, British Columbia, and Alberta in Canada to Baja California and central Mexico. It occurs throughout the western United States from the Pacific coast to the Great Plains and central Texas. It is a bat primarily of coniferous forests, but also occurs seasonally in riparian and desert habitats. The long-legged myotis uses abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts, and it uses caves and mine tunnels as hibernacula. It is active throughout the night, but peak activity is three to four hours after sunset. It is a rapid, direct flier, often traveling some distance while foraging (Navo 2015). This species forages in open forest and riparian habitats in and among the trees, and adjacent edge habitats (Wilson and Ruff 1999). The Study Area provides suitable roosting and foraging habitat for this species, but the Study Area is at a lower elevation limit for this species

(Stephenson and Calcarone 1999). Therefore, this species has a low potential to occur in the Study Area.

Little Brown Myotis (*Myotis lucifugus*) (San Bernardino Mountains Population)

The little brown myotis is an SBNF Watch List species. It is among the most widespread and common bats in mesic, typically forested, areas of temperate North America. Overall distribution extends from near the tree line in Canada and Alaska to the southern tier of the United States. There is a distributional gap extending south from the largely treeless Great Plains through Texas. In the western U.S., this species is typically absent from hot, arid lowlands, but extends south (at increasing elevation) along forested mountain ranges into Southern California, Nevada, Utah, and Colorado. This species is a generalist, exploiting a wide variety of natural and man-made roost sites. It is often found in forested lands near water (Rainey 2015). This species forages in a wide variety of habitats including forests, riparian, scrub lands, and over standing or flowing water (Wilson and Ruff 1999). The Study Area provides suitable foraging and roosting habitat for this species, and it was observed in the Study Area during 2015 acoustic bat surveys.

Long-Eared Myotis (*Myotis evotis*)

The long-eared myotis is an SBNF Watch List species. It is widespread in California, but generally believed to be uncommon in most of its range. It avoids the arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and Great Basin from the Oregon border south through the Tehachapi Mountains to the Coast Ranges. This species has been found in nearly all brush, woodland, and forest habitats, from sea level to 9,000 feet above msl, but it seems to prefer coniferous woodlands and forests (Weber 2004). Individuals roost under exfoliating tree bark and in hollow trees, caves, mines, cliff crevices, sink holes, and rocky outcrops on the ground. It also sometimes roosts in buildings and under bridges (Bogden 2015). This species forages in and around forested and riparian habitats and adjacent habitats. Foraging is not limited by the presence of water (Wilson and Ruff 1999). The Study Area provides suitable roosting and foraging habitat for this species, and this species was observed in the Study Area during 2015 acoustic bat surveys.

Fringed Myotis (*Myotis thysanodes*)

The fringed myotis is an SBNF Sensitive species. It occurs throughout much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. It occurs from sea level to 9,350 feet above msl, but is most common at middle elevations around 6,889 feet above msl. Distribution is patchy and it appears to be most common in drier woodlands (oak, pinyon-juniper, ponderosa pine), but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. It roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges. Roosting in decadent trees and snags, particularly large ones, is common throughout its range in the western U.S. and Canada (Bradley and Ports 2015). This species forages in a variety of habitats, including forests, riparian, water bodies, and adjacent areas (Bolster 1998, Wilson and Ruff 1999). Known from elevations above 4,600 feet in montane coniferous forest (Stephenson and Calcarone 1999). The species was not detected during 2015 acoustic bat surveys; however, the Study Area provides foraging and roosting habitat for this species near Cajon Summit and other higher elevation portions of the Study Area. This species has a low potential to occur in the Study Area because the Study Area is below the elevational limit of this species.

Silver-Haired Bat (*Lasionycteris noctivagans*)

The silver-haired bat is an SBNF Watch List species. The distribution of the silver-haired bat includes coastal and montane forests from the Oregon border, south along the coast to San Francisco Bay and along the Sierra Nevada and Great Basin region to Inyo County. During spring and fall migrations, the silver-haired bat may be found anywhere in California. It appears to be particularly fond of old growth forest, willow, maple, and ash trees (most likely due to the deeply fissured bark). Hollow snags and bird nests also provide daytime roosting areas for silver-haired bats. Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. Most of its activity is crepuscular (Arroyo-Cabrales et al. 2008). This species forages in open forest and riparian habitats in and among the trees, and adjacent edge habitats (Zeiner 1990c). This species may pass through the Study Area during migration to northern California from northern Mexico. The Study Area provides foraging habitat during migration. The Study Area does not provide suitable roosting habitat for this species; therefore, this species has a low potential to occur in the Study Area only during migration.

Western Yellow Bat (*Lasiurus xanthius*)

The western yellow bat is a California Species of Special Concern and an SBNF Watch List species. It is uncommon in California, known only in Los Angeles and San Bernardino Counties south to the Mexican border. This species has been recorded between sea level and 2,000 feet above msl in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. It also inhabits savannas, secluded woodlands, regions dominated by pasture or croplands, and even tolerates residential areas. This species forages over water and among trees (CDFW 2015). Yellow bats are suspected to be non-colonial; individuals usually roost in trees, hanging from the underside of a leaf. It is commonly found roosting in the skirt of dead fronds in both native and non-native palm trees and has been documented roosting in cottonwood trees. This species occurs year-round in California. This species forages in open forest and riparian habitats in and among the trees, and adjacent open habitats. Can forage near the ground or above stands of trees at canopy level (Bolster 1998, Zeiner 1990c). The Study Area provides suitable roosting and foraging habitat for this species; therefore, this species has a low potential to occur because of its rare occurrence in California and the Study Area is in this species' northern most range.

Western Red Bat (*Lasiurus blossevillii*)

The western red bat is a California Species of Special Concern and an SBNF Watch List species. It has a broad distribution reaching from southern British Columbia in Canada, through much of the western United States, through Mexico and Central America, to Argentina and Chile in South America. It roosts primarily in the foliage of trees or shrubs and day roosts in edge habitats adjacent to streams or open fields and sometimes urban areas. Western red bats generally begin to forage one to two hours after sunset. Although some may forage all night, most typically have an initial foraging period corresponding to the early period of nocturnal insect activity and a minor secondary activity period corresponding to insects that become active several hours before sunrise (Bolster 2015). This species forages in open forest and riparian habitats in and among the trees, and adjacent open habitats, near the ground or above stands of trees at canopy level (Bolster 1998, Zeiner 1990c). The Study Area provides suitable foraging and roosting habitat for this species, and it was observed within the Study Area during 2015 acoustic bat surveys.

Hoary Bat (*Lasiurus cinereus*)

The hoary bat is an SBNF Watch List species. It may be found at any location in California, although distribution is patchy in southeastern deserts. This species winters along the coast and in Southern California, and it breeds inland and north of the winter range. Habitats suitable for

bearing young include all woodlands and forests with medium to large-size trees and dense foliage. Hoary bats have been recorded from sea level to 13,200 feet above msl. During migration in Southern California, males are found in foothills, deserts and mountains; females in lowlands and coastal valleys. It generally roosts in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity. Females and young tend to roost at higher sites in trees (Anderson 2002). Hoary bats forage in open areas in forests and riparian areas, meadows, streams and rivers, near the ground or above stands of trees at canopy level (Zeiner 1990c). The Study Area provides suitable habitat for this species and was observed within the Study Area during 2015 acoustic bat surveys.

Spotted Bat (*Euderma maculatum*)

The spotted bat is a California Species of Special Concern and an SBNF Watch List species. It occurs throughout western North America, from British Columbia as far south as Jalisco, Mexico. In the United States, it is known from all the states west of and including Montana, Wyoming, Colorado, New Mexico, and Texas. Although broadly distributed, this species is rarely common, but may be locally abundant in southern British Columbia, northern Arizona, the Arizona/Utah border, and west Texas. Spotted bats have been found from below sea level to 8,858 feet above msl, occurring from arid, low desert habitats to high elevation conifer forests. Prominent rock features appear to be a necessary feature for roosting. Roost sites are cracks, crevices, and caves, usually high in fractured rock cliffs. This species has been found in vegetation types that range from desert to sub-alpine meadows, including desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyon bottoms, rims of cliffs, riparian areas, fields, and open pasture (Luce 2015). This species forages over a wide variety of habitats for sage scrub to forests and riparian areas to sub alpine meadows (Bolser 1988). The Study Area provides limited suitable roosting and provides foraging habitat for this species. Therefore, this species has a low potential to occur in the Study area because of the limited availability of roosting habitat.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*)

Townsend's big-eared bat is a State Candidate for listing as Threatened, a California Species of Special Concern, and an SBNF Sensitive species. It occurs throughout the west and is distributed from the southern portion of British Columbia, south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 10,827 feet above msl. Habitat associations include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines. Population centers occur in areas dominated by exposed, cavity, or caverniculous forming rock and/or historic mining districts. Its habit of roosting pendant-like on open surfaces makes it readily detectable, and it can be the species most readily observed, when present (commonly in low numbers) in caves and abandoned mines throughout its range (Sherwin 2015). This species forages over many habitats including forests, riparian, and adjacent areas (Bolster 1998, Wilson and Ruff 1999).

The Study Area provides suitable foraging habitat, but the Study Area does not have suitable cave and cave-like roosting habitat. Although this species was not observed during 2015 acoustic bat surveys it has a low potential to occur in the Study Area because of a lack of suitable cave and cave-like roost site.

Pallid Bat (*Antrozous pallidus*)

The pallid bat is a California Species of Special Concern and an SBNF Sensitive species. It occurs throughout western North America, from British Columbia's southern interior, south to Queretaro

and Jalisco, and east to Texas. It inhabits from sea level to elevation of 6,000 feet above msl in rocky arid deserts and canyon lands, shrub-steppe grasslands, karst formations, and higher elevation (at least 7,000 feet above msl) coniferous forests. It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Pallid bats forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards) and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied and vacant buildings (Sherwin 2015). This species forages over open areas including desert, scrub, chaparral, and open forest and riparian areas (Bolster 1998). The Study Area provides suitable roosting and foraging habitat for this species, and this species was observed within the Study Area during 2015 acoustic bat surveys.

Western Mastiff Bat (*Eumops perotis californicus*)

The western mastiff bat is a California Species of Special Concern and an SBNF Watch List species. It is an uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey southward through Southern California, from the coast eastward to the Colorado Desert. It occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas (CDFW 2015). The western mastiff bat requires roosts with a vertical drop of at least nine feet above ground to achieve flight speeds when emerging. This species forages over open habitat that includes dry desert washes, flood plains, chaparral, coastal sage scrub, oak woodland, open pine forest, grasslands, and agricultural areas (Bolster 1998). The Study Area provides suitable roosting and foraging habitat for this species and it was observed within the Study Area during 2015 acoustic bat surveys.

Pocketed Free-Tailed Bat (*Nyctinomops femerosaccus*)

The pocketed free-tail bat is an SBNF Watch List species. It occurs in western North America, from Southern California, central Arizona, southern New Mexico and western Texas, south into Mexico including Baja California. The species is thought to be non-migratory. The known altitudinal distribution is from near sea level to about 7,300 feet above msl. The pocketed free-tail bat has been found in a variety of plant associations, including desert shrub and pine-oak forests. They are colonial and roost primarily in crevices of rugged cliffs, high rocky outcrops, and slopes and may also roost in buildings, caves, and under roof tiles (Navo, 2015). This species forages over open habitat that includes dry desert washes, desert riparian, desert scrub, desert succulent scrub and similar habitats (Zeiner et al. 1990c). The Study Area provides suitable roosting and foraging habitat for this species. The pocketed free-tail bat was not observed during the 2015 acoustic bat surveys. This species has a low potential to occur in the Mojave and Sonoran desert portions of the Study Area because this area is just within this species' northern-most range.

Mountain Lion (*Felis concolor*).

The mountain lion is an SBNF Watch List species and an SBNF Management Indicator species. It is a widespread species that occurs throughout California. The mountain lion is found in a wide variety of habitats, but especially areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree/brush edges. It does not occupy the driest desert regions. Mountain lions are active year-round, are nocturnal, and have very large home ranges (Zeiner et al. 1990). Mountain lion is known to occur in the San Bernardino National Forest (Stephenson and Calcarone 1999). The Study Area provides suitable foraging

and denning habitat for this species. This species has a high potential to occur in the Study Area because of the presence of suitable habitat and known occurrence in the SBNF.

Ringtail (*Bassariscus astutus*)

The ringtail is an SBNF Watch List species. This nocturnal, carnivorous member of the raccoon family occurs throughout California, except portions of the Sacramento and San Joaquin Valleys, the Modoc Plateau, the eastern Sierra Nevada, and the Mojave Desert (James and Peters 1988; Zeiner et al. 1990). Ringtails are widely distributed in California and occupy riparian habitats and brush stands of most forest, oak woodlands, pinyon juniper, chaparral, desert, and shrub habitats at elevations from sea level to 8,800 feet above msl. Ringtails are active year-round and use hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses for cover, and are usually found close to permanent water (Zeiner et al. 1990). The Study Area provides suitable habitat for this species. This species has a moderate potential to occur in the Study Area in areas of suitable habitat near permanent water and known occurrence near Lytle Creek (Stephenson and Calcarone 1999).

Western Spotted Skunk (*Spilogale gracilis*)

The western spotted skunk is a SBNF Watch List species. It is a common permanent resident in most habitats, except high mountains and the very dry areas of the Mojave and Colorado Deserts (Zeiner et al. 1990). Western spotted skunks occur in shrub and brush habitats with moderate canopy-closure; in open forest and woodland with scattered openings; and in riparian habitats. They are mostly nocturnal but may be active during the day, and they are active year-round (Reid 2006; Zeiner et al. 1990). The Study Area provides suitable habitat for this species. Although there is suitable habitat in the Study Area, the western spotted skunk is considered to have a low potential to occur because of a lack of known occurrences in the Study Area.

American Badger (*Taxidea taxus*)

The American badger is a California Species of Special Concern and an SBNF Watch List species. This species occurs throughout most of Southern California and is most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers dig burrows in friable soil for cover and often reuse old burrows. They are active year long and are both diurnal and nocturnal (Reid 2006; Zeiner et al. 1990). American badger has been found in Cajon Wash (Sephensn and Calcarone 1999). The Study Area provides suitable habitat for this species; therefore, the American badger has a moderate potential to occur because of the presence of suitable habitat and a known presence in Cajon Creek.

Mule Deer (*Odocoileus hemionus*)

The mule deer is an SBNF Management Indicator species. It is a common yearlong resident or elevational migrant throughout most of California except the Central Valley and the Mojave Desert. It occurs throughout the Los Padres, Angeles, San Bernardino, and Cleveland National Forests in early to intermediate successional stages of most forest, woodland, and brush habitats. The mule deer browse and graze and prefer tender new growth of various shrubs, forbs, and a few grasses (Zeiner et al 1990). The Study Area provides suitable habitat for this species; therefore, this species has a high potential to occur in the Study Area because of the presence of suitable habitat and this is a common species in the Study Area.

Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*)

Nelson's bighorn sheep is an SBNF Watch List species. Three subspecies of bighorn sheep are found in California ranging from the Sierra Nevada Mountains to the Mexican Border. The

populations of Nelson's bighorn sheep in the San Bernardino Mountains are considered to constitute two separate populations: the larger population (San Gorgonio Herd) occurs in the vicinity of Mount San Gorgonio, and the smaller population (Cushenbury Herd) occurs along the northern edge of the range in desert-facing canyons (Ingles 1965; Southern California Camping 2015). Nelson's bighorn sheep occur between from 3,000 to 10,000 feet above msl and graze and browse in areas of low growing vegetation close to steep terrain for escape from predators. They occur on steep slopes and cliffs, rough and rocky topography, sparse vegetation, canyons, washes, and alluvial fans. Water is a critical factor in the distribution of Nelson's bighorn sheep (Ingles 1965; Zeiner et al. 1990). The Study Area provide marginally suitable habitat for this species at the higher elevation areas within the Study Area; therefore, Nelson's bighorn sheep have a low potential to occur in the Study Area because of limited amount of high elevation habitat in the Study Area.

5.4.7 Jurisdictional Water Resources

A total of 341 jurisdictional water resources were mapped in the Study Area, totaling approximately 201,642 linear feet. This includes areas mapped as Non-Wetland "waters of the U.S.," USACE Wetland, Isolated Waters Non-Wetland, Isolated Waters Wetland, and CDFW-jurisdictional areas. These areas are illustrated on Exhibit 27. The detailed methods and results of the jurisdictional water resources delineation, including their geographic setting and physical characteristics, is provided in Attachment 14. These results are summarized below based on the regulatory requirements each relevant agency uses to assert jurisdiction over the jurisdictional water resources observed within the Study Area.

U.S. Army Corps of Engineers Jurisdictional Determination

"Waters of the U.S." Determination (Non-Wetland)

Connectivity to a Traditional Navigable Water

The mapped drainages in the northernmost portion of the Study Area, i.e., between MPs 0 and 14.7, flow in a northeasterly direction. These are typically ephemeral washes that contain surface water only immediately following storm events. While some dry desert washes connect to the Mojave River, the drainages in the Study Area travel for various distances before dissipating. None of these drainages have connectivity to a Traditional Navigable Water (TNW) and so are not under the jurisdiction of the USACE.

Within the SBNF, most of the mapped drainages are tributaries to Cajon Wash. Cajon Wash carries flow into Lytle Creek, followed by Warm Creek, then the Santa Ana River before emptying into the Pacific Ocean. Therefore, connectivity to a TNW, i.e., the Santa Ana River, is established. While Cajon Wash is a perennial stream, its tributaries are generally ephemeral or intermittent, and are therefore not considered "relatively permanent." For non-relatively permanent waters, a significant nexus to a TNW is required in order for the USACE to assert jurisdiction. These ephemeral or intermittent drainage systems have the capacity to carry nutrients into Cajon Wash and, given the presence of a major transportation corridor in I-15, pollutants as well. Due to this significant nexus with a TNW, the USACE is expected to take jurisdiction over all tributaries to Cajon Wash. A few drainages in this portion of the Study Area dissipate prior to reaching Cajon Wash or a TNW; these drainages would not be subject to the jurisdiction of the USACE.

In the San Bernardino Valley south of the SBNF, most of the mapped drainages flow either directly or indirectly into the Santa Ana River. The northern half of Reche Canyon also empties into the Santa Ana River. These drainages, which demonstrate an OHWM, are primarily ephemeral or intermittent, and are therefore not considered "relatively permanent." However, given the surrounding developed landscape, many likely carry nuisance flows. Portions of Reche Canyon

may also contain perennial surface water due to the abundance of natural seeps in the area. Due to this significant nexus with the Santa Ana River, the USACE is expected to take jurisdiction over the drainages with a connection to the Santa Ana River.

The southern half of Reche Canyon carries flow into the Nason Street Retention Basin. Runoff from this basin is carried via the storm drain system to the San Jacinto River, Canyon Lake, Lake Elsinore, and ultimately into the Santa Ana River and the Pacific Ocean. Some of the other drainages in the agricultural landscape of Moreno Valley also flow into Lake Elsinore. Therefore, relatively permanent waters with a hydrologic connection to the Santa Ana River and Pacific Ocean, or ephemeral/intermittent waters with a significant nexus, would be considered jurisdictional.

Limits of "Waters of the U.S."

Evidence of an OHWM was observed for all mapped water resources, though some features exhibited more pronounced indicators. The primary indicators of an OHWM observed throughout the Study Area were a change in sediment texture, a change in vegetation cover, and the presence of bed and bank. Surface soil cracks, drift deposits, and surface relief were observed in some areas. Cajon Wash also exhibited a pronounced shift in vegetation from upland species to alluvial and riparian species. The main drainage in Reche Canyon exhibited shelving, with a low flow channel, active floodplain, and low terrace observed.

Results

Based on the field observations and data collected, approximately 75.59 acres of "waters of the U.S." occur in the Study Area.

Preliminary Wetlands Determination

A two-parameter approach, in conjunction with a review of aerial and site photographs, topographic maps, and field data, was employed to make an assessment of the presence of wetlands. Areas containing hydrophytic vegetation and one or more indicators of wetland hydrology were considered to be potential wetland "waters of the U.S." Portions of ten water resources exhibited evidence of hydrophytic vegetation and wetland hydrology (Table 9; Exhibit 27). Note that only the facultative (FAC), facultative wetland (FACW), and obligate (OBL) species are included in Table 9. Many of these drainages/waterbodies also contain facultative upland (FACU) or upland (UPL) species; areas where the FACU or UPL vegetation predominates would not be considered to meet the hydric vegetation criterion for wetlands according to the dominance test or prevalence index.

Based on the field observations and data collected, approximately 0.53 acre of wetland "waters of the U.S." occur in the Study Area. All wetlands observed in the Study Area fell within the OHWM extent.

**TABLE 9
SUMMARY OF POTENTIAL WETLANDS**

Drainage	Hydric Vegetation Observed	Indicator Status	Wetland Hydrology
MP17.9-g	arroyo willow (<i>Salix lasiolepis</i>) coastal goldenbush (<i>Isocoma menziesii</i> var. <i>menziesii</i>) deer grass (<i>Muhlenbergia rigens</i>)	FACW FAC FAC	B2, B10
MP18.8-a	arroyo willow (<i>Salix lasiolepis</i>) white alder (<i>Alnus rhombifolia</i>) mule fat (<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>)	FACW FACW FAC	B2, B3, B10
MP19.4-a	red willow (<i>Salix lasiolepis</i>)	FACW	A1
MP22.3-b	red willow (<i>Salix lasiolepis</i>) white alder (<i>Alnus rhombifolia</i>) southern cattail (<i>Typha domingensis</i>) mule fat (<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>) common horsetail (<i>Equisetum arvense</i>)	FACW FACW OBL FAC FAC	A1, B1, B3, B10, B13
MP32.1-a	cattail (<i>Typha</i> sp.**)	OBL	A1, B13
MP47.5-b	cattail (<i>Typha</i> sp.**)	OBL	A1, B3
MP50.4-a*	broad-leaved cattail (<i>Typha latifolia</i>) narrowleaf cattail (<i>T. angustifolia</i>)	OBL OBL	A1, B3, B7, B9, B13, D5
MP62.3-a	arroyo willow (<i>Salix lasiolepis</i>) Goodding's black willow (<i>S. gooddingii</i>) mule fat (<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>)	FACW FACW FAC	B7, B10
MP Mat1.2-a	red willow (<i>Salix lasiolepis</i>)	FACW	B2, B10
MP Mat1.4-a	red willow (<i>Salix lasiolepis</i>) western sycamore (<i>Platanus racemosa</i>) mule fat (<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>)	FACW FAC FAC	A1
MP: milepost			
Wetland Indicator Status			
FAC Facultative			
FACW Facultative Wetland			
OBL Obligate			
Wetland Hydrology Indicators			
A1 Surface Water			
B1 Water Marks			
B2 Sediment Deposits			
B3 Drift Deposits			
B7 Inundation Visible on Aerial Imagery			
B9 Water-Stained Leaves			
B10 Drainage Patterns			
B13 Aquatic Invertebrates			
D5 FAC-Neutral Test			
* Wetland within an isolated basin and not under the jurisdiction of the USACE.			
** <i>Typha</i> unidentifiable due to mowing or immaturity. Note that the species found in the region are all listed as OBL.			

State Water Resources Control Board Determination

The Study Area falls within the jurisdiction of both the Lahontan and Santa Ana RWQCBs. The SWRCB have jurisdiction over both the “waters of the State” and “waters of the U.S.” However, some drainages in the Study Area exhibit an OHWM for a portion of their length, but dissipate through sheet flow, while some basins in the Study Area do not have an outlet. Therefore, these features do not maintain a continuous surface connection with a TNW and are not considered “Waters of the U.S.”. These isolated drainages are not under the jurisdiction of the USACE, but would be considered “waters of the State” under the jurisdiction of the SWRCB for the Proposed Project.

There are approximately 93.60 acres of “waters of the State” under the jurisdiction of SWRCB are found within the Study Area. Of these 93.60 acres, approximately 75.59 acres are “Waters of the U.S.” that are also under the jurisdiction of the USACE, and there are approximately 18.01 acres of isolated waters that come under the exclusive jurisdiction of the SWRCB.

California Department of Fish and Wildlife Determination

Rivers, washes, ephemeral/intermittent drainages, and basins occur in the Study Area and were mapped using the top of the stream bank or the outer limit of associated riparian vegetation. In some cases, multiple stream channels ran under a contiguous riparian canopy.

Approximately 160.02 acres of water resources potentially subject to the jurisdiction of the CDFW occur in the Study Area.

5.5 REGIONAL/LOCAL PLANNING PROCESSES

5.5.1 Habitat Conservation Plans

Portions of the Proposed Project’s alignment and outlying pressure limiting and compressor stations are located on lands that are covered by three regional HCPs: the Western Riverside County MSHCP, the Coachella Valley MSHCP, and the SKR HCP (Exhibit 28). Demonstration of consistency with these HCPs is one of several options for which incidental take of federally and/or State-listed species may be obtained by SoCalGas. The scope and intent of these HCPs were described in Section 2 Regulatory Setting. The potential effects of the Proposed Project on these plans is described below.

Western Riverside County Multiple Species Habitat Conservation Plan

The ultimate goal of the Western Riverside County MSHCP is to conserve approximately 500,000 acres and protect 146 plant and animal species and their habitats within a 1.26 million acre plan area. The Western Riverside County MSHCP received its federal Incidental Take and State NCCP permits in June, 2004. Under the Western Riverside County MSHCP, the USFWS and CDFW have granted take authorization for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the Western Riverside County MSHCP conservation area, in exchange for the assembly and management of a coordinated Western Riverside County MSHCP conservation area. The Western Riverside County MSHCP is implemented by the Western Riverside County Regional Conservation Authority. A portion of the Proposed Project, approximately 72,631 linear feet, is located within the boundaries of the Western Riverside County MSHCP (Exhibit 28).

The Western Riverside County MSHCP is a criteria-based plan and does not rely on a hardline preserve map. Instead, the Western Riverside County MSHCP reserve is being assembled over time from a smaller subset of the Plan Area referred to as “the Criteria Area.” The Criteria Area consists of Criteria Cells (Cells) or Cell Groupings, and flexible guidelines (Criteria) for the assembly of conservation within the Cells or Cell Groupings. Cells and Cell Groupings also may be included in larger units known as Cores, Linkages, or Non-Contiguous Habitat Blocks (conservation areas). The Western Riverside County MSHCP Plan Area is divided into Area Plans, each with unique resources and conservation goals. The Proposed Project passes through the Reche Canyon/Badlands Area Plan (Exhibit 29).

In the Reche Canyon/Badlands Area Plan (Exhibit 29), approximately 923 acres of the Study Area for the Proposed Project falls within Criteria Cells between MPs 51.4 to 57.6 (Exhibit 29). The remaining portion of the Proposed Project (MPs 57.7 to 65), does not pass through any Criteria Cells. These Criteria Cells contribute to Western Riverside County MSHCP Proposed Linkage 4,

which is comprised of primarily uplands habitat in Reche Canyon. Proposed Linkage 4 provides habitat for species known to occur within chaparral and coastal sage scrub habitats including Bell's sage sparrow, Stephens' kangaroo rat, bobcat, and Nevin's barberry. This Linkage likely provides for movement of common mammals such as bobcat, connecting to Box Springs Reserve, the Badlands, and San Bernardino County. The Reche Canyon area represents one of the largest intact Core Areas within this Western Riverside County MSHCP Plan Area; therefore, maintenance of existing large habitat blocks is important for species and reserve design. The Linkage is relatively unconstrained by adjacent planned rural mountainous land uses. Table 10 summarizes the planning species, biological issues, and Criteria Cells through which the Proposed Project passes (Exhibit 29).

TABLE 10
SUMMARY OF WESTERN RIVERSIDE COUNTY
MSHCP CONSERVATION GOALS IN THE STUDY AREA

Subunit	Planning Species	Biological Issues	Criteria Cells
<i>Reche Canyon/Badlands Area Plan</i>			
2: Reche Canyon	<ul style="list-style-type: none"> • Bell's sage sparrow • Bobcat • Stephens' kangaroo rat • Nevin's barberry 	<ul style="list-style-type: none"> • Conserve upland Habitat in the Badlands • Maintain a connection between Blue Mountain to the west and Reche Canyon to the east • Conserve existing populations of Bell's sage sparrow • Maintain Core Area for bobcat • Maintain Core and Linkage Habitat for mountain lion • Determine presence of potential small population of San Bernardino kangaroo rat; • Determine presence of potential Core Area for Los Angeles pocket mouse • Maintain Core Area for Nevin's barberry 	<ul style="list-style-type: none"> • Cell Group F: 99 • Cell Group G: 100, 151 • Cell Group J: 152 • Cell Group K: 153, 203 • Cell Group M: 204 • Cell Group N: 205, 289 • Cell Group O: 468, 561 • Cell Group P: 559 • Independent: 380, 381, 469, 470

The Proposed Project crosses through the Reche Canyon Conservation Area (Proposed Linkage 4) between MPs 50 and 56. The pipeline would be installed within existing right-of-way between MP 50 to MP 54 and would not be contrary to the goals of the Conservation Area because it would not result in removal of large habitat blocks, nor would it constrain wildlife movement. From MP 54 to MP 56, the Proposed Project would traverse private property and would primarily follow existing unpaved roads and traverse open habitat. The pipeline returns to existing paved roads just north of MP 58. Although some native habitat may be removed adjacent to existing disturbed areas during construction, the Proposed Project would not result in the removal of large swaths of habitat. Installation of the pipeline would not constrain wildlife movement as there would be no significant aboveground structures that would impede wildlife movement. Due to a lack of permanent impacts to large areas of habitat or constraints to wildlife movement in association with the Proposed Project, it would not be in conflict with the goals of Proposed Linkage 4.

In addition to assemblage of conservation areas, the Western Riverside County MSHCP has additional implementation measures to protect and conserve resources that include:

- **Western Riverside County MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools.** Riparian/riverine areas must be mapped and assessed for the potential to support riparian conservation species. Projects

must also be assessed for the presence of vernal pools. Riparian/riverine and vernal pool habitat must be avoided or mitigated as described in this section of the Western Riverside County MSHCP.

- **Western Riverside County MSHCP Section 6.1.3, Protection of Narrow Endemic Plant Species.** The Western Riverside County MSHCP has survey areas for certain Narrow Endemic Plant Species. If a project overlaps a Narrow Endemic Plant Species survey area, habitat assessments and focused surveys must be conducted and avoidance and mitigation measures implemented in accordance with this section of the Western Riverside County MSHCP.
- **Western Riverside County MSHCP Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface.** If a project is located adjacent to conservation areas, avoidance measures must be implemented as described in this section of the Western Riverside County MSHCP.
- **Western Riverside County MSHCP Section 6.3.2, Additional Survey Needs and Procedures.** This section of the Western Riverside County MSHCP outlines survey requirements for Criteria Area Plant Species, burrowing owl, mammals, and amphibians. If a project overlaps a designated survey area, habitat assessments and focused surveys must be conducted and avoidance and mitigation measures implemented in accordance with this section of the Western Riverside County MSHCP.

The Proposed Project overlaps four different survey areas, as outlined in the Western Riverside County MSHCP Sections 6.1.3 and 6.3.2, including Criteria Area Plant Species, burrowing owl, Los Angeles pocket mouse, and San Bernardino kangaroo rat (Exhibit 29). Protocol-level surveys were conducted for these various resources, in accordance with the requirements of Section 6.3.2 of the Plan. The Study Area is outside the Narrow Endemic Plant Species survey area.

Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley MSHCP is a comprehensive, multi-jurisdictional HCP focusing on conservation of species and their associated habitats in eastern Riverside County. The Coachella Valley MSHCP provides a regional vision for balanced growth to meet the requirements of federal and State Endangered species laws, while promoting enhanced opportunities for recreation, tourism, and job growth.

The Coachella Valley MSHCP aims to conserve over 240,000 acres of open space and protect 27 plant and animal species. The Coachella Valley MSHCP also incorporates the existing Fringe-Toed Lizard Preserve. The Coachella Valley MSHCP received its State permit in September 2008 and its federal permit in October 2008. Under the Coachella Valley MSHCP, the USFWS and CDFW have been granted take authorization for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the Coachella Valley MSHCP conservation area, in exchange for the assembly and management of a coordinated Coachella Valley MSHCP conservation area. Overall management of the Coachella Valley MSHCP is provided by the Coachella Valley Conservation Commission, a joint powers authority of elected representatives.

The Coachella Valley MSHCP is a conservation area-based program which follows a hardline Reserve System. The Coachella Valley MSHCP has established 21 Conservation Areas within which development activities are limited. For each Conservation Area, conservation objectives are articulated for conserving Core Habitat for covered species, essential ecological processes necessary to maintain habitat viability, and biological corridors and linkages as needed. Two elements of the Proposed Project, the Whitewater Pressure Limiting Station and the Shaver Summit Pressure Limiting Station, are located within the Coachella Valley MSHCP Plan Area

(Exhibit 30); however, only the Shaver Summit Pressure Limiting Station is located within the Desert Tortoise and Linkage Conservation Area.

Desert Tortoise and Linkage Conservation Area

The Desert Tortoise and Linkage Conservation Area encompasses most of the land between the Mecca Hills and Orocopia Mountains Wildernesses and Joshua Tree National Park in the eastern portion of the Coachella Valley MSHCP Plan Area (Exhibit 30). Interstate 10 bisects this area. The Desert Tortoise and Linkage Conservation Area contains a total of approximately 89,900 acres and is considered a Core Habitat for the desert tortoise.

Section 9.6.1.1 of the Coachella Valley MSHCP lists four desert tortoise conservation goals:

- Goal 1:** Ensure species persistence in the Plan Area by conserving Core Habitat, consistent with the Desert Tortoise Recovery Plan, and associated Essential Ecological Processes, allowing evolutionary processes and natural population fluctuations to occur. Minimize fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat patches and effective Linkages between patches of Core Habitat.
- Goal 2:** Protect Other Conserved Habitat to provide sufficient area and variety of Habitat types to accommodate population fluctuations, allow for genetic diversity, and to conserve the range of environmental conditions within which the desert tortoise is known to occur.
- Goal 3:** Maintain Biological Corridors and Linkages among all conserved populations.
- Goal 4:** Ensure conservation of the desert tortoise by maintaining the long-term persistence of self-sustaining populations and conserving Habitat quality through biological monitoring and Adaptive Management actions in the Plan Area.

Section 4.4 (Required Avoidance, Minimization, and Mitigation Measures) of the Coachella Valley MSHCP states:

Prior to Development, an Acceptable Biologist will conduct a presence/absence survey of the Development area and adjacent areas within 200 feet of the Development area, or to the property boundary if less than 200 feet and permission from the adjacent landowner cannot be obtained, for fresh sign of desert tortoise, including live tortoises, tortoise remains, burrows, tracks, scat, or egg shells. The presence/absence survey must be conducted during the window between February 15 and October 31. Presence/absence surveys require 100% coverage of the survey area. If no sign is found, a clearance survey is not required. A presence/absence survey is valid for 90 days or indefinitely if tortoise-proof fencing is installed around the Development site.

Section 4.4 also provides a protocol for inactive season activities that occur between November 1 and February 14, and an active season protocol for activities between February 15 and November 1.

Stephens' Kangaroo Rat Habitat Conservation Plan

A portion of the Proposed Project, approximately 72,631 linear feet (2,154 acres), is located within the SKR HCP (Exhibit 31). The SKR HCP is a single-species HCP that establishes a regional mechanism for obtaining incidental take of Stephens' kangaroo rat without having to secure individual permits from the USFWS and CDFW. A long-term HCP for the Stephens' kangaroo rat

was approved by the USFWS and CDFW on May 6, 1996. At the time of approval, the SKR HCP covered approximately 533,954 acres within the RCHCA-member jurisdictions, including an estimated 30,000 acres of occupied Stephens' kangaroo rat habitat. The RCHCA functions as the oversight agency formed for the purpose of planning, acquiring, and managing habitat for the Stephens' kangaroo rat.

This HCP is made up of a mosaic of a Fee Area and Core Reserve Areas. There are seven Core Reserve Areas established as hardline conservation areas: Lake Mathews – Estelle Mountain, Sycamore Canyon, Steele Peak, Motte/Rimrock, San Jacinto/Lake Perris, Southwestern Riverside County Multi-Species, Potrero ACEC, and Potrero. In 2003, with the acquisition of the Potrero site, the USFWS and CDFW confirmed that the land acquisition portion of the reserve expansion requirement was satisfied. Generally, any development within the Core Reserve Area that is outside existing private utility right-of-way is not permitted. The Study Area for the Proposed Project is not located in any of the Core Reserve Areas; however, it is located in the Fee Area (Exhibit 31).

5.5.2 Forest Service Land Management Plan

The SBNF Land Management Plan (LMP) establishes Land Use Zones, Recreational Land Uses, Special Areas, and other designated uses and suitable areas. The Special Area Management Program of the LMP manages special designation uses and provides for conservation of the unique values and features for which they are protected. SBNF LMP Special Designations act as overlays to the LMP's primary Land Use Zones. These Special Designations take precedence over the Land Use Zone if they provide for more restrictive use than Land Use Zones. The Special Designations originate from the SBNF LMP and subsequent plan amendments in 2010 and 2014. The SBNF contains four Special Designation uses: Wilderness; Wild and Scenic Rivers; Special Interest Areas (SIA); and, Research Natural Areas (RNA). Two of these designations relative to biological resources are present within the Study Area: the Cleghorn Canyon RNA and Riparian Conservation Areas (RCAs).

Research Natural Areas

RNAs include relatively undisturbed areas in the SBNF that provide a network of ecological reserves designated for research, education, and maintenance of biodiversity. The Cleghorn Canyon RNA is located in the Cajon Pass area (east of I-15). The Proposed Project occurs along the western edge of the Cleghorn Canyon RNA (Exhibit 32). This RNA encompasses 1,662 acres and is essentially roadless. The Cleghorn Canyon RNA was established due to its wildlife and plant habitat and value as a wildlife corridor between the San Gabriel and San Bernardino Mountains. The goal of the Cleghorn Canyon RNA is to protect the diverse array of plant communities and wildlife habitat within its area.

Riparian Conservation Areas

The Forest Service designated RCAs as those areas that are delineated next to water features that require special management practices to support riparian-dependent resources. RCAs may overlap all land use designations. RCAs include the following areas:

- Perennial streams, intermittent streams, aquatic ecosystems, meadows and any other areas with riparian conditions (lakes, reservoirs, ponds, wetlands, vernal pools, seeps, and springs), floodplains, and inner gorges.
- Suitable or occupied riparian habitat delineated for Threatened, Endangered, Proposed, Candidate, and/or Sensitive species.

Perennial streams not having identifiable riparian vegetation should still be managed under RCA guidance. Ephemeral channels carry water to intermittent streams and should be protected to the extent that they do not contribute substantial amounts of sediment and other deleterious materials into the system due to management activities. The RCA portion of the LMP is managed primarily to protect, maintain, or improve:

- Water quality;
- Site productivity;
- Channel stability;
- Riparian vegetation; and,
- Riparian-dependent species and habitat including Threatened, Endangered, Proposed, Candidate, and Sensitive species, as well as many non-federally listed fish, wildlife, and plants.

Generally, all areas within a horizontal distance of approximately 328 feet from each edge of perennial streams and lakes/reservoirs or within approximately 98 feet of the edge of seasonally flowing/intermittent streams are delineated as RCAs. According to the jurisdictional delineation conducted for the Proposed Project, there are 144 delineated riparian features within the SBNF portion of the Study Area.

The Forest Service has developed a Five-Step Project Screening process for RCAs. The process is used to assist the SBNF in ensuring that RCAs are recognized, emphasized and managed appropriately during new project planning and implementation.

Step 1: Determine RCA width by stream type based on SBNF criteria.

Step 2: Use the environmental GIS layer and species accounts to determine additional protective RCA widths specific to individual species or suites of species, e.g., arroyo toad has a topographical contour distance from water.

Step 3: Screen new projects against the riparian and aquatic desired conditions and recovery plans for federally listed riparian dependent species to determine if the proposal is either neutral or will move the area closer towards the desired conditions. If it does, then proceed to Step 4. If it does not, there is a need to modify the project proposal, deny the proposal, or complete a project-driven land management plan amendment.

Step 4: Screen new projects against the forest plan riparian management objectives to ensure that the project incorporates one or more of the listed strategies. As part of the analysis consider physical factors, e.g., soil characteristics, groundwater and surface water characteristics, geology and geologic hazards, slope, and stream characteristics, and biological factors, e.g., aquatic and riparian dependent species present, their habitat needs, and the ability of the existing environment to provide needed habitat.

Step 5: A variety of forest management activities may occur within RCAs. Step 5 relies on the use of the *Forest Service Handbook (FSH 2509.22) - Forest Supplement* for activities within the RCAs. The measures in the *Forest Service Handbook* are not intended to exclude streamside areas from management for forage, wildlife, water uses, or other management activities. They are intended to assist in the design and the implementation of projects that maintain and improve conditions for riparian-dependent resources. These are summarized below:

- All applicable USDA Best Management Practices (BMPs) should be identified and followed in all ground disturbing actions.
- Prevent or limit activities that could cause channel aggradations or disaggradations (incisions).
- Limit any activities in defined groundwater recharge areas that may introduce contaminants to the groundwater, prevent or significantly reduce water infiltration, or that prevent groundwater from reaching wells.
- Limit any chemical applications in or near RCAs and use containment methods that minimize risk of entry to surface and ground water.
- Limit disturbance on incised slopes, meadows, streams, and rehabilitate damage caused by the activity to restore or improve riparian areas.
- When stabilizing damaged streams, preferentially use methods that emphasize natural stream restoration designs and vegetative stabilization. Use native vegetation for stream restorations whenever possible.
- Existing uses, activities, or occupancy within RCAs should be evaluated for risks or impacts and mitigated during special use renewal or re-issuance. If mitigation measures are not effective, reassess with the option to modify or eliminate the use, activity or occupancy when impacts are unacceptable.
- Living native woody riparian vegetation should not be cut or removed, except during road, trail, or facility maintenance and where riparian management objectives can be met.
- Maintain vegetation where practicable to provide adequate shade to meet riparian objectives (based on the potential of the site).

5.5.3 General Plans

County of Riverside Reche Canyon/Badlands Area Plan (2015)

The *Reche Canyon/Badlands Area Plan* includes the City of Moreno Valley and surrounding unincorporated Riverside County areas to the north, south, and east. The Area Plan contains policies that guide the physical development and land uses in the unincorporated portion of Riverside County. This area plan is not a stand-alone document, but rather an extension of the *County of Riverside General Plan* and Vision Statement. The County of Riverside Vision Statement details the physical, environmental, and economic characteristics that the County aspires to achieve by the year 2020. Using the Vision Statement as the primary foundation, the *County of Riverside General Plan* establishes policies for development and conservation within the entire unincorporated County territory, while this area plan provides direction for development and conservation specifically for the Reche Canyon/Badlands area.

The Reche Canyon/Badlands Land Use Plan focuses on preserving the unique features addressed by the *Reche Canyon/Badlands Area Plan* and, at the same time, accommodating future growth. The *Reche Canyon/Badlands Area Plan* has one designated Policy Area, which contains special or unique characteristics that merit detailed attention and focused policies. This Policy Area is the March Joint Air Reserve Base Influence Area located immediately southwest of the Reche Canyon/Badlands area. This Policy Area is west of the Proposed Project alignment.

6.0 EFFECTS OF PROPOSED ACTION

This section presents an analysis of potential impacts to biological resources that could occur as a result of the implementation of the Proposed Project.

6.1 IMPACT ANALYSIS DEFINITIONS

For the Proposed Project, the following definitions are provided relative to potential impacts.

- The *Proposed Project Area* includes the footprint of ground that would be directly affected as a result of the project activities. This includes the direct impact areas of the Proposed Project, for both temporary and permanent features (Exhibit 33).
- The *Proposed Project Analysis Area* is the maximum expected reach of direct and indirect effects of the action, and includes the *Proposed Project Area* and any connected areas that may experience environmental effects of the project action. For the Proposed Project, the *Proposed Project Federal Action Area*, as that term is defined in 50 CFR Section 402.02, is the same as the *Proposed Project Analysis Area*.

All potential impacts associated with the Proposed Project have been evaluated, including permanent, temporary, direct, and indirect. The following definitions were used to characterize the nature of all potential impacts:

- *Permanent impacts* are defined as changes to the physical environment, including ground disturbance, removal of an existing vegetation type, or installation of project components or other features that are lasting or intended to last or remain unchanged indefinitely as a result of Proposed Project implementation. These permanent features include compressor and pressure limiting stations, aboveground pipeline, i.e., aqueduct crossing, components, valve vaults, and new access roads. Although the Proposed Project will impact a total of 1,087.48 acres, only 14.56 acres (1.3 percent of total impacts) would be considered permanent impacts as defined here.
- *Temporary impacts* are defined as those which will involve disturbance of an area that will be restored within a reasonable timeframe, e.g., no permanent holes, trenches, or berms. The area in which temporary impacts may occur is larger than the area required for the actual pipeline alignment and station construction. The temporary impact areas incorporate buffers to allow for impacts associated with construction activities. Staging areas have also been identified as temporary impact areas, and are primarily associated with equipment storage, construction access, soil stockpiles, work space required for directional drilling efforts, and other non-permanent activities.
- Direct impacts are those that involve the initial loss of habitats due to grading, construction, and construction-related activities.
- Indirect impacts are those that would be related to impacts on the adjacent remaining habitat due to construction activities (e.g., noise, dust) or operation of the Proposed Project, e.g., human activity, operational noise, and indirect lighting.

Both direct and indirect impacts to biological resources have been evaluated. Project features evaluated are illustrated on Exhibit 33.

Biological impacts associated with the Proposed Project were evaluated with respect to the following special status biological issues:

- Federally or State-listed Endangered or Threatened plant or wildlife species;
- Non-listed species that meet the criteria in the definition of “Rare” or “Endangered” in the State CEQA Guidelines (i.e., 14 *California Code of Regulations*, Section 15380);
- Species designated as California Species of Special Concern;
- Species designated as Forest Service Sensitive or Watch List species;
- Streambeds, wetlands, and their associated vegetation;
- Habitats suitable to support a federally or State-listed Endangered or Threatened plant or wildlife species;
- Habitats, other than wetlands, considered special status by regulatory agencies (e.g., the USFWS, the CDFW) or resource conservation organizations; and,
- Other species or issues of concern to regulatory agencies or conservation organizations.

The actual and potential occurrence of these resources in the Proposed Project impact area was correlated with the significance criteria listed in the following section in order to determine whether Proposed Project impacts to these resources would be considered significant.

6.2 SIGNIFICANCE CRITERIA

This evaluation is being conducted to assist with CPUC and USFS compliance with CEQA and NEPA related to consideration of the Proposed Project. Use of the term “significant” differs under these two laws. While CEQA requires that an EIR include a determination of significance for each impact, NEPA does not require such a determination. Under NEPA, significance is used to determine whether an Environmental Impact Statement (EIS) or some other level of documentation is required. Once a decision to prepare an EIS is made, the EIS considers all impacts and proposes mitigation whenever feasible, regardless of the “significance” of the impacts before and after mitigation is applied.

6.2.1 California Environmental Quality Act

CEQA requires that an EIR identify the significant environmental effects of a proposed project (State CEQA Guidelines, Section 15126). A significant effect is defined as a substantial or potentially substantial adverse change in the environment (CEQA, Sections 21068 and 21100(d); State CEQA Guidelines, Section 15328). CEQA does not provide specific thresholds of significance and instead recognizes that “the significance of an activity may vary with the setting” and, accordingly, “an iron clad definition of significant effect is not possible” (State CEQA Guidelines, Section 15064[b]). Section 15064.7 of the State CEQA Guidelines encourages each public agency to develop and adopt—by ordinance, resolution, rule, or regulation—their own significance thresholds that the agency would use in determining the impact of environmental effects. A significance threshold defines the quantitative, qualitative, or performance limits of a particular environmental effect. If these thresholds are exceeded, the agency would consider it to be significant.

For the current analysis of potential impacts to biological resources associated with the Proposed Project, the significance criteria were developed using Section 15065, Mandatory Findings of Significance, and Appendix G, the Environmental Checklist Form, of the State CEQA Guidelines as a foundation. An impact would be considered significant if it exceeds any of the following thresholds:

- The project has the potential to substantially degrade the quality of the environment (Section 15065[a]).
- The project has the potential to substantially reduce the habitat of any fish or wildlife species (Section 15065[a]).
- The project will cause fish or wildlife populations to drop below self-sustaining levels (Section 15065[a]).
- The project will threaten to eliminate a plant or animal community (Section 15065[a]).
- The project will reduce the number or restrict the range of an Endangered, Rare, or Threatened species (Section 15065[a]).⁹
- The project has a substantial adverse effect, either directly or through habitat modifications, on any species identified as a Candidate or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Appendix G, IV[a]).
- The project has a substantial adverse effect on any riparian habitat or other special status natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (Appendix G, IV[b]).
- The project has a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (Appendix G, IV[c]).
- The project interferes substantially with the movement of any native or migratory fish or wildlife species; inhibits established native resident or migratory wildlife corridors; or impedes the use of native wildlife nursery sites (Appendix G, IV[d]).
- The project conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Appendix G, IV[e]).
- The project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan (Appendix G, IV[f]).

In order to evaluate whether an impact on biological resources would result in a “substantial adverse effect,” both the resource itself and how that resource fits into a regional context must be considered. The Proposed Project’s regional setting includes the SBNF, the Cities of Adelanto, Victorville, San Bernardino, Highland, Loma Linda, Colton, and Moreno Valley, and the unincorporated areas of San Bernardino and Riverside Counties.

6.2.2 National Environmental Policy Act

NEPA requires environmental impact statements for “major Federal actions significantly affecting the quality of the human environment.” Implementing regulations by the CEQ requires federal agencies to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The criteria discussed above will ensure that the NEPA analysis considers and is

⁹ “Endangered” and “Threatened” species, as used in this threshold, are those listed by the USFWS and/or CDFW as Threatened or Endangered. Section 15380 of the State CEQA Guidelines indicates that a lead agency can consider a non-listed species (e.g., CRPR List 1B plants) to be Endangered, Rare, or Threatened for the purposes of CEQA if the species can be shown to meet the criteria in the definition of “Rare” or “Endangered.”. For the purposes of this discussion, the current scientific knowledge on the population size and distribution for each special status species was considered in determining if a non-listed species met the definitions for “Rare” and “Endangered” according to Section 15380 of the State CEQA Guidelines.

focused upon all potential impacts to biological resources. This analysis will also include an evaluation the Proposed Project's consistency with the following federal Executive Orders:

- **Executive Order 13112: Invasive Species.** This Order requires agencies to prevent the introduction of invasive species; to provide for their control; and to minimize the economic, ecological, and human health impacts that invasive species cause to the extent practicable and permitted by law.
- **Executive Order 11990: Protection of Wetlands.** This Order establishes a national policy to avoid adverse impacts to wetlands whenever there is a practicable alternative.

6.3 EFFECTS OF PROPOSED ACTION

The Evaluation Criterion from the Appendix G of CEQA (Environmental Checklist Form) and the Executive Orders described above under NEPA have been addresses below relative to Proposed Project impacts to biological resources.

Evaluation Criterion: **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

6.3.1 Listed Special Status Species

Plant Species

The Santa Ana River woollystar is the only listed plant species that was observed within the Study Area. This species is present within the Santa Ana River which will be avoided by drilling under the river channel to avoid direct impacts to the species. However, a potential impact could occur if there were an inadvertent release of drilling fluid or other construction related liquid into the Santa Ana River in a location and a quantity that could adversely affect habitat for this species. This would be considered a potentially significant impact. This potential impact to the Santa Ana River woollystar would be addressed through the implementation of APM-BIO-3, APM-BIO-5, APM-BIO-8, and APM-BIO-10 (described in Section 3), and APM-HAZ-1-7 and APM-HAZ-10 from the Hazards and Hazardous Materials Assessment (Enercon 2015: APMs provided in Appendix C) which would reduce these impacts to a less than significant level through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste

- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

No other State or federally listed Threatened or Endangered plant species will be impacted by the Proposed Project; therefore, no APMs would be required to be implemented for any other listed plant species.

Fairy Shrimp

As demonstrated by the 2014/2015 wet and dry season protocol level surveys, no State and federally listed fairy shrimp are found within the Study Area. Therefore, there is no impact to any listed special status fairy shrimp species by the Proposed Project and no APMs would be required to be implemented.

Santa Ana Sucker

The Study Area does not provide suitable habitat for this species along the Santa Ana River near the Tippecanoe Avenue crossing. The nearest Santa Ana sucker occurrence reported is from approximately 6.4 miles downstream of the Study Area in the Santa Ana River. Because of the lack of hydrological connectivity to the downstream occurrence of this species, Santa Ana Sucker is not expected to occur in the Study Area.

Critical Habitat is mapped for Santa Ana sucker in the Santa Ana River. Impacts to designated Critical Habitat are not anticipated as horizontal directional drilling will be used to cross under the Santa Ana River and avoid Critical Habitat (Exhibit 34) in this area. However, due to the presence of documented occurrences of Santa Ana sucker within the Santa Ana River downstream of this crossing, a potential impact could occur if there were an inadvertent release of drilling fluid or other construction related liquid into the Santa Ana River in a location and a quantity that could adversely affect habitat for this species. This would be considered a potentially significant impact. This potential impact to the sucker would be addressed through the implementation of APM-BIO-3, APM-BIO-5, APM-BIO-8, and APM-BIO-10 (described in Section 3), and APM-HAZ-1-7 and APM-HAZ-10 from the Hazards and Hazardous Materials Assessment (Enercon 2015: APMs provided in Appendix C) which would reduce these impacts to a less than significant level through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste

- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

Arroyo Toad

Suitable breeding habitat for this species is present in the Study Area within Cajon Wash, Crowder Creek, Cleghorn Creek, and Pitman Creek; however, the arroyo toad was not observed during 2015 focused protocol level surveys within these three areas. Therefore, there would be no direct impact on this species at the Crowder Creek, Cleghorn Creek, and Pitman Creek portions of the Proposed Project and no avoidance, minimization, and/or mitigation would be required in these areas.

There are documented occurrences of arroyo toad to the west of the Proposed Project from approximately MPs 18 to 32 and again at MP 37. These breeding areas are located outside the Proposed Project pipeline impact area because the pipeline occurs within the developed/paved area of existing roads through this area. However, there are several construction staging area at MPs 25.2, 26.6-27, and 28.4-28.9 that may impact estivating habitat for this species. Potential impacts to occupied estivation habitat is considered a significant impact. A potential impact could occur if there were an inadvertent release of drilling fluid or other construction related liquid into Cajon Wash in a location and a quantity that could adversely affect habitat for this species. These impacts would be considered potentially significant.

The USFWS designated 98,366 acres of Critical Habitat for the arroyo toad. A total of 52.37 acres (0.17 acre permanent/52.20 acre temporary) of Critical Habitat for this species will be impacted by the Proposed Project within the Cajon Wash between Mileposts 22.3 and 28.2 (Exhibit 34). This portion of designated Critical Habitat occurs along, and includes, the developed area of SR-66.

Potentially significant direct and indirect impacts to the arroyo toad would be addressed through the implementation of APM-BIO-2– APM-BIO-5, APM-BIO-7– APM-BIO-10, APM-BIO-15, APM-BIO-22, and APM-BIO-27 (described in Section 3) and APM-HAZ-1-7 and APM-HAZ-10 which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-Status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-15** Arroyo Toad Avoidance
- **APM-BIO-22** Endangered Species Permits

- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste
- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

Desert Tortoise

Although no live desert tortoises were observed on or near the Proposed Project, tortoise sign observed at the Shaver Summit Pressure Limiting Stations indicates that tortoises is expected at this location. Construction of the Shaver Summit Pressure Limiting Station will cause adverse impacts to potential habitat for the desert tortoise and possibly to desert tortoise individuals.

Critical Habitat is designated for the desert tortoise; however, only the Shaver Summit Pressure Limiting Station component of the Proposed Project occurs within designated Critical Habitat (Exhibit 34). Impacts to designated Critical Habitat are small (total of approximately four acres compared to the 6.4 million acres designated [0.00007 percent]).

Impacts to desert tortoise habitat would primarily be confined to the temporary construction footprint of the Shaver Summit Pressure Limiting Station (4.13 acres). In addition, a minor amount (0.50 acre) of desert tortoise habitat at the Shaver Summit Pressure Limiting Station would be lost where permanent structures/access areas would be installed. Direct removal of plant species utilized by this species would remove available forage (an important source of moisture) and potential available shelter (used for shade and predator evasion).

In addition, the Proposed Project would result in a potential increase of vehicle-strike impacts due to increased traffic on existing dirt roads in the area to access the pressure limiting station during construction. Desert tortoises could also be harmed by inadvertent leaks from construction equipment during construction. Improperly discarded trash and debris associated with construction of the Proposed Project, would have the potential to attract predators of the desert tortoise, including common ravens and domestic and feral dogs.

The Proposed Project could result in potentially significant impacts to the desert tortoise. Implementation of APM-BIO-2, APM-BIO-5, APM-BIO-7, APM-BIO-9, APM-BIO-10, APM-BIO-21, APM-BIO-22, APM-BIO-27, and APM-BIO-30 (described in Section 3) and APM-HAZ-1-7 and APM-HAZ-10 would reduce these potentially significant impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation

- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-21** Avoidance of Desert Tortoise
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-30** Consistency with Habitat Conservation Plans
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste
- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

California Condor

The Proposed Project would not impact condor nest sites or significantly reduce foraging habitat, as this species is not expected to occur within the Study Area. In the rare event that a condor flies over the Proposed Project, implementation of APM-BIO-16 (described in Section 3) would reduce the potentially significant impact of condors picking up microtrash from Proposed Project construction activities and bringing it back to a distant nest.

Swainson's Hawk

The majority of the northern portion of the Study Area overlaps Swainson's hawk migration habitat; however, this species was not observed during focused surveys. The Proposed Project would not impact Swainson's hawk nest sites. The Proposed Project would result in de minimus permanent impacts to foraging habitat (0.55 acres) and minimal permanent impacts (175.77 acres) to foraging habitat impacts. Given the extent of foraging habitat in the Mojave desert region, this impact would be less than significant.

However, potentially significant indirect impacts to migrating hawks could potentially occur as a result of construction activities (entrapment/collision of birds with equipment, improperly disposed of trash/construction fluids). Implementation of APM-BIO-3, APM-BIO-9– APM-BIO-10, APM-BIO-13, APM-BIO-22, and APM-BIO-25 (described in Section 3) and APM-HAZ-1-7 and APM-HAZ-10 would reduce these indirect impacts through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring

- **APM-BIO-9** MPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-25** Raptor Nest Avoidance
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste
- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

Southwestern Willow Flycatcher

Although suitable habitat is present within the Study Area, the southwestern willow flycatcher is not expected to occur within the Proposed Project impact area. Due to lack of detection during the 2015 focused surveys. Therefore, there would be no direct impact on this species. Critical Habitat is designated for the southwestern willow flycatcher along the Santa Ana River. Impacts to designated Critical Habitat for this species are not anticipated as drilling will be used to cross under the Santa Ana River (Exhibit 34).

However, the Proposed Project could result in impacts to nesting flycatchers during construction activities should this species occur in the Study Area in the future. These potentially significant impacts would be addressed through the implementation of APM-BIO-2, APM-BIO-3, APM-BIO-4, APM-BIO-5, APM-BIO-7, APM-BIO-8, APM-BIO-9, APM-BIO-10, APM-BIO-13, APM-BIO-20, APM-BIO-22, and APM-BIO-27 (described in Section 3) which would reduce these impacts through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-13** Nesting Bird Management Plan
- **APM-BIO-20** Riparian Bird Avoidance

- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Least Bell's Vireo

A total of 15 least Bell's vireo territories were established in the riparian bird Study Area during the 2015 focused protocol level surveys. The Proposed Project would not impact vireo nest sites or significantly reduce foraging habitat because it avoids the riparian habitat in the Santa Ana River, as drilling will be used to cross under the Santa Ana River in this areas. However, the Proposed Project could result in potentially significant indirect impacts to nesting vireos during construction activities (Exhibit 35).

These potential impacts would be reduced to a less than significant level through the implementation of APM-BIO-2, APM-BIO-3, APM-BIO-4, APM-BIO-5, APM-BIO-7, APM-BIO-8, APM-BIO-9, APM-BIO-10, APM-BIO-13, APM-BIO-20, APM-BIO-22, and APM-BIO-27 (described in Section 3) which would reduce these impacts through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-13** Nesting Bird Management Plan
- **APM-BIO-20** Riparian Bird Avoidance
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Coastal California Gnatcatcher

Although suitable habitat is present within the Study Area, the coastal California gnatcatcher is not expected to occur in the Proposed Project impact area due to lack of detection during the 2015 focused surveys.

The USFWS designated 197,303 acres of Critical Habitat for the coastal California gnatcatcher. A total of 2.65 acres of Critical Habitat for this species will be impacted by the Proposed Project; however, these areas were determined to be unoccupied by the species during focused survey efforts and therefore impact to this de minimus amount of unoccupied critical habitat is not significant.

In the unusual event that habitat within the Proposed Project impact area becomes colonized by the gnatcatcher prior to construction, implementation of APM-BIO-2, APM-BIO-3, APM-BIO-4, APM-BIO-5, APM-BIO-7, APM-BIO-9, APM-BIO-10, APM-BIO-13, APM-BIO-19, APM-BIO-22,

and APM-BIO-27 (described in Section 3) would reduce these impacts through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-13** Nesting Bird Management Plan
- **APM-BIO-19** Coastal California Gnatcatcher Avoidance
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Mohave Ground Squirrel

Although suitable habitat is present within the Study Area, the Mohave Ground Squirrel is not expected to occur within the Proposed Project impact area due to lack of detection during the 2015 focused trapping surveys. Therefore, there would be no impact to this species and no avoidance, minimization, and/or mitigation would be required.

San Bernardino Kangaroo Rat

A total of 0.97 acre of occupied San Bernardino kangaroo rat habitat will be temporarily impacted at the I-15/I-215 portion of the Proposed Project. There is the potential for impact to this species through mortality of individuals and occupied burrows during construction as well as impacts to habitat within and adjacent to the construction footprint. In addition, a potential impact could occur if there were an inadvertent release of drilling fluid or other construction related liquid into Cajon Wash in a location and a quantity that could adversely affect habitat for this species. These impacts would be considered potentially significant.

No occupied San Bernardino kangaroo rat habitat would be permanently or temporarily impacted at the Santa Ana River crossing portion of the Proposed Project because drilling would be used to construct the pipeline under the Santa Ana River. However, the Proposed Project has the potential to indirectly impact this species through an inadvertent release of drilling fluids or other liquid materials into the Santa Ana River that could impact the species or their associated habitat. These impacts would be considered potentially significant.

The Study Area overlaps San Bernardino kangaroo rat Critical Habitat where the alignment parallels Cajon Wash from MPs 23.7 to south of 28.8 (Exhibit 36). A total of 65.97 acres of Critical Habitat occurs within the Proposed Project impact area, in the vicinity of Cajon Wash. There is also Critical Habitat mapped from MPs 44.4 to 45.4 within and adjacent to the Santa Ana River, totaling 8.07 acres within the project impact area. Drilling would be used to construct the pipeline under the Santa Ana River which would limit impacts to Critical Habitat for this species. (Exhibit 34).

These potentially significant impacts would be addressed through the implementation of APM-BIO-2, APM-BIO-5, APM-BIO-7, APM-BIO-10, APM-BIO-18, APM-BIO-22, APM-BIO-27, APM-BIO-29, and APM-BIO-30 (described in Section 3) and APM-HAZ-1-7 and APM-HAZ-10 which would reduce impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-18** Listed Kangaroo Rat Avoidance
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines
- **APM-BIO-30** Consistency with Habitat Conservation Plans
- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste
- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

Stephens' Kangaroo Rat

A total of 6.49 acres of occupied habitat for Stephens' kangaroo rat will be temporarily impacted by the Proposed Project. Although the pipeline would be installed in previously disturbed areas, there is the potential for take of this species through mortality of individuals and occupied burrows during construction as well as impacts to habitat within and adjacent to the construction area. This is considered a potentially significant impact.

Implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7, APM-BIO-9– APM-BIO-10, APM-BIO-18, APM-BIO-22, and APM-BIO-30 (described in Section 3) would reduce these impacts to a level of less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-18** Listed Kangaroo Rat Avoidance
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-30** Consistency with Habitat Conservation Plans

6.3.2 Other (Non-Listed) Special Status Species

Plants

Only five special status plant species were observed within the Proposed Project impact area: Plummer's mariposa lily, Parry's spineflower, California ditaxis, Southern California black walnut, and short-joint beavertail (Exhibit 37).

Plummer's Mariposa Lily – Six different locations of Plummer's mariposa lily would be impacted by the Proposed Project. Approximate numbers of this species observed during focused rare plant surveys are disclosed below:

- MP 18.7: 10 individuals.
- MP 19.0: 2 individuals.
- MP 19.8: 45 individuals (portion of a larger population).
- MP 20.0: 2 individuals.
- MP 20.1: 46 individuals.
- MP 21.6: 20 individuals (portion of a larger population).

This impact is adverse, but not significant to this species. Nonetheless, the APMs described below would be implemented and would further reduce these less than significant impacts.

Parry's Spineflower – Two locations in the vicinity of MP 28.5 would be impacted by the Proposed Project. One location consists of approximately 250 individuals. The other location includes a small portion of a larger population immediately to the south; only 100 individuals within this larger population will be impacted. In total, approximately 350 individual Parry's spineflowers will be impacted by construction of the Proposed Project. Impacts to this species would be considered potentially significant. APMs described below would be implemented to reduce these impacts to a level that is less than significant.

California Ditaxis – Only one individual of California ditaxis was observed in the Study Area east of the Desert Center Compression Station. This location will be directly impacted by construction of the Proposed Project. This impact is adverse, but not significant to this species. Nonetheless, the APMs described below would be implemented and would further reduce these impacts.

Southern California black walnut – One location of three small¹⁰ walnuts at approximately MP 26 will be impacted by the Proposed Project. These three walnuts are located within the SBNF. Another location at MP 42.8, includes an additional three walnuts¹¹ along North Tippecanoe Avenue. These trees have been cut back to scrub form. In total, six individual Southern California black walnuts will be impacted by construction of the Proposed Project. Impacts to this species are not considered significant due to small stature, and disturbed nature of the individuals and their habitat. Nonetheless, the APMs described below would be implemented and would further reduce these impacts.

Short-joint beavertail – Fourteen different locations of short-joint beavertail would be impacted by the Proposed Project, summarized as follows:

- MP 12.4: 1 individual.
- MP 12.6a: 2 individuals.
- MP 12.6b: 3 individuals.
- MP 13.2a: 1 individual.
- MP 13.2b: 1 individual.
- MP 16.1: 1 individual.
- MP 16.8: 2 individuals.
- MP 17.0: 11 individuals (portion of a larger population).
- MP 18.0: 2 individuals.
- MP 18.6a: 2 individuals.
- MP 18.6b: 1 individuals.
- MP 18.7: 1 individuals.
- MP 18.8: 9 individuals.
- MP 21.1: 1 individual.

In total, approximately 38 individual short-joint beavertail will be impacted by construction of the Proposed Project. Impacts to this species would be considered potentially significant. APMs described below would be implemented to reduce these impacts to a level that is less than significant.

These potential impacts to Plummer's mariposa lily, Parry's spineflower, California ditaxis, Southern California black walnut, and short-joint beavertail would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7, APM-BIO-10, APM-BIO-14, APM-BIO-23, APM-BIO-27, and APM-BIO-30 (described in Section 3) which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)

¹⁰ Trees were too small to be considered as part of the tree assessment for the Proposed Project.

¹¹ Trees were too small to be considered as part of the tree assessment for the Proposed Project.

- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-14** Preconstruction Plant Surveys
- **APM-BIO-23** Avoidance of Special Status Plants
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-30** Consistency with Habitat Conservation Plans

Invertebrates

Only one special status invertebrate is expected to occur within the Study Area: Arrowhead blue butterfly. The Arrowhead blue butterfly occurs in chaparral and coastal sage scrub. Approximately 130 acres of potential habitat for this species (chaparral and scrub communities within the SBNF) would be impacted by the Proposed Project.

This adverse impact would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7, APM-BIO-10, and APM-BIO-27 (described in Section 3), which would reduce these impacts through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Fish

Santa Ana speckled dace has been documented in the Cajon Wash and in City Creek upstream of the Proposed Project's crossing with the Santa Ana River. The Proposed Project's crossings with these systems are within ephemeral drainages; therefore, it is unlikely the Proposed Project would result in potentially significant impacts to this species, which requires perennial flows.

However, a potential impact could occur if there were an inadvertent release of drilling fluid or other construction related liquid into Cajon Wash in a location and a quantity that could adversely affect habitat for this species. This would be considered a potentially significant impact. This potential impact to the Santa Ana speckled dace would be addressed through the implementation of APM-BIO-3, APM-BIO-5, APM-BIO-8, and APM-BIO-10 (described in Section 3) and APM-HAZ-1-7 and APM-HAZ-10 which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)

- **APM-HAZ-1** Hazardous Materials and Hazardous Waste Handling
- **APM-HAZ-2** Transportation of Hazardous Materials
- **APM-HAZ-3** Fueling and Maintenance of Construction Equipment
- **APM-HAZ-4** Emergency Release Response Procedures
- **APM-HAZ-5** Containment and Disposal of Horizontal Directional Drilling (HDD) Drilling Waste
- **APM-HAZ-6** Spill Prevention, Countermeasure, and Control Plan and Hazardous Materials Business Plan
- **APM-HAZ-7** Hazardous Materials Contingency Plan
- **APM-HAZ-10** Emergency Response Plan, Pipeline Safety

Amphibians

The Proposed Project has the potential to impact approximately 205.73 acres (1.03 acres permanent/204.7 acres temporary) of suitable habitat for a number of special status amphibian species including the Monterey ensatina, arboreal salamander, garden slender salamander, San Gabriel Mountain slender salamander, western spadefoot toad, and red spotted toad.

These potentially significant impacts would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7–APM-BIO-10, and APM-BIO-27 (described in Section 3) which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Reptiles

The Proposed Project has the potential to impact approximately 394.85 acres (2.6 acres permanent/392.25 acres temporary) of suitable habitat for a number of special status reptile species including the Mojave black-collared lizard, zebra-tail lizard, coast horned lizard, granite night lizard, desert night lizard, Coronado skink, orange-throated whiptail, Southern California (silvery) legless lizard, three-lined boa, San Bernardino ringneck snake, San Bernardino mountain kingsnake, coast patch-nosed snake, two-striped garter snake, northern red-diamond rattlesnake, and southwestern speckled rattlesnake.

These potentially significant impacts to suitable habitat would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7–APM-BIO-10, and APM-BIO-27

(described in Section 3) which would reduce these impacts to level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Burrowing Owl

Although suitable habitat is present in the Study Area, the burrowing owl was determined to be absent at this time because it was not detected during the 2015 focused surveys. Because the Study Area provides both suitable habitat and is located within the known range of this species, there is a potential that a burrowing owl may move into the Proposed Project impact area prior to the start of construction.

The Proposed Project could result in a substantial adverse effect to the burrowing owl if an active nesting site is removed. Implementation of APM-BIO-2 (Preconstruction Surveys) and APM-BIO-24 (Burrowing Owl Avoidance and Mitigation) (described in Section 3) would reduce this potential impact to a level that is less than significant through avoidance, minimization, and/or mitigation.

Other Raptors

The Proposed Project has the potential to impact suitable nesting habitat for a number of special status raptor species including the turkey vulture, white-tailed kite, northern harrier, Cooper's hawk, golden eagle, western screech-owl, northern pygmy-owl, long-eared owl, American peregrine falcon, and prairie falcon although none of these species were observed within the impact area of the Proposed Project during focused surveys (Exhibit 38). In addition, the Proposed Project has the potential to impact suitable foraging habitat for a number of special status raptor species including the turkey vulture, white-tailed kite, northern harrier, sharp-shinned hawk, Cooper's hawk, ferruginous hawk, golden eagle, western screech-owl, northern pygmy-owl, long-eared owl, merlin, American peregrine falcon, and prairie falcon.

These potentially significant impacts to nesting and foraging habitat would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7– APM-BIO-10, and APM-BIO-27 (described in Section 3) which would reduce these impacts to level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters

- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Other Birds

The Proposed Project has the potential to impact approximately 394.85 acres (2.6 acres permanent/392.25 acres temporary) of suitable nesting and foraging habitat for a number of other special status bird species including the Nuttall's woodpecker, olive-sided flycatcher, loggerhead shrike, Cassin's vireo, warbling vireo, California horned lark, tree swallow, Swainson's thrush, Le Conte's thrasher, common yellowthroat, yellow warbler, yellow-breasted chat, Southern California rufous-crowned sparrow, black-chinned sparrow, Bell's (sage) sparrow, grasshopper sparrow, song sparrow, and Lawrence's goldfinch. In addition, Lewis's woodpecker, red-breasted sapsucker, gray flycatcher, plumbeous vireo, purple martin, hermit thrush, American pipit, MacGillivray's warbler, Wilson's warbler, Lincoln's sparrow, and tricolored blackbird may occur as migrants, winter visitors, or occasional foragers in the Study Area and be impacted during construction.

These potentially significant impacts to suitable nesting and foraging habitat would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7–APM-BIO-10, and APM-BIO-27 (described in Section 3) which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Mammals

The Proposed Project has the potential to impact approximately 394.85 acres (2.6 acres permanent/392.25 acres temporary) of suitable habitat for a number of special status mammal species (excluding bats, which are discussed below). These species include northwestern San Diego pocket mouse, pallid San Diego pocket mouse, Los Angeles pocket mouse, San Diego desert woodrat, southern grasshopper mouse, San Diego black-tailed jackrabbit, mountain lion, ringtail, western spotted skunk, American badger, and mule deer.

These impacts would be addressed through the implementation of APM-BIO-3– APM-BIO-5, APM-BIO-7– APM-BIO-10, and APM-BIO-27 (described in Section 3) which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Bats

The Proposed Project has the potential to impact suitable roosting and/or foraging habitat for a number of special status bat species including western small-footed myotis, Yuma myotis, long-legged myotis, little brown myotis, long-eared myotis, fringed myotis, western yellow bat, western red bat, hoary bat, spotted bat, Townsend's big-eared bat, pallid bat, western mastiff bat, and pocketed free-tail bat.

These potentially significant impacts to roosting and/or foraging habitat would be addressed through the implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7– APM-BIO-10, and APM-BIO-27 (described in Section 3) which would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions:

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-Status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Evaluation Criterion: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

6.3.3 Vegetation Communities

The Proposed Project will result in temporary and permanent impacts to a total of 1,087.49 acres of native and non-native vegetation types that are present within the Study Area. These areas are illustrated in Exhibit 39, summarized in Table 11, and discussed below.

**TABLE 11
VEGETATION TYPES IMPACTED BY THE PROPOSED PROJECT**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Permanent Impacts (acres)				Permanent Total	Temporary Impacts (acres)				Temporary Total	Total Permanent and Temporary Impacts	Non-Impacted Areas in Study Area (acres)
		Access Road	Compressor/Pressure Limiting Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor/Pressure Limiting Station	PDCC	Staging Area			
Chaparral Communities													
Chamise Chaparral	864.48	0.00	0.00	0.30	0.00	0.30	0.98	0.00	74.96	0.95	76.89	77.19	787.29
Disturbed Chamise Chaparral	1.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.02	0.99
Burned Chamise Chaparral	134.89	0.00	0.00	0.00	0.00	0.00	0.04	0.00	2.86	0.00	2.90	2.90	131.99
Chamise Chaparral/Annual Grass-Forb	216.03	0.15	0.00	0.00	0.00	0.15	0.07	0.00	16.70	0.56	17.33	17.48	198.55
Disturbed Chamise Chaparral/Annual Grass-Forb	9.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.99
Burned Chamise Chaparral/Annual Grass-Forb	59.42	0.00	0.00	0.00	0.00	0.00	0.01	0.00	9.89	1.13	11.03	11.03	48.39
Chamise Chaparral–California Buckwheat Scrub	102.33	0.00	0.00	0.00	0.00	0.00	0.18	0.00	8.01	0.00	8.19	8.19	94.14
Chamise–California Buckwheat Scrub–Chaparral White Thorn Chaparral	1.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.02	1.35
Chamise–Black Sage Chaparral	9.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	0.00	1.82	1.82	7.98
Chamise–Black Sage–Mixed Shrub Chaparral	42.25	0.00	0.00	0.00	0.00	0.00	0.01	0.00	4.47	0.00	4.48	4.48	37.77
Chamise Chaparral–Hairy Yerba Santa Scrub	86.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.06	0.06	86.92
Chamise–Birch Leaf Mountain Mahogany Chaparral	12.71	0.00	0.00	0.08	0.00	0.08	0.00	0.00	1.22	0.00	1.22	1.30	11.41
Chamise Chaparral–Brittle Bush Chaparral	7.36	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	7.35
Chamise Chaparral–Rubber Rabbitbrush Scrub	12.89	0.00	0.00	0.00	0.00	0.00	0.09	0.00	1.51	0.00	1.60	1.60	11.29
Chamise–Chaparral White Thorn Chaparral	13.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.04	13.66
Chaparral White Thorn Chaparral	73.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.87
Burned Chaparral White Thorn Chaparral	2.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.45
Chaparral White Thorn–Birch Leaf Mountain Mahogany Chaparral	41.36	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.47	0.00	0.47	0.48	40.88
Hoary Leaf Ceanothus Chaparral	11.58	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.32	0.00	1.34	1.34	10.24
Burned Hoary Leaf Ceanothus Chaparral	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.20	0.20	1.12
Hoary Leaf Ceanothus–Chamise Chaparral	99.27	0.00	0.00	0.00	0.00	0.00	0.03	0.00	10.27	0.00	10.30	10.30	88.97
Burned Hoary Leaf Ceanothus–Chamise Chaparral	32.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.95
Hoary Leaf Ceanothus–Birch Leaf Mountain Mahogany Chaparral	3.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.60
Scrub Oak Chaparral	6.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.97
Scrub Oak–Chamise–Hoary Leaf Ceanothus Chaparral	41.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.11	0.00	5.11	5.11	36.40
Tucker Oak Chaparral	188.10	0.00	0.00	0.00	0.00	0.00	0.07	0.00	8.70	1.32	10.09	10.09	178.01
Burned Tucker Oak Chaparral	132.23	0.00	0.00	0.00	0.00	0.00	0.27	0.00	22.84	0.09	23.20	23.20	109.03
Tucker Oak–Chamise Chaparral	19.06	0.00	0.00	0.00	0.00	0.00	0.01	0.00	2.91	0.00	2.92	2.92	16.14
Birch Leaf Mountain Mahogany Chaparral	35.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.54	0.54	35.32
Sugarbush Chaparral	11.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	11.70
<i>Subtotal Chaparral Communities</i>	<i>2,277.05</i>	<i>0.16</i>	<i>0.00</i>	<i>0.39</i>	<i>0.00</i>	<i>0.55</i>	<i>1.78</i>	<i>0.00</i>	<i>173.95</i>	<i>4.05</i>	<i>179.78</i>	<i>180.33</i>	<i>2,096.72</i>
Coastal Scrub Communities													
California Sagebrush Scrub	171.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.37	4.39	6.76	6.76	165.01
Disturbed California Sagebrush Scrub	62.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	0.14	1.96	1.96	60.09
California Sagebrush–California Buckwheat Scrub	20.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	0.70	2.87	2.87	18.08

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Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Permanent Impacts (acres)				Permanent Total	Temporary Impacts (acres)				Temporary Total	Total Permanent and Temporary Impacts	Non-Impacted Areas in Study Area (acres)
		Access Road	Compressor/Pressure Limiting Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor/Pressure Limiting Station	PDCC	Staging Area			
Disturbed California Sagebrush–California Buckwheat Scrub	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68
California Sagebrush–California Buckwheat–White Sage Scrub	14.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.29	0.29	13.87
California Buckwheat Scrub	189.86	0.00	0.00	0.04	0.00	0.04	0.07	0.00	11.16	0.98	12.21	12.25	177.61
Disturbed California Buckwheat Scrub	59.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.30	0.34	4.64	4.64	54.48
California Buckwheat–Brittle Bush Scrub	3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.88	0.88	2.34
California Buckwheat–White Sage Scrub	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	2.98
California Buckwheat–Chaparral Yucca Scrub	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.46
California Buckwheat–Rubber Rabbitbrush Scrub	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.73	0.73	0.20
Brittle Bush Scrub	50.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48	0.00	2.48	2.48	47.71
Disturbed Brittle Bush Scrub	102.24	0.25	0.00	0.00	0.00	0.25	0.00	0.00	4.10	0.18	4.28	4.53	97.71
Burned Brittle Bush Scrub	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Brittle Bush–California Sagebrush Scrub	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
Deer Weed Scrub	17.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.08	17.31
Basket Bush Thickets–Hairy Yerba Santa Scrub	10.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.11	0.24	0.24	9.95
Hairy Yerba Santa Scrub	16.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.07	1.59	1.59	15.09
Disturbed Hairy Yerba Santa Scrub	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.43
Hairy Yerba Santa–Black Sage Scrub	21.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.02	21.52
Black Sage Scrub	3.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.44	0.44	3.52
Narrowleaf Goldenbush Scrub	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.08	2.12	2.12	4.21
Annual Bur-Sage–California Croton Stands	22.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.65
<i>Subtotal Scrub Communities</i>	<i>793.71</i>	<i>0.25</i>	<i>0.00</i>	<i>0.04</i>	<i>0.00</i>	<i>0.29</i>	<i>0.07</i>	<i>0.00</i>	<i>34.10</i>	<i>7.43</i>	<i>41.60</i>	<i>41.89</i>	<i>751.82</i>
Desert Scrub Communities													
Joshua Tree Woodland	109.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.41	3.07	8.48	8.48	101.03
Disturbed Joshua Tree Woodland	9.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.64	8.76
Burned Joshua Tree Woodland	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90
Creosote Bush Scrub/Joshua Tree Woodland	22.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	0.00	2.76	2.76	20.00
Creosote Bush–Nevada Joint Fir Scrub	2.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.28	0.53	0.53	2.43
Creosote Bush–Rubber Rabbitbrush Scrub	13.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	1.19	1.19	12.43
Creosote Bush–White Burr Sage Scrub	690.73	0.00	0.81	0.09	0.00	0.90	0.04	7.18	56.82	1.39	65.43	66.33	624.40
Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland	165.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.64	2.66	15.30	15.30	150.69
Bladder Sage Scrub	6.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.47	0.47	5.76
Bladder Sage–Rubber Rabbitbrush Scrub	34.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12	0.00	1.12	1.12	33.79
Big Sagebrush Scrub	14.84	0.00	0.00	0.00	0.00	0.00	0.02	0.00	1.92	3.77	5.71	5.71	9.13
Rubber Rabbitbrush Scrub	198.21	0.00	0.06	0.00	0.00	0.06	0.07	0.00	13.16	13.17	26.40	26.46	171.75
Disturbed Rubber Rabbitbrush Scrub	16.20	0.00	0.00	0.08	0.00	0.08	0.00	0.00	0.28	0.00	0.28	0.36	15.84
Fourwing Saltbush Scrub	17.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	1.47	2.35	2.35	15.60
Cheesebush Scrub	6.47	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	1.33	1.33	5.14
Disturbed Cheesebush Scrub	40.48	0.00	0.52	0.00	0.00	0.52	0.00	3.27	0.00	0.00	3.27	3.79	36.69
Nevada Joint Fir Scrub	59.86	0.00	0.00	0.09	0.00	0.09	0.00	0.00	3.28	4.19	7.47	7.56	52.30

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		Access Road	Compressor/Pressure Limiting Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor/Pressure Limiting Station	PDCC	Staging Area			
Nevada Joint Fir Scrub/Joshua Tree Woodland	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.25	0.49	0.49	0.01
<i>Subtotal Desert Scrub Communities</i>	<i>1,412.52</i>	<i>0.00</i>	<i>1.39</i>	<i>0.26</i>	<i>0.00</i>	<i>1.65</i>	<i>0.13</i>	<i>11.78</i>	<i>101.06</i>	<i>30.25</i>	<i>143.22</i>	<i>144.87</i>	<i>1,267.65</i>
Herbaceous Communities													
Salt Grass Flats–Mexican Rush Thicket	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.44	0.97	0.97	0.21
Disturbed Desert Needlegrass Grassland	38.36	0.00	0.00	0.00	0.00	0.00	0.03	0.00	5.42	0.00	5.45	5.45	32.91
Red Brome Grasslands	422.35	0.02	0.00	0.17	0.00	0.19	0.08	0.00	13.64	19.11	32.83	33.02	389.33
Ruderal	168.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.88	2.50	6.38	6.38	162.18
<i>Subtotal Herbaceous Communities</i>	<i>630.45</i>	<i>0.02</i>	<i>0.00</i>	<i>0.17</i>	<i>0.00</i>	<i>0.19</i>	<i>0.11</i>	<i>0.00</i>	<i>23.47</i>	<i>22.05</i>	<i>45.63</i>	<i>45.82</i>	<i>584.63</i>
Riparian Communities													
Fremont Cottonwood Forest	12.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.05	12.91
Fremont Cottonwood Forest–Arroyo Willow Thickets	67.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.32	0.32	66.99
Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets	7.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	7.82
Fremont Cottonwood Forest–Red Willow Thickets	4.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.26
Fremont Cottonwood Forest/Sandbar Willow Thickets	7.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.00	2.04	2.04	5.56
Fremont Cottonwood Forest/Mulefat Thickets	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71
California Sycamore Woodlands–Fremont Cottonwood Forest	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.07	0.07	0.62
California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets	9.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.03	9.48
Arroyo Willow Thickets	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61
Arroyo Willow/Mulefat Thickets	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.75	0.75	1.10
Sandbar Willow Thickets	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.03	0.34	0.34	1.46
Mulefat Thickets	9.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.09	9.59
Disturbed Mulefat Thickets	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Scale Broom Scrub	92.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74	0.00	1.74	1.74	90.31
Scale Broom–California Buckwheat Scrub	20.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.68	0.68	19.79
Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub	12.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.10	11.92
Scale Broom Scrub–Mulefat Thickets	4.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.21	1.00	1.00	3.17
Flood Plain Scrub	18.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.53	0.53	17.86
Vegetated Channel	4.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36	0.36	4.28
Unvegetated Channel	38.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.49	0.80	0.80	38.13
Open Water	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.38	0.38	3.71
<i>Subtotal Riparian Communities</i>	<i>323.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>8.55</i>	<i>0.77</i>	<i>9.32</i>	<i>9.32</i>	<i>313.68</i>
Woodland Communities													
Coast Live Oak Woodland	5.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.12	0.12	4.89
California Walnut Woodland	4.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74
California Sycamore Woodlands	17.82	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.62	0.00	0.65	0.65	17.17
Disturbed California Sycamore Woodlands	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05

**TABLE 11
VEGETATION TYPES IMPACTED BY THE PROPOSED PROJECT**

Vegetation Type	Vegetation within 1,300-foot-wide Study Area (acres)	Permanent Impacts (acres)				Permanent Total	Temporary Impacts (acres)				Temporary Total	Total Permanent and Temporary Impacts	Non-Impacted Areas in Study Area (acres)
		Access Road	Compressor/Pressure Limiting Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor/Pressure Limiting Station	PDCC	Staging Area			
Burned California Sycamore Woodlands	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40
Burned California Sycamore Woodlands/Chaparral White Thorn Chaparral	44.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.97
Blue Elderberry Stands	3.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.89
California Juniper Woodland	33.39	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.70	1.48	1.48	1.48	31.91
Burned California Juniper Woodland	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
Subtotal Woodland Communities	117.01	0.00	0.00	0.00	0.00	0.00	0.03	0.00	1.52	0.70	2.25	2.25	114.76
Non-Native and Disturbed Communities													
Agriculture	698.89	0.00	0.01	0.09	0.00	0.10	0.00	0.00	23.78	27.56	51.34	51.44	647.45
Ornamental	165.32	0.00	0.00	0.00	0.00	0.00	0.00	0.76	4.28	0.58	5.62	5.62	159.70
Eucalyptus Groves	30.87	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36	0.36	0.36	30.51
Developed	5,058.09	0.00	10.63	0.17	0.00	10.80	2.47	3.38	460.24	21.09	487.18	497.98	4,560.11
Disturbed Habitat	561.41	0.53	0.35	0.10	0.00	0.98	14.81	0.00	64.89	26.93	106.63	107.61	453.80
Subtotal Non-Native and Disturbed Communities	6,514.58	0.53	10.99	0.36	0.00	11.88	17.28	4.14	553.55	76.16	651.13	663.01	5,851.57
Grand Total	12,068.32	0.96	12.38	1.22	0.00	14.56	19.40	15.92	896.20	141.41	1,072.93	1,087.49	10,980.83
PDCC: Preliminary Design Construction Corridor													

Chaparral Communities

A total of 180.33 acres (179.78 acres temporary/0.55 acre permanent) of chaparral communities would be directly impacted by the Proposed Project. In Southern California, the National Forests collectively, i.e., Angeles, Cleveland, Los Padres, and San Bernardino National Forests, support more than 830,000 acres of chaparral (USFS 2005a). Impacts to chaparral communities would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Coastal Scrub Communities

A total of 41.89 acres (41.60 acres temporary/0.29 acre permanent) of scrub communities would be impacted by the Proposed Project. In Southern California, the forests collectively, i.e., Angeles, Cleveland, Los Padres, and San Bernardino National Forests, support more than 550,000 acres of scrub (USFS 2005a). Impacts to scrub communities would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Desert Scrub Communities

A total of 144.87 acres (143.22 acres temporary/1.65 acres permanent) of desert scrub communities would be impacted by the Proposed Project. In Southern California, desert scrub communities are the most widespread habitat in the California desert and can be found throughout the Mojave and Sonoran Deserts. Impacts to desert scrub communities would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Herbaceous Communities

A total of 6.42 acres of salt grass flats–Mexican rush thicket and disturbed desert needlegrass grassland would be temporally impacted by the Proposed Project. These vegetation types are of limited distribution in the region, and impacts would be considered potentially significant.

A total of 39.40 acres (39.21 acres temporary/0.19 acre permanent) of red brome grasslands and ruderal would be impacted by the Proposed Project. These areas are generally of low-biological value due to their dominance by non-native/invasive species. This is not considered an adverse impact.

Riparian Communities

A total of 9.32 acres of riparian vegetation types would be temporarily impacted by the Proposed Project. These resources may also be within the jurisdiction of the USACE, CDFW, and SWQCB. Impacts would be considered potentially significant.

Woodland Communities

A total of 2.25 acres of woodland communities, primarily California juniper woodlands, would be temporarily impacted by the Proposed Project. Impacts to woodlands communities would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Non-Native and Disturbed Communities

A total of 663.01 acres (651.13 acres temporary/11.88 acres permanent) of agriculture, ornamental, Eucalyptus groves, developed, and disturbed habitats would be impacted by the Proposed Project. These areas are generally of low-biological value due to a prevalence of non-native/invasive species. This is not considered an adverse impact.

In total, the Proposed Project would result in potentially significant impacts to salt grass flats–Mexican rush thicket, disturbed desert needlegrass grassland, and riparian communities. Implementation of APM-BIO-3–APM-BIO-8, APM-BIO-10, APM-BIO-27, and APM-BIO-29 (described in Section 3) would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines

6.3.4 Special Status Vegetation Communities

Potential impacts to special status vegetation types were evaluated by considering the CEQA Guidelines checklist (at IV[b]) for vegetation types of special concern, i.e., S1–S3 rank. The amount and quality of the vegetation type to be impacted relative to extent of this vegetation type in the region was considered. The highest quality vegetation types are expected to lack invasive non-native species, have limited evidence of human-caused disturbance such as roads or excessive livestock grazing, show evidence of reproduction, e.g., sprouts, seedlings, adults of reproductive age, and have no significant insect or disease damage.

Special Status vegetation types that are within Proposed Project impact areas are shown in Table 12 and illustrated on Exhibit 39; these impacted vegetation types are described further following the table.

**TABLE 12
SPECIAL STATUS VEGETATION TYPES IMPACTED BY THE PROPOSED PROJECT**

Vegetation Type	Vegetation within 1,300-foot-wide Corridor Study Area (acres)	Permanent Impacts (acres)				Permanent Total	Temporary Impacts (acres)				Temporary Total	Total Permanent and Temporary Impacts	Non-Impacted Areas in Study Area (acres)
		Access Road	Compressor Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor Station	PDCC	Staging Area			
Coastal Scrub Communities													
California Sagebrush Scrub	171.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.37	4.39	6.76	6.76	165.01
Disturbed California Sagebrush Scrub	62.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.82	0.14	1.96	1.96	60.09
California Sagebrush–California Buckwheat Scrub	20.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.17	0.70	2.87	2.87	18.08
Disturbed California Sagebrush–California Buckwheat Scrub	5.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.68
California Sagebrush–California Buckwheat–White Sage Scrub	14.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.29	0.29	13.87
California Buckwheat Scrub	189.86	0.00	0.00	0.04	0.00	0.04	0.07	0.00	11.16	0.98	12.21	12.25	177.61
Disturbed California Buckwheat Scrub	59.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.30	0.34	4.64	4.64	54.48
California Buckwheat–Brittle Bush Scrub	3.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.88	0.88	2.34
California Buckwheat–White Sage Scrub	2.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.01	2.98
California Buckwheat–Chaparral Yucca Scrub	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.46
California Buckwheat–Rubber Rabbitbrush Scrub	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.73	0.00	0.73	0.73	0.20
Brittle Bush Scrub	50.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.48	0.00	2.48	2.48	47.71
Disturbed Brittle Bush Scrub	102.24	0.25	0.00	0.00	0.00	0.25	0.00	0.00	4.10	0.18	4.28	4.53	97.71
Burned Brittle Bush Scrub	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
Brittle Bush–California Sagebrush Scrub	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
Basket Bush Thickets–Hairy Yerba Santa Scrub	10.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.11	0.24	0.24	9.95
Hairy Yerba Santa Scrub	16.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.07	1.59	1.59	15.09
Disturbed Hairy Yerba Santa Scrub	4.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.43
Hairy Yerba Santa–Black Sage Scrub	21.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.02	21.52
Narrowleaf Goldenbush Scrub	6.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.08	2.12	2.12	4.21
Annual Bur-Sage–California Croton Stands	22.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.65
<i>Subtotal Scrub Communities</i>	<i>772.36</i>	<i>0.25</i>	<i>0.00</i>	<i>0.04</i>	<i>0.00</i>	<i>0.29</i>	<i>0.07</i>	<i>0.00</i>	<i>34.02</i>	<i>6.99</i>	<i>41.08</i>	<i>41.37</i>	<i>730.99</i>
Desert Scrub Communities													
Joshua Tree Woodland	109.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.41	3.07	8.48	8.48	101.03
Disturbed Joshua Tree Woodland	9.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.64	8.76
Burned Joshua Tree Woodland	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.90
Creosote Bush Scrub/Joshua Tree Woodland	22.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.76	0.00	2.76	2.76	20.00
Creosote Bush–White Burr Sage Scrub/Joshua Tree Woodland	165.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.64	2.66	15.30	15.30	150.69
Nevada Joint Fir Scrub/Joshua Tree Woodland	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.25	0.49	0.49	0.01
<i>Subtotal Desert Scrub Communities</i>	<i>310.06</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>21.69</i>	<i>5.98</i>	<i>27.67</i>	<i>27.67</i>	<i>282.39</i>
Herbaceous Communities													
Disturbed Desert Needlegrass Grassland	38.36	0.00	0.00	0.00	0.00	0.00	0.03	0.00	5.42	0.00	5.45	5.45	32.91
<i>Subtotal Herbaceous Communities</i>	<i>38.36</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.03</i>	<i>0.00</i>	<i>5.42</i>	<i>0.00</i>	<i>5.45</i>	<i>5.45</i>	<i>32.91</i>
Riparian Communities													
Fremont Cottonwood Forest	12.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.05	12.91
Fremont Cottonwood Forest–Arroyo Willow Thickets	67.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.00	0.32	0.32	66.99
Fremont Cottonwood Forest–Arroyo Willow/Sandbar Willow Thickets	7.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	0.04	7.82
Fremont Cottonwood Forest–Red Willow Thickets	4.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.26

**TABLE 12
SPECIAL STATUS VEGETATION TYPES IMPACTED BY THE PROPOSED PROJECT**

Vegetation Type	Vegetation within 1,300-foot-wide Corridor Study Area (acres)	Permanent Impacts (acres)				Permanent Total	Temporary Impacts (acres)				Temporary Total	Total Permanent and Temporary Impacts	Non-Impacted Areas in Study Area (acres)
		Access Road	Compressor Station	Valve Vault	Valve Vault – Actuator		Access Road	Compressor Station	PDCC	Staging Area			
Fremont Cottonwood Forest/Sandbar Willow Thickets	7.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	0.00	2.04	2.04	5.56
Fremont Cottonwood Forest/Mulefat Thickets	1.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.71
California Sycamore Woodlands–Fremont Cottonwood Forest	0.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.07	0.07	0.62
California Sycamore Woodlands–Fremont Cottonwood Forest–Arroyo Willow Thickets	9.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.03	9.48
Arroyo Willow Thickets	1.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.61
Arroyo Willow/Mulefat Thickets	1.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.75	0.75	1.10
Sandbar Willow Thickets	1.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.03	0.34	0.34	1.46
Mulefat Thickets	9.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.09	0.09	9.59
Disturbed Mulefat Thickets	1.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.40
Scale Broom Scrub	92.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74	0.00	1.74	1.74	90.31
Scale Broom–California Buckwheat Scrub	20.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.68	0.68	19.79
Scale Broom–Hairy Yerba Santa–Chaparral Yucca Scrub	12.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.10	0.10	11.92
Scale Broom Scrub–Mulefat Thickets	4.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.79	0.21	1.00	1.00	3.17
Flood Plain Scrub	18.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.53	0.00	0.53	0.53	17.86
Vegetated Channel	4.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36	0.36	4.28
Unvegetated Channel	38.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.49	0.80	0.80	38.13
Open Water	4.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.38	0.38	3.71
<i>Subtotal Riparian Communities</i>	<i>323.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>8.55</i>	<i>0.77</i>	<i>9.32</i>	<i>9.32</i>	<i>313.68</i>
Woodland Communities													
California Walnut Woodland	4.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74
California Sycamore Woodlands	17.82	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.62	0.00	0.65	0.65	17.17
Disturbed California Sycamore Woodlands	1.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
Burned California Sycamore Woodlands	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.40
Burned California Sycamore Woodlands/Chaparral White Thorn Chaparral	44.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.97
Blue Elderberry Stands	3.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.89
<i>Subtotal Woodland Communities</i>	<i>75.87</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>	<i>0.03</i>	<i>0.00</i>	<i>0.62</i>	<i>0.00</i>	<i>0.65</i>	<i>0.65</i>	<i>75.22</i>
Grand Total	1,519.65	0.25	0.00	0.04	0.00	0.29	0.13	0.00	71.20	14.44	84.17	84.46	1,435.19
PDCC: Preliminary Design Construction Corridor													

Special Status Coastal Scrub Communities

A total of 41.37 acres (41.08 acres temporary/0.29 acre permanent) of special status scrub communities would be impacted by the Proposed Project. In Southern California, the forests collectively, i.e., Angeles, Cleveland, Los Padres, and San Bernardino National Forests, support more than 550,000 acres of scrub (USFS 2005a). Impacts to special status scrub communities would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Special Status Desert Scrub Communities

A total of 27.67 acres of desert scrub communities would be temporarily impacted by the Proposed Project. All these communities contain Joshua trees. Impacts to these desert scrub communities containing Joshua trees would be considered adverse, but not significant because this loss would not threaten to eliminate these vegetation types within the region.

Special Status Herbaceous Communities

A total of 5.45 acres of disturbed desert needlegrass grassland would be temporarily impacted by the Proposed Project. This vegetation type is of limited distribution within the region, and impacts would be considered potentially significant.

Special Status Riparian Communities

A total of 9.32 acres of special status riparian vegetation types would be temporarily impacted by the Proposed Project. These resources may also be within the jurisdiction of the USACE, CDFW, and SWQCB. These impacts are considered potentially significant.

Special Status Woodland Communities

A total of 0.65 acre of California sycamore woodland would be temporarily impacted by the Proposed Project. Impacts to woodland communities would be considered potentially significant and these resources may also be within the jurisdiction of the USACE, CDFW, and SWQCB.

In total, the Proposed Project would result in an adverse or significant impact to 84.46 acres of special status vegetation communities. Implementation of APM-BIO-3–APM-BIO-8, APM-BIO-10, APM-BIO-27, and APM-BIO-29 (described in Section 3) would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines

6.3.5 Wildlife Habitat/Common Wildlife Species

Native vegetation provides valuable nesting, foraging, roosting, and denning opportunities for a variety of wildlife species. The Proposed Project would result in predominately temporary disturbances to approximately 394.85 acres (2.6 acres permanent/392.25 acres temporary) of native habitat (all vegetation types excluding non-native herbaceous types and non-native and disturbed communities). The minimal permanent loss of native vegetation types (less than 0.6 percent of native vegetation types impacted by the entire Proposed Project) would be considered less than significant given its relation to the total amount of these vegetation types available in the Study Area and in the Proposed Project region. The Proposed Project alignment would be almost exclusively underground and would not result in significant new aboveground structures that would impede the ability to provide habitat in the future. Therefore, the loss of wildlife habitat would be considered less than significant.

The vast majority of the Proposed Project Area occurs in areas of limited value to wildlife; therefore, their loss would be considered less than significant. Most wildlife species that are now using the habitat in the vicinity of the Proposed Project area would be expected to move into adjacent areas of open space, which would consequently increase competition for available resources in adjacent areas. This situation could result in the loss of individuals that cannot successfully compete. Additionally, construction may result in some loss of small mammals, reptiles, amphibians, and other slow-moving wildlife that live in the Proposed Project work areas if they cannot move out of the area quickly enough. However, because the disturbance of native habitat across the Proposed Project Area is relatively limited, the Proposed Project would not be expected to impact a large number of individuals. Therefore, impacts to common wildlife would be considered less than significant.

The Proposed Project would result in less than significant impacts to wildlife habitat and common wildlife species present in the Proposed Project impact area. Implementation of APM-BIO-3–APM-BIO-10, APM-BIO-13, APM-BIO-25, APM-BIO-27, and APM-BIO-29 (described in Section 3) would further reduce these impacts through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-13** Nesting Bird Management Plan
- **APM-BIO-25** Raptor Nest Avoidance
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines

Evaluation Criterion: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

6.3.6 Jurisdictional Water Resources

Jurisdictional water resources are protected by Sections 401 and 404 of the CWA (administered by the USACE and SWRCB) and by Sections 1600 through 1616 of the *California Fish and Game Code* (administered by the CDFW). The Proposed Project would impact a total of 8.159 acres (0.003 permanent/8.156 temporary) of “waters of the U.S.” under the jurisdiction of the USACE, of which 0.009 acre consists of jurisdictional wetlands (Exhibit 40, Table 13). A total of 4.952 acres (0.015 permanent/4.937 temporary) of isolated waters solely under the jurisdiction of the SWRCB would be impacted by the implementation of the Proposed Project, of which 0.027 acre consists of jurisdictional wetlands (Exhibit 39, Table 12). The Proposed Project would impact a total of 22.679 acres (0.226 permanent/22.453 temporary) of waters under the jurisdiction of the CDFW. Because CDFW jurisdiction is broader than that for the USACE, impacts to CDFW jurisdiction includes USACE impacts. However the number is not cumulative.

**TABLE 13
SUMMARY OF PROPOSED PROJECT IMPACTS TO
JURISDICTIONAL RESOURCES**

Jurisdictional Resources	Permanent (acres)	Temporary (acres)	Total Impacts (acres)
Total USACE Jurisdiction	0.003	8.156	8.159
USACE Wetlands	0.000	0.009	0.009
Non-wetland “waters of the U.S.”	0.003	8.147	8.151
Total SWQCB Jurisdiction	0.015	4.937	4.952
Isolated Waters Non-Wetland	0.015	4.910	4.925
Isolated Waters Wetland	0.000	0.027	0.027
Total CDFW Jurisdiction	0.226	22.453	22.679
USACE: U.S. Army Corps of Engineers; SWRCB: State Water Resources Control Board; CDFW: California Department of Fish and Wildlife			

The Proposed Project would result in a substantial adverse effect to USACE, SWRCB, and CDFW jurisdictional resources. This would be a potentially significant impact. Implementation of APM-BIO-3–APM-BIO-8, APM-BIO-10, APM-BIO-27, and APM-BIO-29 (described in Section 3) would reduce these impacts to a less than significant level through avoidance, minimization, and/or mitigation. These APMs include the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters

- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines

Evaluation Criterion: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

The Proposed Project occurs largely within disturbed areas. However, there are two large, contiguous high value habitat blocks that are important relative to wildlife connectivity that are traversed by the Proposed Project: San Gabriel-San Bernardino Connection area and Reche Canyon. The Proposed Project would not result in the removal of large contiguous habitat blocks in these areas or other areas along the alignment. Therefore, this is not considered a significant impact.

The Proposed Project alignment would be almost exclusively underground and would not result in significant new aboveground structures that would impede local wildlife movement. The Adelanto Compressor Station, Moreno Pressure Limiting Station, Whitewater Pressure Limiting Station, and Desert Center Compressor Station, are existing facilities within existing disturbed areas and would not result in new impediments to wildlife movement. During construction, local wildlife may be prevented from moving through active construction areas due to increased air and noise pollution and human presence; however, construction would occur in discrete spreads and would only affect wildlife movement temporarily on a localized level. This is not considered a significant impact.

Several common bird and raptor species may nest in the Proposed Project construction areas (including on developed structures). The MBTA protects migratory birds, their nests, and eggs. If construction is initiated during the peak bird nesting season (i.e., March 15 to September 15), construction activities could impact nesting birds protected by the MBTA. Additionally, Sections 3503, 3503.5, and 3513 of the *California Fish and Game Code* protect active raptor nests. If construction is initiated during the peak raptor nesting season (i.e., February 1 to June 30), construction activities could impact nesting raptors protected by the *California Fish and Game Code*. The loss of any active bird or raptor nest would be considered a potentially significant impact. Implementation of APM-BIO-13 (Nesting Bird Management Plan) and APM-BIO-25 (Raptor Nest Avoidance) (described in Section 3) would reduce these potentially significant impacts to a level that is less than significant through avoidance, minimization, and/or mitigation.

Evaluation Criterion: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

6.3.7 Tree Resources

Construction of the Proposed Project may impact trees regulated by the San Bernardino County Development Code, City of Adelanto Municipal Code, and City of Highland Municipal Code. A tree inventory consistent with these codes has been conducted, and a total of 147 trees regulated by these jurisdictions will be removed as a result of Proposed Project implementation (Exhibit 41). The tree types impacted and jurisdiction in which it is located are summarized in Table 14 below.

**TABLE 14
TREE IMPACT SUMMARY**

Tree Species		City of Adelanto	City of Highland	Unincorporated San Bernardino County	Total Trees Impacted
Scientific Name	Common Name				
Trees Meeting Minimum Regulation Requirements					
<i>Ailanthus altissima</i> *	tree of heaven*		3		3
<i>Alnus rhombifolia</i>	white alder			3	3
<i>Fraxinus velutina</i>	velvet ash		3	2	5
<i>Juniperus californica</i>	California juniper			10	10
<i>Melia azedarach</i>	chinaberry		3		3
<i>Platanus racemosa</i>	western sycamore			9	9
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood			9	9
<i>Quercus agrifolia</i>	coast live oak			2	2
<i>Quercus john-tuckeri</i>	Tucker oak			22	22
<i>Quercus wislizenii</i>	interior live oak			20	20
<i>Sambucus nigra</i> ssp. <i>caerulea</i> [<i>S. mexicana</i>]	blue elderberry			5	5
<i>Yucca brevifolia</i>	Joshua tree	1		36	37
<i>Washingtonia robusta</i>	Mexican fan palm			19	19
Total		1	9	137	147
* California Invasive Plant Council (Cal-IPC) Invasive Plant					

Because the Proposed Project has and will comply with the requirements of the San Bernardino County Development Code, City of Adelanto Municipal Code, and City of Highland Municipal Code, there would be no significant impact with the implementation of the APMs below. Implementation of APM-BIO-3–APM-BIO-5, APM-BIO-7–APM-BIO-8, APM-BIO-10– APM-BIO-11, and APM-BIO-27– APM-BIO-28 (described in Section 3) would reduce these potentially significant impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-11** Treat Cut Tree Stumps with Sporex
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-28** Regulated Trees

Potential Impacts from Borax to Wildlife Species

Stumps of all freshly cut live or recently dead conifers and hardwoods would be treated with a registered fungicide (borax; trade name Sporax) to prevent the establishment of annosus root disease. It would be applied only to fresh cut stumps. There are two possible exposure opportunities for animals: ingestion of borax that has been applied to stumps or eating vegetation that has been exposed to the borax. Dost et al. (1996) found that deer and cattle are not attracted to borax. Secondary exposure to borax is unlikely, because borax does not move readily in areas adjacent to treatment sites (Dost et al. 1996).

Implementation of APM-BIO-11 (Treat Cut Tree Stumps with Sporax) (described in Section 3) would reduce these impacts through avoidance, minimization, and/or mitigation.

San Bernardino National Forest Research Natural Areas

The Proposed Project occurs along, but outside of, the western edge of the Cleghorn Canyon RNA. The Proposed Project will not impact this area; therefore, no APMs for this potential impact are identified.

Riparian Conservation Areas

The Forest Service designated RCAs as those areas that are delineated next to water features that require special management practices to support riparian-dependent resources. Within the SBNF, there are approximately 120 jurisdictional features that could be significantly impacted by the Proposed Project or are within 100 feet of the Proposed Project.

These potential impacts would be addressed through the implementation of APM-BIO-4–APM-BIO-5, APM-BIO-7– APM-BIO-8, APM-BIO-10, APM-BIO-12, and APM-BIO-27 (described in Section 3), which would reduce these impacts to a less than significant level through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-12** Weed Control Plan
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants

Evaluation Criterion: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?

The Proposed Project passes through three HCPs: the Western Riverside County MSHCP, the Coachella Valley MSHCP, and the SKR HCP. The Proposed Project's consistency with these plans is described below.

6.3.8 Western Riverside County Multiple Species Habitat Conservation Plan

The Proposed Project does not conflict with the conservation goals of the Western Riverside County MSHCP.

Western Riverside County MSHCP Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

Riparian/Riverine – Per the Western Riverside County MSHCP, Riparian/Riverine areas are lands that contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens, which occur close to or depend upon soil moisture from a nearby fresh water source or areas with fresh water flow during all or a portion of the year. The Western Riverside County MSHCP recommends 90 percent avoidance of riparian/riverine areas, if feasible. The portion of the Proposed Project within the Western Riverside County MSHCP will avoid riparian resource and/or mitigate for resource impacts consistent with resource agency regulations. It is therefore consistent with the goals of the Plan.

“Waters of the U.S.”/“Waters of the State” – Per the Western Riverside County MSHCP, projects that affect wetland Vegetation Communities shall be required to comply with the applicable regulatory standards related to wetlands functions and values. The Jurisdictional Delineation (Section 5) conducted for the Proposed Project determined that, within the Study Area in the Western Riverside County MSHCP Plan area, there are “waters of the U.S.” and “waters of the State.” Impacts to these waters will require SoCalGas to obtain permits from the USACE pursuant to Section 404 of the Federal Clean Water Act, from the SWRCB pursuant to Section 401 of the federal Clean Water Act, and from the CDFW pursuant to Section 1602 of the *California Fish and Game Code*. The Proposed Project will comply with this requirement.

Vernal Pools – As defined by the Western Riverside County MSHCP, vernal pools are seasonal wetlands that occur in sunken areas that have wetland soils, vegetation, and hydrology during the wetter portion of the growing season, but lack hydrology and/or vegetation during the drier portion of the year. Although ponded areas were identified during the Jurisdictional Delineation (Section 5), no vernal pools were identified within the Study Area. Therefore, no impacts to vernal pools would occur.

Western Riverside County MSHCP Section 6.1.3, Protection of Narrow Endemic Plant Species

The Proposed Project would not impact any species of Narrow Endemic Plants because the Proposed Project alignment does not pass through the Narrow Endemic Plant Species survey area. Additionally, surveys for Criteria Plant Species and other special status plant species performed during the appropriate seasons did not identify any narrow endemic plant species along the portion of the Proposed Project alignment which traverses the Western Riverside County MSHCP area (Section 5). Therefore, the Proposed Project is in compliance with this section of the Western Riverside County MSHCP.

Western Riverside County MSHCP Section 6.1.4, Guidelines Pertaining to the Urban/Wildlands Interface

The Proposed Project runs through Criteria Cells between MPs 51.2 and 57.7 within the Reche Canyon/Badlands Plan Area (Exhibit 28). Indirect impacts are addressed by guidelines in Section 6.1.4 of the Western Riverside County MSHCP. Development in proximity to a Western Riverside MSHCP Criteria Area may result in edge effects that could adversely affect biological resources acquired to assemble the MSHCP Reserve. To minimize these edge effects, the Western Riverside MSHCP provides guidelines for these indirect impacts. SoCalGas will implement the

Urban/Wildlands Interface Guidelines in Section 6.1.4 of the Western Riverside County MSHCP to minimize urban/wildlands interface issues. These include measures related to indirect impacts such as water quality (drainage), use of toxics, night lighting, indirect noise, invasive plant and wildlife species, protection of habitat areas (barriers), and grading/land development adjacent to habitat areas.

Western Riverside County MSHCP Section 6.3.2, Additional Survey Needs and Procedures

The Proposed Project overlaps four different survey areas, as outlined in Sections 6.1.3 and 6.3.2 of the Western Riverside County MSHCP, including criteria area plant species, burrowing owl, San Bernardino kangaroo rat, Stephens' kangaroo rat, and Los Angeles pocket mouse along the Proposed Project alignment within the Western Riverside County MSHCP Plan area (Section 5). The Proposed Project Alignment does not pass through the survey area for Narrow Endemic Plants or Amphibians.

- **Criteria Plant Species** – Nevins' barberry, round-leaved filaree, and smooth tarplant are the three criteria plant species for the Reche Canyon/Badlands Planning Area. Suitable habitat is present in the Study Area. These species were surveyed for as part of the 2015 focused plant survey efforts. No criteria plant species were observed during focused surveys; therefore, none are expected to occur within the Study Area.
- **Burrowing Owl** – Suitable habitat is present in the Study Area, but no suitable burrows or burrowing owls were observed in the Survey Area during protocol-level focused surveys. Therefore, burrowing owl is not expected to occur. However, pursuant to Western Riverside County MSHCP requirements, a pre-construction survey would be required 30 days prior to construction to confirm the absence of this species.
- **San Bernardino Kangaroo Rat** – Suitable habitat is present in the Study Area. San Bernardino kangaroo rats were observed during the focused surveys, but not within the Western Riverside County MSHCP portion of the Proposed Project.
- **Stephens' Kangaroo Rat** – Suitable habitat is present in the Study Area. Focused surveys for Los Angeles pocket mouse and San Bernardino kangaroo rat resulted in the capture of Stephens' kangaroo rat in lower Reche Canyon (Section 5). Impacts to Stephens' kangaroo rat will be mitigated through the Riverside County Habitat Conservation Authority via the SKR HCP (see below).
- **Los Angeles Pocket Mouse** – Suitable habitat is present in the Study Area, and Los Angeles Pocket mouse was observed during focused surveys (Section 5).

Through the implementation of the APMs listed below, potential impacts to the Riparian/Riverine areas and species, urban/wildlands interface and other Western Riverside County MSHCP protected species would be mitigated in conformance with the Western Riverside County MSHCP.

These potential impacts would be addressed through the implementation of APM-BIO-2–APM-BIO-10, APM-BIO-22, APM-BIO-27, APM-BIO-29, and APM-BIO-30 (described in Section 3), which would reduce these impacts through avoidance, minimization, and/or mitigation. These APMs including the following actions:

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation

- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines
- **APM-BIO-30** Consistency with Habitat Conservation Plans

6.3.9 Coachella Valley Multiple Species Habitat Conservation Plan

The Proposed Project does not conflict with the provision or goals of the Coachella Valley MSHCP. As a result of focused surveys conducted by SoCalGas, sign indicative of the presence of desert tortoise was determined to be present at the Shaver Summit Pressure Limiting Station. The Shaver Summit Pressure Limiting Station is located within the Desert Tortoise and Linkage Conservation Area. Potentially significant impacts to desert tortoise could include loss of habitat and loss of individual tortoises. These potential impacts would be addressed through the implementation of APM-BIO-2–APM-BIO-5, APM-BIO-7, APM-BIO-9–APM-BIO-10, APM-BIO-22, APM-BIO-27, and APM-BIO-30 (described in Section 3) which would reduce these potentially significant impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions.

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-30** Consistency with Habitat Conservation Plans

Consistent with APM-BIO-30, SoCalGas will coordinate and enter into an agreement with the Coachella Valley Conservation Commission to mitigate impacts to desert tortoise consistent with the Coachella Valley MSHCP. Implementation of the above APMs is consistent with the Coachella Valley MSHCP's desert tortoise species conservation goals and objective as described in Section 9.6.1.1 of the Coachella Valley MSHCP. The APMs are also consistent with the Coachella Valley MSHCP's avoidance and minimization measures as described in Section 4.4 of the Coachella Valley MSHCP.

6.3.10 Stephens' Kangaroo Rat Habitat Conservation Plan

The Proposed Project does not conflict with the provisions and goals of the Stephens' Kangaroo Rat HCP. The proposed alignment does not cross any of the SKR HCP Core Reserve areas. Focused surveys conducted by SoCalGas for Stephens' kangaroo rat, Los Angeles pocket mouse and San Bernardino kangaroo rat determined presence of Stephens' kangaroo rat (Section 5) in suitable habitat along the Reche Canyon portion of the Proposed Project. Potentially significant impacts to Stephens' kangaroo rat could include temporary removal of habitat and potential loss of individuals. These potential impacts would be addressed through the implementation of APM-BIO-2–APM-BIO-5, APM-BIO-7, APM-BIO-9–APM-BIO-10, APM-BIO-22, APM-BIO-27, APM-BIO-29, and APM-BIO-30 (described in Section 3) would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions.

- **APM-BIO-2** Preconstruction Surveys
- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-9** BMPs for Avoidance and Minimization of Impacts to Special-status Wildlife Species
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-22** Endangered Species Permits
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines
- **APM-BIO-30** Consistency with Habitat Conservation Plans

Consistent with APM-BIO-30, SoCalGas will coordinate and enter into an agreement with the RCHCA to mitigate for impacts to Stephens' kangaroo rat. The Proposed Project is located within a designated Fee Area. For projects within a Fee Area, all potential impacts can be mitigated through the current fee program of the RCHCA. Projects that participate in the fee program through the RCHCA are not required to obtain any additional federal and/or State permits for the project pertaining to potential impacts to the Stephens' kangaroo rat. The current fee would be paid and is applicable to any undeveloped parcel regardless of the presence or absence of the Stephens' kangaroo rat.

6.3.11 County of Riverside Reche Canyon/Badlands Area Plan

The County of Riverside Reche Canyon/Badlands Area Plan identified the policies that provide general conservation direction relative to project impacts in this area. Summaries of the these policies relative to their application to the resources in the Study Area and Proposed Project impacts are included below.

RCBAP 16.1 Conserve habitat that captures the diversity of the Riverside Lowlands bioregion in the Reche Canyon/Badlands area. The Reche Canyon/Badlands region includes substantial areas of remaining natural habitat within the Riverside Lowlands, including a portion of the San Jacinto River, the Badlands, Reche Canyon area, and the Mystic Lake/San Jacinto Wildlife Area. *The Proposed Project complies with this Policy.*

RCBAP 16.2 Conserve existing habitat values in the Reche Canyon/ Badlands portion of the San Jacinto River with a focus on conservation of flood plain areas supporting Traver-Domino-Willows soils. Conservation should focus on maintaining habitat for sensitive plant species and maintaining and enhancing linkage values along this portion of the San Jacinto River between the San Jacinto and Santa Ana Mountains. *Not applicable. The Proposed Project is not in the San Jacinto River area.*

RCBAP 16.3 Conserve existing vernal pool complexes associated with the San Jacinto River flood plain, in the Mystic Lake/San Jacinto Wildlife Area. Conservation should focus on vernal pool surface area and supporting watersheds. *Not applicable. The Proposed Project is not in the San Jacinto River area.*

RCBAP 16.4 Conserve existing, intact upland habitat blocks between Sycamore Canyon Park area, Box Springs Mountain Reserve, and San Bernardino County to the north, focusing on sage scrub, grassland, and chaparral habitat. *The Proposed Project complies with this Policy.*

RCBAP 16.5 Provide for a connection of intact habitat between San Jacinto Wildlife Area/Mystic Lake and adjacent Badlands area to the north. *Not applicable. The Proposed Project is not in the San Jacinto River area.*

RCBAP 16.6 Provide for connection of intact habitat between the Badlands and San Bernardino National Forest to the south. *Not applicable. The Proposed Project is not in the area between Badlands and San Bernardino National Forest to the south.*

RCBAP 16.7 Conserve high quality sage scrub and chamise chaparral in order to protect core populations of Bell's sage sparrow in the Badlands area. *Not applicable. The Proposed Project is not in the Badlands.*

RCBAP 16.8 Conserve San Jacinto Valley crownscale, vernal barley, Davidson's saltbush, Coulter's goldfields, and spreading navarretia. Conservation should focus on the Traver-Domino-Willows soil series occurring in the San Jacinto River flood plain. Key populations of these three species are known to exist within this section of the San Jacinto River. *Not applicable. These species do not occur in the Study Area.*

RCBAP 16.9 Conserve vernal pool complexes supporting thread-leaved brodiaea and California Orcutt grass known to exist within the Reche Canyon/Badlands Area Plan. *Not applicable. These species do not occur in the Study Area.*

RCBAP 16.10 Conserve alluvial scrub and alkali vernal plain habitat supporting a key population of smooth tarplant, Wright's trichocoronis, and little mousetail within this section of the San Jacinto River system. *Not applicable. The Proposed Project is not in the San Jacinto River area.*

RCBAP 16.11 Conserve sandy-granitic soils within chaparral and coastal sage scrub habitats capable of supporting Payson's jewelflower and prostrate spineflower known to exist within the Reche Canyon/Badlands area. *Not applicable. These species do not occur in the Study Area.*

RCBAP 16.12 Conserve existing populations of the California gnatcatcher in the Reche Canyon/Badlands area. *Not applicable. This species does not occur in the Study Area.*

RCBAP 16.13 Provide for and maintain a continuous habitat corridor linkage along the San Jacinto River. *Not applicable. The Proposed Project is not in the San Jacinto River area.*

The Proposed Project is consistent with the Reche Canyon/Badlands Area Plan and no APMs would be required.

6.3.12 Federal Executive Order 13112 – Invasive Species

This Order requires agencies to prevent the introduction of invasive species; to provide for their control; and to minimize the economic, ecological, and human health impacts that invasive species cause to the extent practicable and permitted by law.

In an effort to help the SBNF to meet their goal to “prevent the introduction of invasive species; to provide for their control; and to minimize the economic, ecological, and human health impacts that invasive species cause to the extent practicable and permitted by law,” pursuant to their federal agency requirement under Executive Order 13112, SoCalGas completed a weed inventory of the portion of the Proposed Project within SBNF boundaries.

A total of 23 invasive/non-native species (weeds), per a list established by the SBNF, were found in the weed Study Area (Table 6). Invasive/non-native species recorded during these surveys are shown in Section 5 above. Several species were found to be so prolific that discrete mapping was determined to be unwarranted in some or all places. These prolific species include red brome, cheat grass, tocalote, and Mediterranean schismus.

The introduction of invasive/non-native plant species is of special concern, especially to sensitive vegetation communities and communities that support special status plant species. Invasive/non-native plant species pose a threat to the natural processes of plant community succession, affect fire frequency, affect the biological diversity and species composition of native communities, and can affect a plant community’s value as wildlife habitat. Invasive/non-native plant species can spread when seeds (or, rarely, vegetative propagules) are brought in on the soles of shoes or on the tires and undercarriages of vehicles and deposited. They can also be brought in if soil containing invasive/non-native plant species seed is imported. Furthermore, ground disturbance from construction activities generally favors the establishment of invasive/non-native plant species because they are more adapted to disturbed soils than native species. Once established, these non-native species are often able to out-compete native species and sometimes displace them, especially if there is further disturbance, for example, from fire.

Implementation the Proposed Project would only remove the minimum amount of vegetation necessary for the construction of pipeline and related structures. Topsoil located in areas containing sensitive habitat with little no non-native species would be conserved during excavation and reused as cover on temporarily disturbed areas to facilitate re-growth of native vegetation and to hinder the establishment of non-native species should non-native seeds be present in the temporarily disturbed areas.

The risk of transporting new weed infestations into the Proposed Project area is considered low. Although heavy equipment would be used, this activity is expected to occur over a relatively short period of time. A substantial portion of the impact area of the Proposed Project will occur along existing dirt access roads that currently lack vegetation and are expected to remain so since these are existing SBNF and utility roads. Areas of ground disturbance outside these existing access roads caused by ground-based heavy equipment operations will be vulnerable to establishment and rapid spread of weeds.

An inventory for non-native wildlife species was performed concurrently with focused wildlife surveys for the Proposed Project. Those observed are included in the wildlife compendium (Appendix B-2). The Proposed Project is not expected to increase the risk of introduction, establishment, or spread of non-native wildlife or pathogens in the SBNF and is therefore not considered a potentially significant impact.

Implementation of APM-BIO-12 (Weed Control Plan) (described in Section 3) would reduce these impacts through avoidance, minimization, and/or mitigation.

6.3.13 Executive Order 11990 – Protection of Wetlands

This Order establishes a national policy to avoid adverse impacts to wetlands whenever there is a practicable alternative. It requires federal agencies to not only minimize the destruction of wetlands, but also to initiate actions to enhance their natural functional values. In an effort to help the SBNF meet their goal to protect wetlands, SoCalGas completed a jurisdictional delineation of the Proposed Project. Upon completion of the jurisdictional mapping efforts, GIS files of all mapped features were provided to the SoCalGas project engineer to identify those areas that could be avoided through project design such as (1) spanning over a feature on an existing bridge structure; (2) boring under the feature; (3) minimizing the impact footprint at crossed features; or (4) avoiding the feature entirely by making an adjustment in the route of the alignment.

Where avoidance of jurisdictional areas is not practicable, SoCalGas shall provide the necessary mitigation required as part of wetland permitting by creating/restoring/preserving suitable jurisdictional or equivalent habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. Implementation of APM-BIO-3–APM-BIO-8, APM-BIO-10, APM-BIO-27, and APM-BIO-29 (described in Section 3) would reduce these impacts to a level that is less than significant through avoidance, minimization, and/or mitigation. These APMs including the following actions.

- **APM-BIO-3** Biological Monitoring
- **APM-BIO-4** Minimize Disturbance to Native Vegetation
- **APM-BIO-5** Establish Environmentally Sensitive Areas (ESAs)
- **APM-BIO-6** Avoidance of Vernal Pools
- **APM-BIO-7** Revegetation of Temporarily Disturbed Areas
- **APM-BIO-8** Avoidance and Minimization of Impacts to Jurisdictional Waters
- **APM-BIO-10** Worker Environmental Awareness Program (WEAP)
- **APM-BIO-27** Compensation for Sensitive Vegetation Communities, Habitat, and Plants
- **APM-BIO-29** Urban/Wildlands Interface Guidelines

7.0 CONCLUSION

A complete inventory of all biological resources located with the Proposed Project Study Area has been completed which included literature review, site reconnaissance surveys, desktop assessments, aerial photography review, and focused surveys. Potential impacts to biological resources associated with construction of the Proposed Project were then evaluated. Based on this analysis, it was determined that the Proposed Project could have the following potentially significant impacts:

- Construction of the Proposed Project could result in temporary impacts to state or federally listed species, including indirect impacts to Santa Ana sucker, arroyo toad, Swainson's hawk, least Bell's vireo, direct impact to desert tortoise, San Bernardino kangaroo rat, and direct or indirect impacts to southwestern willow flycatcher and coastal California gnatcatcher in the event that either of these currently absent species colonized the Study Area. Permanent impacts could involve loss of 0.55 acres of Swainson's Hawk foraging habitat, and 0.5 acres of Desert Tortoise habitat.
- Impacts to non-listed, special status plant and wildlife species potentially present in the Study Area, the vast majority of which would be construction related and temporary.
- Impacts to vegetation communities including salt grass flats-Mexican rush thickets and disturbed desert needlegrass grassland and riparian vegetation; special status communities including herbaceous communities (desert needle grass grassland), riparian communities, and woodland communities and jurisdictional waters regulated by the USACOE, SWRCB and/or CDFW. All of these impacts are temporary and would be restored following construction. There are no permanent impacts within these areas.
- Impacts to tree resources that could conflict with policy's adopted by San Bernardino County, the City of Adelanto, and/or the City of Highland or impacts to riparian areas that could conflict with the USFS Riparian Conservation Areas polices.
- Conflict with Western Riverside MSHCP, Coachella Valley MSHCP, Stephens' Kangaroo Rat HCP or the County of Riverside Reche Canyon /Badlands Area Plan.

Through the implementation of APMs, the above identified potential impacts will all be reduced to a less than significant level. The Proposed Project will not result in any residual significant impacts to biological resources.

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APPENDIX A

EXHIBITS

APPENDIX B

PLANT AND WILDLIFE COMPENDIA FOR THE NORTH SOUTH PROJECT

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
LYCOPHYTES		
SELAGINELLACEAE - SPIKE-MOSS FAMILY		
<i>Selaginella bigelovii</i>	bushy spike-moss	None
FERNS		
EQUISETACEAE - HORSETAIL FAMILY		
<i>Equisetum arvense</i>	common horsetail	None
PTERIDACEAE - BRAKE FAMILY		
<i>Myriopteris covillei</i>	Coville's lip fern	None
<i>Pellaea andromedifolia</i>	coffee cliff-brake	None
<i>Pellaea mucronata</i> var. <i>mucronata</i>	bird's-foot cliff-brake	None
GYMNOSPERMS		
CUPRESSACEAE - CYPRESS FAMILY		
<i>Juniperus californica</i>	California juniper	None
EPHEDRACEAE - EPHEDRA FAMILY		
<i>Ephedra nevadensis</i>	Nevada ephedra	None
PINACEAE - PINE FAMILY		
<i>Pinus halepense</i> *	aleppo pine	None
<i>Pinus monophylla</i>	singleleaf pinyon pine	None
EUDICOTS		
ADOXACEAE - MUSKROOT FAMILY		
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	blue elderberry	None
AMARANTHACEAE - AMARANTH FAMILY		
<i>Amaranthus albus</i> *	tumbleweed	None
ANACARDIACEAE - SUMAC FAMILY		
<i>Rhus aromatica</i>	skunk bush	None
<i>Rhus ovata</i>	sugar bush	None
<i>Schinus molle</i> *	Peruvian pepper tree	None
<i>Toxicodendron diversilobum</i>	western poison oak	None
APIACEAE - CARROT FAMILY		
<i>Anthriscus caucalis</i> *	bur-chervil	None
<i>Berula erecta</i>	cutleaf waterparsnip	None
<i>Bowlesia incana</i>	hoary bowlesia	None
<i>Daucus pusillus</i>	rattlesnake weed	None
<i>Foeniculum vulgare</i> *	fennel	None
<i>Lomatium lucidum</i>	shiny lomatium	None
<i>Lomatium mohavense</i>	Mojave lomatium	None
<i>Tauschia</i> cf. <i>parishii</i>	Parish's umbrellawort	None
APOCYNACEAE - DOGBANE FAMILY		
<i>Asclepias californica</i>	California milkweed	None
<i>Asclepias eriocarpa</i>	kotolo	None
<i>Asclepias fascicularis</i>	narrow-leaf milkweed	None
<i>Asclepias vestita</i>	woolly milkweed	None
<i>Funastrum cynanchoides</i> var. <i>hartwegii</i>	Hartweg's climbing milkweed	None
<i>Nerium oleander</i> *	oleander	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
ASTERACEAE - SUNFLOWER FAMILY		
<i>Acamptopappus sphaerocephalus</i> var.	rayless goldenhead	None
<i>Acourtia microcephala</i>	sacapellote	None
<i>Agoseris retrorsa</i>	spearleaf agoseris	None
<i>Ambrosia acanthicarpa</i>	annual bur-sage	None
<i>Ambrosia dumosa</i>	white bur-sage	None
<i>Ambrosia psilostachya</i>	western ragweed	None
<i>Ambrosia salsola</i> var. <i>salsola</i>	cheesebush	None
<i>Artemisia californica</i>	California sagebrush	None
<i>Artemisia douglasiana</i>	Douglas' sagebrush	None
<i>Artemisia dracunculus</i>	tarragon sagebrush	None
<i>Artemisia tridentata</i> ssp. <i>tridentata</i>	big sagebrush	None
<i>Baccharis salicifolia</i> ssp. <i>salicifolia</i>	mule fat	None
<i>Bahiopsis parishii</i>	Parish's goldeneye	None
<i>Baileya pleniradiata</i>	woolly desert marigold	None
<i>Bebbia juncea</i> var. <i>aspera</i>	sweetbush	None
<i>Bidens pilosa</i> *	common beggar-ticks	None
<i>Brickellia californica</i>	California brickellbush	None
<i>Carduus pycnocephalus</i> ssp. <i>pycnocephalus</i> *	Italian thistle	None
<i>Centaurea benedicta</i> *	blessed starthistle	None
<i>Centaurea melitensis</i> *	tochalote	None
<i>Chaenactis artemisiifolia</i>	white pincushion	None
<i>Chaenactis fremontii</i>	Fremont's pincushion	None
<i>Chaenactis glabriuscula</i> var. <i>glabriuscula</i>	yellow pincushion	None
<i>Chaenactis stevioides</i>	desert pincushion	None
<i>Cirsium occidentale</i> var. <i>occidentale</i>	cobwebby thistle	None
<i>Corethrogyne filaginifolia</i>	common sand aster	None
<i>Cotula australis</i> *	Australian brass-buttons	None
<i>Deinandra fasciculata</i>	fascicled tarplant	None
<i>Encelia actoni</i>	Acton brittlebush	None
<i>Encelia farinosa</i>	hairy brittlebush	None
<i>Ericameria cooperi</i> var. <i>cooperi</i>	Cooper's goldenbush	None
<i>Ericameria linearifolia</i>	interior goldenbush	None
<i>Ericameria nauseosa</i> var. <i>hololeuca</i>	white rubber rabbitbrush	None
<i>Ericameria parishii</i> var. <i>parishii</i>	Parish's goldenbush	None
<i>Ericameria pinifolia</i>	pine goldenbush	None
<i>Erigeron breweri</i> cf. var. <i>covillei</i>	Coville's daisy	None
<i>Erigeron canadensis</i>	horseweed	None
<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy daisy	None
<i>Eriophyllum confertiflorum</i> var. <i>confertiflorum</i>	golden woolly sunflower	None
<i>Eriophyllum pringlei</i>	pringle's woolly sunflower	None
<i>Eriophyllum wallacei</i>	wallace's woolly sunflower	None
<i>Gazania linearis</i> *	treasureflower	None

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Species	Common Name	Special Status Designation
<i>Gutierrezia californica</i>	California matchweed	None
<i>Gutierrezia microcephala</i>	sticky snakeweed	None
<i>Gutierrezia sarothrae</i>	matchweed	None
<i>Hazardia squarrosa</i> var. <i>grindelioides</i>	southern saw toothed goldenbush	None
<i>Hedynois cretica</i> *	crete weed	None
<i>Helianthus annuus</i>	annual sunflower	None
<i>Helianthus gracilentus</i>	slender sunflower	None
<i>Helminthotheca echioides</i> *	bristly ox-tongue	None
<i>Heterotheca grandiflora</i>	telegraph weed	None
<i>Heterotheca sessiliflora</i> ssp. <i>fastigiata</i>	upright sessileflower false goldenaster	None
<i>Hypochaeris glabra</i> *	smooth cat's-ear	None
<i>Isocoma menziesii</i> var. <i>menziesii</i>	coastal goldenbush	None
<i>Lactuca serriola</i> *	prickly lettuce	None
<i>Lagophylla ramosissima</i>	branched hareleaf	None
<i>Lasthenia gracilis</i>	common goldfields	None
<i>Layia glandulosa</i>	white tidy-tips	None
<i>Lepidospartum squamatum</i>	California scale-broom	None
<i>Leptosyne bigelovii</i>	bigelow's tickseed	None
<i>Lessingia glandulifera</i> var. <i>glandulifera</i>	valley lessingia	None
<i>Logfia depressa</i>	dented cottonrose	None
<i>Logfia filaginoides</i>	California cottonrose	None
<i>Logfia gallica</i> *	french cottonrose	None
<i>Malacothrix clevelandii</i>	Cleveland's desert dandelion	None
<i>Malacothrix glabrata</i>	smooth desert dandelion	None
<i>Malacothrix saxatilis</i> var. <i>tenuifolia</i>	slender leaf cliff desert dandelion	None
<i>Matricaria discoidea</i> *	pineapple weed	None
<i>Oncosiphon piluliferum</i> *	stinknet	None
<i>Palafoxia arida</i> var. <i>arida</i>	desert palafox	None
<i>Perityle emoryi</i>	Emory's rock daisy	None
<i>Pseudognaphalium californicum</i>	California everlasting	None
<i>Pseudognaphalium canescens</i>	hairy everlasting	None
<i>Pseudognaphalium luteoalbum</i> *	white lamb everlasting	None
<i>Rafinesquia californica</i>	California chicory	None
<i>Senecio californicus</i>	California ragwort	None
<i>Senecio flaccidus</i> var. <i>douglasii</i>	Douglas' threadleaf ragwort	None
<i>Senecio vulgaris</i> *	common ragwort	None
<i>Solidago velutina</i> ssp. <i>californica</i>	California goldenrod	None
<i>Sonchus asper</i> ssp. <i>asper</i> *	prickly sow thistle	None
<i>Sonchus oleraceus</i> *	common sow thistle	None
<i>Stephanomeria exigua</i> ssp. <i>exigua</i>	small wire-lettuce	None
<i>Stephanomeria pauciflora</i>	few flower wire-lettuce	None
<i>Stephanomeria virgata</i> ssp. <i>pleurocarpa</i>	wand wire-lettuce	None
<i>Stylocline gnaphaloides</i>	everlasting neststraw	None

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Species	Common Name	Special Status Designation
<i>Tetradymia axillaris</i> var. <i>longispina</i>	very long spine horsebrush	None
<i>Tetradymia comosa</i>	hairy horsebrush	None
<i>Tetradymia stenolepis</i>	Mojave horsebrush	None
<i>Tragopogon dubius</i> *	yellow salsify	None
<i>Uropappus lindleyi</i>	silver puffs	None
<i>Verbesina encelioides</i> ssp. <i>exauriculata</i> *	golden crownbeard	None
<i>Xanthium strumarium</i>	cocklebur	None
BETULACEAE - BIRCH FAMILY		
<i>Alnus rhombifolia</i>	white alder	None
BORAGINACEAE - BORAGE FAMILY		
<i>Amsinckia intermedia</i>	common fiddleneck	None
<i>Amsinckia menziesii</i>	Menzies's fiddleneck	None
<i>Amsinckia tessellata</i> var. <i>tessellata</i>	bristly fiddleneck	None
<i>Cryptantha angustifolia</i>	narrow-leaved cryptantha	None
<i>Cryptantha barbiger</i> var. <i>fergusoniae</i>	palm springs cryptantha	None
<i>Cryptantha intermedia</i> var. <i>intermedia</i>	common cryptantha	None
<i>Cryptantha micrantha</i> var. <i>lepida</i>	mountain red-root cryptantha	None
<i>Cryptantha micrantha</i> var. <i>micrantha</i>	red-root cryptantha	None
<i>Cryptantha microstachys</i>	Tejon cryptantha	None
<i>Cryptantha muricata</i> var. <i>jonesii</i>	Jones' cryptantha	None
<i>Cryptantha nevadensis</i> var. <i>rigida</i>	rigid cryptantha	None
<i>Cryptantha pterocarya</i> var. <i>pterocarya</i>	winged-nut cryptantha	None
<i>Cryptantha pterocarya</i> var. <i>purpusii</i>	purpus' cryptantha	None
<i>Emmenanthe penduliflora</i> var. <i>penduliflora</i>	whispering bells	None
<i>Eriodictyon parryi</i>	poodle-dog bush	None
<i>Eriodictyon trichocalyx</i> var. <i>trichocalyx</i>	hairy yerba santa	None
<i>Eucrypta chrysanthemifolia</i> var. <i>chrysanthemifolia</i>	spotted hideseed	None
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	alkali heliotrope	None
<i>Nemophila menziesii</i>	Menzie's baby blue eyes	None
<i>Pectocarya heterocarpa</i>	mixed-nut pectocarya	None
<i>Pectocarya linearis</i> ssp. <i>ferocula</i>	narrow-toothed pectocarya	None
<i>Pectocarya penicillata</i>	northern pectocarya	None
<i>Pectocarya platycarpa</i>	wide-toothed pectocarya	None
<i>Pectocarya setosa</i>	round-nut pectocarya	None
<i>Phacelia cicutaria</i> var. <i>hispida</i>	hairy caterpillar phacelia	None
<i>Phacelia distans</i>	wild heliotrope phacelia	None
<i>Phacelia minor</i>	wild canterbury bells	None
<i>Phacelia ramosissima</i>	branching phacelia	None
<i>Plagiobothrys collinus</i> var. <i>fulvescens</i>	rough stem hill popcornflower	None
<i>Plagiobothrys nothofulvus</i>	rusty popcornflower	None
<i>Tiquilia plicata</i>	fan-leaved crinklemat	None
BRASSICACEAE - MUSTARD FAMILY		
<i>Athysanus pusillus</i>	common sandweed	None
<i>Boechera californica</i>	California rockcross	None

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Species	Common Name	Special Status Designation
<i>Boechera pulchra</i>	beautiful rockcress	None
<i>Brassica nigra</i> *	black mustard	None
<i>Brassica tournefortii</i> *	Sahara mustard	None
<i>Capsella bursa-pastoris</i> *	shepherd's purse	None
<i>Caulanthus heterophyllus</i>	San Diego jewelflower	None
<i>Caulanthus lasiophyllus</i>	woolly leaf jewelflower	None
<i>Descurainia pinnata</i> ssp. <i>brachycarpa</i>	short fruit western tansymustard	None
<i>Descurainia pinnata</i> ssp. <i>glabra</i>	hairless western tansymustard	None
<i>Descurainia sophia</i> *	wise tansymustard	None
<i>Hirschfeldia incana</i> *	shortpod mustard	None
<i>Lepidium didymum</i> *	lesser pepper-grass	None
<i>Lepidium lasiocarpum</i> ssp. <i>lasiocarpum</i>	shaggy fruit pepper-grass	None
<i>Lepidium virginicum</i> ssp. <i>virginicum</i>	Virginia pepper-grass	None
<i>Lobularia maritima</i> *	sweet alyssum	None
<i>Nasturtium officinale</i>	medicinal water cress	None
<i>Raphanus sativus</i> *	radish	None
<i>Sisymbrium altissimum</i> *	tumble mustard	None
<i>Sisymbrium irio</i> *	london rocket	None
<i>Sisymbrium officinale</i> *	hedge mustard	None
<i>Sisymbrium orientale</i> *	indian hedgemustard	None
<i>Thysanocarpus curvipes</i>	curvy fringedpod	None
<i>Thysanocarpus laciniatus</i>	notch fringedpod	None
CACTACEAE - CACTUS FAMILY		
<i>Cylindropuntia californica</i> var. <i>parkeri</i>	cane cholla	None
<i>Cylindropuntia echinocarpa</i>	silver cholla	None
<i>Cylindropuntia ramosissima</i>	diamond cholla	None
<i>Echinocereus engelmannii</i>	Engelmann's hedgehog cactus	None
<i>Ferocactus cylindraceus</i>	California barrel cactus	None
<i>Mammillaria dioica</i>	white fishhook cactus	None
<i>Opuntia xvaseyi</i>	Vasey's prickly pear	None
<i>Opuntia basilaris</i> var. <i>basilaris</i>	beavertail cactus	None
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	SBNF SS CRPR 1B.2
<i>Opuntia phaeacantha</i>	brown spined prickly pear	None
CAPRIFOLIACEAE - HONEYSUCKLE FAMILY		
<i>Lonicera interrupta</i>	chaparral honeysuckle	None
<i>Lonicera subspicata</i> var. <i>denudata</i>	Johnston's honeysuckle	None
CARYOPHYLLACEAE - PINK FAMILY		
<i>Loeflingia squarrosa</i>	spreading pygmyleaf	None
<i>Polycarpon tetraphyllum</i> var. <i>tetraphyllum</i> *	four leaf manyseed	None
<i>Spergularia rubra</i> *	red sand-spurrey	None
CHENOPODIACEAE - GOOSEFOOT FAMILY		
<i>Atriplex canescens</i> var. <i>canescens</i>	four-wing saltbush	None
<i>Atriplex semibaccata</i> *	Australian saltbush	None
<i>Chenopodium album</i> *	lamb's quarters	None

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Species	Common Name	Special Status Designation
<i>Chenopodium berlandieri</i> var. <i>zschackei</i>	Zschack's pitseed goosefoot	None
<i>Chenopodium californicum</i>	California goosefoot	None
<i>Chenopodium murale</i> *	nettleleaf goosefoot	None
<i>Dysphania botrys</i> *	clustered goosefoot	None
<i>Krascheninnikovia lanata</i>	winter fat	None
<i>Salsola tragus</i> *	prickly Russian thistle	None
CONVOLVULACEAE - MORNING-GLORY FAMILY		
<i>Calystegia macrostegia</i>	coast morning-glory	None
<i>Convolvulus arvensis</i> *	orchard morning-glory	None
<i>Cuscuta californica</i> var. <i>papillosa</i>	chaparral dodder	None
CRASSULACEAE - STONECROP FAMILY		
<i>Crassula connata</i>	pygmyweed	None
<i>Dudleya lanceolata</i>	lance-leaved dudleya	None
CUCURBITACEAE - GOURD FAMILY		
<i>Cucurbita foetidissima</i>	calabazilla	None
<i>Marah macrocarpa</i>	large fruit wild cucumber	None
ERICACEAE - HEATH FAMILY		
<i>Arctostaphylos glandulosa</i> ssp. <i>cushingiana</i>	Cushing's glandular manzanita	None
<i>Arctostaphylos glandulosa</i> ssp. <i>mollis</i>	soft glandular manzanita	None
<i>Arctostaphylos glauca</i>	big berry manzanita	None
EUPHORBIACEAE - SPURGE FAMILY		
<i>Croton californicus</i>	California croton	None
<i>Croton setigerus</i>	doveweed	None
<i>Ditaxis serrata</i> var. <i>californica</i>	California ditaxis	CRPR 3.2
<i>Ditaxis serrata</i> var. <i>serrata</i>	serrated silverbush	None
<i>Euphorbia albomarginata</i>	white margin spurge	None
<i>Euphorbia polycarpa</i>	many seed spurge	None
<i>Ricinus communis</i> *	castorbean	None
<i>Stillingia paucidentata</i>	Mojave toothleaf	None
FABACEAE - LEGUME FAMILY		
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish-clover	None
<i>Acmispon glaber</i> var. <i>brevialatus</i>	long keeled deerweed	None
<i>Acmispon glaber</i> var. <i>glaber</i>	deerweed	None
<i>Acmispon grandiflorus</i> var. <i>grandiflorus</i>	chaparral lotus	None
<i>Acmispon heermannii</i> var. <i>heermannii</i>	Heermann's lotus	None
<i>Acmispon strigosus</i>	strigose lotus	None
<i>Astragalus lentiginosus</i> var. <i>fremontii</i>	Fremont's freckled milkvetch	None
<i>Astragalus pomonensis</i>	Pomona milkvetch	None
<i>Caesalpinia gilliesii</i> *	bird-of-paradise	None
<i>Dalea mollis</i>	hairy prairie clover	None
<i>Glycyrrhiza lepidota</i>	wild licorice	None
<i>Lathyrus vestitus</i> var. <i>vestitus</i>	canyon sweet pea	None
<i>Lupinus bicolor</i>	miniature lupine	None
<i>Lupinus concinnus</i>	bajada lupine	None

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Species	Common Name	Special Status Designation
<i>Lupinus hirsutissimus</i>	stinging lupine	None
<i>Lupinus sparsiflorus</i>	Coulter's lupine	None
<i>Lupinus succulentus</i>	arroyo lupine	None
<i>Lupinus truncatus</i>	cut leaf lupine	None
<i>Medicago polymorpha</i> *	variable burclover	None
<i>Medicago sativa</i> *	alfalfa	None
<i>Melilotus albus</i> *	white sweetclover	None
<i>Melilotus indicus</i> *	indian sweetclover	None
<i>Melilotus officinalis</i> *	yellow sweetclover	None
<i>Olneya tesota</i>	ironwood	None
<i>Parkinsonia aculeata</i> *	Mexican palo verde	None
<i>Prosopis glandulosa</i> var. <i>torreyana</i>	honey mesquite	None
<i>Spartium junceum</i> *	Spanish broom	None
<i>Trifolium albopurpureum</i>	rancheria clover	None
<i>Trifolium gracilentum</i>	pinpoint clover	None
<i>Trifolium hirtum</i> *	rose clover	None
<i>Trifolium variegatum</i>	whitetip clover	None
<i>Vicia villosa</i> ssp. <i>varia</i> *	diverse winter vetch	None
<i>Vicia villosa</i> ssp. <i>villosa</i> *	winter vetch	None
FAGACEAE - OAK FAMILY		
<i>Quercus agrifolia</i> var. <i>agrifolia</i>	coast live oak	None
<i>Quercus berberidifolia</i>	scrub oak	None
<i>Quercus durata</i> var. <i>gabrielensis</i>	San Gabriel oak	CRPR 4.2
<i>Quercus john-tuckeri</i>	Tucker's oak	None
<i>Quercus wislizeni</i> var. <i>frutescens</i>	fruitful interior live oak	None
GARRYACEAE - SILK TASSEL FAMILY		
<i>Garrya veatchii</i>	canyon silktassel	None
GERANIACEAE - GERANIUM FAMILY		
<i>Erodium botrys</i> *	longbeak filaree	None
<i>Erodium brachycarpum</i> *	shortfruit filaree	None
<i>Erodium cicutarium</i> *	redstem filaree	None
GROSSULARIACEAE - GOOSEBERRY FAMILY		
<i>Ribes</i> cf. <i>malvaceum</i>	chaparral currant	None
<i>Ribes indecorum</i>	white flowering currant	None
JUGLANDACEAE - WALNUT FAMILY		
<i>Juglans californica</i>	Southern California black walnut	SBNF WL CRPR 4.2
KRAMERIACEAE - RHATANY FAMILY		
<i>Krameria bicolor</i>	white rhatany	None
LAMIACEAE - MINT FAMILY		
<i>Marrubium vulgare</i> *	horehound	None
<i>Salvia apiana</i>	white sage	None
<i>Salvia carduacea</i>	thistle sage	None
<i>Salvia columbariae</i>	chia	None
<i>Salvia mellifera</i>	black sage	None

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Species	Common Name	Special Status Designation
<i>Scutellaria mexicana</i>	bladder sage	None
<i>Trichostema lanatum</i>	woolly blue curls	None
<i>Trichostema parishii</i>	Parish's bluecurls	None
LOASACEAE - BLAZING STAR FAMILY		
<i>Mentzelia affinis</i>	white blazing star	None
<i>Mentzelia albicaulis</i>	white stem blazing star	None
<i>Mentzelia micrantha</i>	San Luis blazing star	None
<i>Mentzelia montana</i>	mountain blazing star	None
<i>Mentzelia veatchiana</i>	veatch's blazing star	None
LYTHRACEAE - LOOSESTRIFE FAMILY		
<i>Lythrum californicum</i>	California loosestrife	None
MALVACEAE - MALLOW FAMILY		
<i>Fremontodendron californicum</i>	California flannelbush	None
<i>Malacothamnus fasciculatus</i> var. <i>fasciculatus</i>	chaparral bush-mallow	None
<i>Malva parviflora</i> *	cheeseweed	None
<i>Sphaeralcea ambigua</i> var. <i>ambigua</i>	apricot mallow	None
MONTIACEAE - MINER'S-LETTUCE FAMILY		
<i>Calandrinia menziesii</i>	red maids	None
<i>Calyptidium monandrum</i>	common pussypaws	None
<i>Claytonia parviflora</i> ssp. <i>parviflora</i>	small flowered miner's-lettuce	None
<i>Claytonia parviflora</i> ssp. <i>utahensis</i>	Utah small flowered miner's-lettuce	None
<i>Claytonia rubra</i>	red miner's-lettuce	None
MORACEAE - MULBERRY FAMILY		
<i>Morus alba</i> *	white mulberry	None
MYRSINACEAE - MYRSINE FAMILY		
<i>Lysimachia arvensis</i> *	scarlet pimpernel	None
MYRTACEAE - MYRTLE FAMILY		
<i>Eucalyptus camaldulensis</i> *	red gum	None
<i>Eucalyptus cladocalyx</i> *	sugar gum	None
<i>Eucalyptus globulus</i> *	blue gum	None
NYCTAGINACEAE - FOUR O'CLOCK FAMILY		
<i>Allionia incarnata</i> var. <i>incarnata</i>	trailing windmills	None
<i>Mirabilis laevis</i> var. <i>crassifolia</i>	coastal wishbone plant	None
<i>Mirabilis laevis</i> var. <i>villosa</i>	hairy wishbone plant	None
OLEACEAE - OLIVE FAMILY		
<i>Fraxinus latifolia</i>	Oregon ash	None
<i>Fraxinus velutina</i>	velvet ash	None
<i>Olea europaea</i> *	olive	None
ONAGRACEAE - EVENING PRIMROSE FAMILY		
<i>Camissonia campestris</i> ssp. <i>campestris</i>	Mojave suncup	None
<i>Camissonia strigulosa</i>	sandysoil suncup	None
<i>Camissoniopsis bistorta</i>	California sun cup	None
<i>Camissoniopsis confusa</i>	San Bernardino suncup	None
<i>Camissoniopsis ignota</i>	glowing suncup	None

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Species	Common Name	Special Status Designation
<i>Camissoniopsis intermedia</i>	intermediate suncup	None
<i>Camissoniopsis pallida</i> ssp. <i>pallida</i>	pale yellow suncup	None
<i>Chylismia claviformis</i> ssp. <i>claviformis</i>	cutleaf suncup	None
<i>Clarkia purpurea</i> ssp. <i>quadrivulnera</i>	four spot purple clarkia	None
<i>Clarkia similis</i>	ramona clarkia	None
<i>Epilobium canum</i> ssp. <i>canum</i>	California fuchsia	None
<i>Epilobium ciliatum</i> ssp. <i>ciliatum</i>	fringed willowherb	None
<i>Eremothera boothii</i> ssp. <i>decorticans</i>	shredding evening-primrose	None
<i>Eulobus californicus</i>	false-mustard	None
<i>Oenothera californica</i> ssp. <i>californica</i>	California evening primrose	None
<i>Oenothera elata</i> ssp. <i>hirsutissima</i>	great marsh evening primrose	None
OROBANCHACEAE - BROOM-RAPE FAMILY		
<i>Castilleja affinis</i> ssp. <i>affinis</i>	coast indian paintbrush	None
<i>Castilleja applegatei</i> ssp. <i>martinii</i>	Martin's indian paintbrush	None
<i>Castilleja minor</i> ssp. <i>minor</i>	lesser indian paintbrush	None
<i>Orobanche bulbosa</i>	chaparral broom-rape	None
<i>Orobanche fasciculata</i>	clustered broom-rape	None
OXALIDACEAE - OXALIS FAMILY		
<i>Oxalis pes-caprae</i> *	bermuda Buttercup	None
PAEONIACEAE - PEONY FAMILY		
<i>Paeonia californica</i>	California peony	None
PAPAVERACEAE - POPPY FAMILY		
<i>Argemone munita</i>	chicalote	None
<i>Dendromecon rigida</i>	bush poppy	None
<i>Ehrendorferia chrysantha</i>	golden eardrops	None
<i>Eschscholzia caespitosa</i>	tufted poppy	None
<i>Eschscholzia californica</i>	California poppy	None
<i>Eschscholzia parishii</i>	Parish's poppy	None
<i>Platystemon californicus</i>	cream cups	None
<i>Romneya coulteri</i>	Coulter's matilija poppy	CRPR 4.2
PHRYMACEAE - LOPSEED FAMILY		
<i>Mimulus aurantiacus</i> var. <i>pubescens</i>	hairy bush monkeyflower	None
<i>Mimulus bigelovii</i> var. <i>bigelovii</i>	bigelow's monkeyflower	None
<i>Mimulus guttatus</i>	seep monkeyflower	None
PLANTAGINACEAE - PLANTAIN FAMILY		
<i>Antirrhinum coulterianum</i>	Coulter's snapdragon	None
<i>Antirrhinum nuttallianum</i> ssp. <i>nuttallianum</i>	Nuttall's snapdragon	None
<i>Collinsia heterophylla</i> var. <i>heterophylla</i>	purple Chinese houses	None
<i>Collinsia parryi</i>	Parry's blue eyed mary	None
<i>Keckiella antirrhinoides</i> var. <i>antirrhinoides</i>	yellow snapdragon bush penstemon	None
<i>Keckiella ternata</i> var. <i>ternata</i>	scarlet bush penstemon	None
<i>Penstemon centranthifolius</i>	scarlet bugler	None
<i>Penstemon spectabilis</i> var. <i>spectabilis</i>	showy beardtongue	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
<i>Plantago lanceolata</i> *	english plantain	None
<i>Plantago ovata</i> var. <i>fastigiata</i>	tall desert plantain	None
<i>Veronica anagallis-aquatica</i> *	water speedwell	None
PLATANACEAE - SYCAMORE FAMILY		
<i>Platanus racemosa</i>	western sycamore	None
POLEMONIACEAE - PHLOX FAMILY		
<i>Eriastrum densifolium</i> ssp. <i>austromontanum</i>	montane woollystar	None
<i>Eriastrum densifolium</i> ssp. <i>elongatum</i>	chaparral woollystar	None
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FE, SE, CRPR 1B.1
<i>Eriastrum eremicum</i> ssp. <i>eremicum</i>	desert woollystar	None
<i>Eriastrum sapphirinum</i> ssp. <i>sapphirinum</i>	sapphire woollystar	None
<i>Gilia achilleifolia</i> ssp. <i>multicaulis</i>	California gilia	None
<i>Gilia aliquanta</i> ssp. <i>aliquanta</i>	puffcalyx gilia	None
<i>Gilia angelensis</i>	chaparral gilia	None
<i>Gilia brecciarum</i> ssp. <i>brecciarum</i>	break gilia	None
<i>Gilia capitata</i> ssp. <i>abrotanifolia</i>	southernwood leaved ball gilia	None
<i>Gilia leptantha</i> ssp. <i>transversa</i>	fine flower gilia	None
<i>Leptosiphon breviculus</i>	Mojave leptosiphon	None
<i>Linanthus bigelovii</i>	bigelow's linanthus	None
<i>Linanthus californicus</i>	prickly phlox	None
<i>Linanthus dichotomus</i>	evening snow	None
<i>Linanthus parryae</i>	Parry's linanthus	None
<i>Loeseliastrum matthewsii</i>	desert calico	None
<i>Navarretia atractyloides</i>	hollyleaf navarretia	None
<i>Saltugilia australis</i>	southern woodland-gilia	None
POLYGONACEAE - BUCKWHEAT FAMILY		
<i>Centrostegia thurberi</i>	red triangles	None
<i>Chorizanthe brevicornu</i> var. <i>brevicornu</i>	brittle spineflower	None
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	SBNF SS CRPR 1B.1
<i>Chorizanthe watsonii</i>	Watson's spineflower	None
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	SBNF SS CRPR 1B.2
<i>Eriogonum angulosum</i>	angle-stem buckwheat	None
<i>Eriogonum baileyi</i> var. <i>baileyi</i>	Bailey's buckwheat	None
<i>Eriogonum davidsonii</i>	Davidson's buckwheat	None
<i>Eriogonum deflexum</i> var. <i>deflexum</i>	reflexed buckwheat	None
<i>Eriogonum elongatum</i> var. <i>elongatum</i>	longstem buckwheat	None
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	leafy California buckwheat	None
<i>Eriogonum fasciculatum</i> var. <i>polifolium</i>	hairy California buckwheat	None
<i>Eriogonum gracile</i> var. <i>gracile</i>	slender woolly buckwheat	None
<i>Eriogonum gracile</i> var. <i>incultum</i>	Palomar Mountain buckwheat	None
<i>Eriogonum maculatum</i>	spotted buckwheat	None
<i>Eriogonum thurberi</i>	Thurber's buckwheat	None
<i>Lastarriaea coriacea</i>	leather-spineflower	None
<i>Polygonum argyrocoleon</i> *	Persian knotweed	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
<i>Polygonum aviculare</i> ssp. <i>depressum</i> *	dented oval leaf knotweed	None
<i>Pterostegia drymarioides</i>	granny's hairnet	None
<i>Rumex crispus</i> *	curly dock	None
<i>Rumex hymenosepalus</i>	fleshy dock	None
PORTULACACEAE - PURSLANE FAMILY		
<i>Portulaca oleracea</i> *	purslane	None
RANUNCULACEAE - BUTTERCUP FAMILY		
<i>Clematis lasiantha</i>	chaparral virgin's bower	None
<i>Clematis pauciflora</i>	few flowered virgin's bower	None
<i>Delphinium cardinale</i>	scarlet larkspur	None
<i>Delphinium parryi</i> ssp. <i>parryi</i>	Parry's larkspur	None
RHAMNACEAE - BUCKTHORN FAMILY		
<i>Ceanothus crassifolius</i> var. <i>crassifolius</i>	thick leaf ceanothus	None
<i>Ceanothus cuneatus</i> var. <i>cuneatus</i>	buckbrush	None
<i>Ceanothus integerrimus</i> var. <i>macrothyrsus</i>	large staff toothless ceanothus	None
<i>Ceanothus leucodermis</i>	whitebark ceanothus	None
<i>Ceanothus perplexans</i>	desert ceanothus	None
<i>Ceanothus vestitus</i>	Mojave ceanothus	None
<i>Frangula californica</i> ssp. <i>californica</i>	California coffeeberry	None
<i>Rhamnus crocea</i>	spiny redberry	None
<i>Rhamnus ilicifolia</i>	hollyleaf redberry	None
ROSACEAE - ROSE FAMILY		
<i>Adenostoma fasciculatum</i> var. <i>fasciculatum</i>	chamise	None
<i>Cercocarpus betuloides</i> var. <i>betuloides</i>	birchleaf mountain mahogany	None
<i>Heteromeles arbutifolia</i>	toyon	None
<i>Prunus ilicifolia</i> ssp. <i>ilicifolia</i>	holly leaf cherry	None
<i>Purshia tridentata</i> var. <i>tridentata</i>	antelope bush	None
<i>Rosa californica</i>	California rose	None
<i>Rosa woodsii</i> ssp. <i>gratissima</i>	Mojave rose	None
RUBIACEAE - COFFEE FAMILY		
<i>Galium angustifolium</i> ssp. <i>angustifolium</i>	narrow leaved bedstraw	None
<i>Galium aparine</i>	common bedstraw	None
<i>Galium</i> cf. <i>porrigens</i>	climbing bedstraw	None
SALICACEAE - WILLOW FAMILY		
<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	None
<i>Salix exigua</i> var. <i>hindsii</i>	Hinds' willow	None
<i>Salix gooddingii</i>	Goodding's black willow	None
<i>Salix laevigata</i>	red willow	None
<i>Salix lasiolepis</i>	arroyo willow	None
SCROPHULARIACEAE - FIGWORT FAMILY		
<i>Scrophularia californica</i>	California figwort	None
<i>Verbascum thapsus</i> *	woolly mullein	None
SIMAROUBACEAE - SIMAROUBA FAMILY		
<i>Ailanthus altissima</i> *	tree of heaven	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
SOLANACEAE - NIGHTSHADE FAMILY		
<i>Datura wrightii</i>	Wright's jimsonweed	None
<i>Lycium cooperi</i>	Cooper's box-thorn	None
<i>Nicotiana glauca</i> *	tree tobacco	None
<i>Nicotiana quadrivalvis</i>	indian tobacco	None
<i>Solanum douglasii</i>	Douglas' nightshade	None
<i>Solanum xanti</i>	chaparral nightshade	None
TAMARICACEAE - TAMARISK FAMILY		
<i>Tamarix ramosissima</i> *	hairy tamarix	None
URTICACEAE - NETTLE FAMILY		
<i>Urtica dioica</i> ssp. <i>holosericea</i>	hoary stinging nettle	None
<i>Urtica urens</i> *	dwarf nettle	None
VISACEAE - MISTLETOE FAMILY		
<i>Phoradendron leucarpum</i> ssp. <i>macrophyllum</i>	large leaf mistletoe	None
VITACEAE - GRAPE FAMILY		
<i>Vitis californica</i>	California wild grape	None
<i>Vitis girdiana</i>	desert wild grape	None
ZYGOPHYLLACEAE - CALTROP FAMILY		
<i>Larrea tridentata</i>	creosote bush	None
<i>Tribulus terrestris</i> *	puncturevine	None
MONOCOTS		
AGAVACEAE - AGAVE FAMILY		
<i>Hesperoyucca whipplei</i>	chaparral yucca	None
<i>Yucca brevifolia</i>	joshua tree	None
ARECACEAE - PALM FAMILY		
<i>Washingtonia robusta</i> *	Mexican fan palm	None
CYPERACEAE - SEDGE FAMILY		
<i>Cyperus cf. esculentus</i>	edible flatsedge	None
<i>Cyperus eragrostis</i>	tall flatsedge	None
<i>Schoenoplectus pungens</i> var. <i>longispicatus</i>	three-square bulrush	None
JUNCACEAE - RUSH FAMILY		
<i>Juncus balticus</i> ssp. <i>ater</i>	Baltic rush	None
<i>Juncus bufonius</i> var. <i>bufonius</i>	toad rush	None
<i>Juncus effusus</i>	soft rush	None
<i>Juncus mexicanus</i>	Mexican rush	None
<i>Juncus tenuis</i>	slender rush	None
<i>Juncus xiphioides</i>	iris leaved rush	None
LILIACEAE - LILY FAMILY		
<i>Calochortus kennedyi</i> var. <i>kennedyi</i>	desert mariposa lily	None
<i>Calochortus plummerae</i>	Plummer's mariposa lily	SBNF WL CRPR 4.2
ORCHIDACEAE - ORCHID FAMILY		
<i>Epipactis gigantea</i>	giant stream orchid	None
POACEAE - GRASS FAMILY		
<i>Aristida adscensionis</i>	sixweeks three-awn	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
<i>Arundo donax</i> *	giant reed	None
<i>Avena barbata</i> *	slender wild oat	None
<i>Avena fatua</i> *	wild oat	None
<i>Bouteloua aristidoides</i> var. <i>aristidoides</i>	needle grama	None
<i>Bromus carinatus</i> var. <i>marginatus</i>	mountain brome	None
<i>Bromus catharticus</i> var. <i>catharticus</i> *	rescue grass	None
<i>Bromus diandrus</i> *	rippgut brome	None
<i>Bromus madritensis</i> ssp. <i>madritensis</i> *	foxtail brome	None
<i>Bromus madritensis</i> ssp. <i>rubens</i> *	red brome	None
<i>Bromus tectorum</i> *	cheat grass	None
<i>Cortaderia selloana</i> *	Selloa pampas grass	None
<i>Cynodon dactylon</i> *	bermuda grass	None
<i>Distichlis spicata</i>	salt grass	None
<i>Echinochloa crus-galli</i> *	barnyard cockspurgrass	None
<i>Elymus cinereus</i>	Great Basin wildrye	None
<i>Elymus elymoides</i> var. <i>elymoides</i>	squirreltail wildrye	None
<i>Elymus glaucus</i> ssp. <i>glaucus</i>	western wildrye	None
<i>Elymus hispidus</i> *	hairy wildrye	None
<i>Elymus triticoides</i>	beardless wildrye	None
<i>Festuca microstachys</i>	Pacific fescue	None
<i>Festuca myuros</i> *	rattail fescue	None
<i>Festuca octoflora</i>	eight flowered fescue	None
<i>Festuca perennis</i> *	rye grass	None
<i>Hordeum murinum</i> ssp. <i>glaucum</i> *	smooth barley	None
<i>Hordeum murinum</i> ssp. <i>leporinum</i> *	hare barley	None
<i>Hordeum murinum</i> ssp. <i>murinum</i> *	wall barley	None
<i>Lamarckia aurea</i> *	goldentop grass	None
<i>Melica imperfecta</i>	coast range onion grass	None
<i>Muhlenbergia rigens</i>	deer grass	None
<i>Pennisetum setaceum</i> *	African fountain grass	None
<i>Poa annua</i> *	annual blue grass	None
<i>Poa secunda</i> ssp. <i>secunda</i>	one-sided blue grass	None
<i>Polypogon monspeliensis</i> *	rabbit foot beard grass	None
<i>Polypogon viridis</i> *	water beard grass	None
<i>Schismus barbatus</i> *	Mediterranean schismus	None
<i>Sorghum halepense</i> *	johnson grass	None
<i>Stipa cernua</i>	nodding needle grass	None
<i>Stipa coronata</i>	crested needle grass	None
<i>Stipa hymenoides</i>	indian rice grass	None
<i>Stipa lepida</i>	foothill needle grass	None
<i>Stipa miliacea</i> var. <i>miliacea</i> *	smilo grass	None
<i>Stipa pulchra</i>	purple needle grass	None
<i>Stipa speciosa</i>	desert needle grass	None
<i>Triticum aestivum</i> *	wheat	None

B-1 PLANT COMPENDIUM

Species	Common Name	Special Status Designation
THEMIDACEAE - BRODIAEA FAMILY		
<i>Bloomeria crocea</i> var. <i>crocea</i>	common goldenstar	None
<i>Brodiaea elegans</i> ssp. <i>elegans</i>	harvest brodiaea	None
<i>Dichelostema capitatum</i> ssp. <i>capitatum</i>	blue dicks	None
<i>Muilla maritima</i>	common muilla	None
TYPHACEAE - CATTAIL FAMILY		
<i>Typha domingensis</i>	southern cattail	None
<i>Typha latifolia</i>	broad-leaved cattail	None
<p>*=non-native</p> <p>SPECIAL STATUS:</p> <p>Federal: FE = Endangered</p> <p>San Bernardino National Forest (SBNF) Status: SS=Forest Service Sensitive WL=Forest Watch List</p> <p>State: SE = Endangered</p> <p>CRPR – California Rare Plant Rank 1B. Rare or Endangered in California and elsewhere 3. Plants for which we need more information - Review list 4. Plants of limited distribution - Watch list</p> <p>Threat Ranks .1 – Seriously endangered in California .2 – Fairly endangered in California</p>		

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
CRUSTACEANS		
CAMBARIDAE-FRESHWATER CRAYFISH		
<i>Procambarus clarkia</i>	red-swamp crayfish	none
FISH		
CYPRINIDAE – MINNOWS AND CARPS		
<i>Rhinichthys osculus</i> ssp.	Santa Ana speckled dace	SCC/SBNFSS
AMPHIBIANS		
HYLIDAE – TREE FROGS		
<i>Pseudacris [Hyla] cadaverina</i>	California tree frog	none
<i>Pseudacris [Hyla] regilla</i>	Baja California tree frog	none
BUFONIDAE		
<i>Anaxyrus boreas</i>	western toad	none
REPTILES		
CROTAPHYTIDAE – COLLARDED AND LEOPARD LIZARDS		
<i>Gambelia wislizenii</i>	Long-nosed leopard lizard	none
PHRYNOSOMATIDAE – SPINY LIZARD FAMILY		
<i>Callisaurus draconoides</i>	Zebra-tailed lizard	none
<i>Sceloporus occidentalis</i>	western fence lizard	none
<i>Sceloporus magister</i>	Desert spiny lizard	none
<i>Sceloporus orcutti</i>	granite spiny lizard	none
<i>Sceloporus uniformis</i>	Yellow-backed spiny lizard	none
<i>Uta stansburiana</i>	Common side-blotched lizard	none
<i>Phrynosoma blainvillii</i>	Coast horned lizard	SSC/SBNFWL
<i>Phrynosoma platyrhinos</i>	Desert horned lizard	none
XANTUSIIDAE – NIGHT LIZARDS		
<i>Xantusia vigilis</i>	desert night lizard	SBNFWL
TEIIDAE – WHIPTAIL LIZARD FAMILY		
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	none
<i>Aspidoscelis tigris tigris</i>	Great Basin whiptail	none
COLUBRIDAE – COLUBRID SNAKES		
<i>Masticophis lateralis lateralis</i>	chaparral whipsnake	none
<i>Pituophis catenifer</i>	gopher snake	none
VIPERIDAE – PITVIPERSs		
<i>Crotalus ruber</i>	Northern red diamond rattlesnake	SSC/SBNFSS
<i>Crotalus viridis</i>	Southern Pacific rattlesnake	none
<i>Crotalus scutulatus</i>	Mojave green rattlesnake	none
<i>Crotalus oreganus</i>	western rattlesnake	none
BIRDS		
ANATIDAE – WATERFOWL		
<i>Anas platyrhynchos</i>	mallard	none
ODONTOPHORIDAE – NEW WORLD QUAILS		
<i>Callipepla californica</i>	California quail	none
ARDEIDAE – HERONS,BITTERNS, AND ALLIES		
<i>Ardea herodias</i>	great blue heron	none

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
<i>Butorides virescens</i>	green heron	none
CATHARTIDAE – NEW WORLD VULTURES		
<i>Cathartes aura</i>	turkey vulture	SBNFWL
ACCIPITRIDAE – HAWKS, KITES, EAGLES		
<i>Accipiter cooperii</i>	Cooper's hawk	WL/SBNFWL
<i>Buteo lineatus</i>	red-shouldered hawk	none
<i>Buteo jamaicensis</i>	red-tailed hawk	none
<i>Aquila chrysaetos</i>	golden eagle	FP/WL/ SBNFWL
CHARADRIIDAE – PLOVERS		
<i>Charadrius vociferus</i>	killdeer	none
COLUMBIDAE – PIGEONS AND DOVES		
<i>Columba livia*</i>	rock pigeon	none
<i>Patagioenas fasciata</i>	band-tailed pigeon	none
<i>Streptopelia decaocto*</i>	Eurasian collared-dove	none
<i>Zenaida macroura</i>	mourning dove	none
CUCULIDAE – CUCKOO AND ROADRUNNER		
<i>Geococcyx californianus</i>	greater roadrunner	none
STRIGIDAE – OWLS		
<i>Bubo virginianus</i>	great horned owl	none
CAPRIMULGIDAE – GOATSUCKERS		
<i>Phalaenoptilus nuttallii</i>	Common poorwill	none
APODIDAE – SWIFTS		
<i>Aeronautes saxatalis</i>	white-throated swift	none
TROCHILIDAE – HUMMINGBIRDS		
<i>Archilochus alexandri</i>	black-chinned hummingbird	none
<i>Calypte anna</i>	Anna's hummingbird	none
<i>Calypte costae</i>	Costa's hummingbird	none
<i>Selasphorus rufus</i>	rufous hummingbird	none
<i>Selasphorus sasin</i>	Allen's hummingbird	none
PICIDAE – WOODPECKERS		
<i>Picoides nuttallii</i>	Nuttall's woodpecker	SBNFWL
<i>Picoides pueescens</i>	downy woodpecker	none
<i>Colaptes auratus</i>	Northern flicker	none
FALCONIDAE – FALCONS		
<i>Falco sparverius</i>	American kestrel	none
PSITTACIDAE – LORIES, PARAKEETS, MACAWS, AND PARROTS		
<i>Amazona viridigenalis*</i>	red-crowned parrot	none
TYRANNIDAE – TYRANT FLYCATCHERS		
<i>Contopus cooperi</i>	olive-sided flycatcher	SSC
<i>Contopus sordidulus</i>	western wood-pewee	none
<i>Empidonax wrightii</i>	gray flycatcher	none
<i>Empidonax difficilis</i>	Pacific-slope flycatcher	none
<i>Sayornis nigricans</i>	black phoebe	none
<i>Sayornis saya</i>	Say's phoebe	none

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
<i>Myiarchus cinerascens</i>	ash-throated flycatcher	none
<i>Tyrannus vociferans</i>	Cassin's kingbird	none
<i>Tyrannus verticalis</i>	western kingbird	none
LANIIDAE – SHRIKES		
<i>Lanius ludovicianus</i>	loggerhead shrike	SSC/SBNFWL
VIREONIDAE – VIREOS		
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE/SE
<i>Vireo cassinii</i>	Cassin's vireo	SBNFWL
<i>Vireo huttoni</i>	Hutton's vireo	none
<i>Vireo gilvus</i>	warbling vireo	SBNFWL
CORVIDAE – JAY AND CROWS		
<i>Aphelocoma californica</i>	western scrub-jay	none
<i>Corvus brachyrhynchos</i>	American crow	none
<i>Corvus corax</i>	common raven	none
ALAUDIDAE – LARKS		
<i>Eremophila alpestris</i>	horned lark	WL/SBNFWL
HIRUNDINIDAE – SWALLOWS		
<i>Tachycineta bicolor</i>	tree swallow	SBNFWL
<i>Tachycineta thalassina</i>	Violet-green swallow	none
<i>Stelgidopteryx serripennis</i>	northern rough-winged swallow	none
<i>Petrochelidon pyrrhonota</i>	cliff swallow	none
<i>Hirundo rustica</i>	barn swallow	none
PARIDAE – TITMICES		
<i>Baeolophus inornatus</i>	Oak titmouse	none
REMIZIDAE – VERDINS		
<i>Auriparus flaviceps</i>	verdin	none
AEGITHALIDAE – BUSHTITS		
<i>Psaltriparus minimus</i>	bush tit	none
TROGLODYTIDAE – WRENS		
<i>Salpinctes obsoletus</i>	rock wren	none
<i>Catherpes mexicanus</i>	canyon wren	none
<i>Troglodytes aedon</i>	house wren	none
<i>Thryomanes bewickii</i>	Bewick's wren	none
<i>Campylorhynchus brunneicapillus</i>	cactus wren	none
POLIOPTILIDAE – GNATCATCHERS		
<i>Polioptila caerulea</i>	blue-gray gnatcatcher	none
REGULIDAE – KINGLETS		
<i>Regulus satrapa</i>	ruby-crowned kinglet	none
SYLVIIDAE – SILVIID WARBLERS		
<i>Chamaea fasciata</i>	wren tit	none
TURDIDAE – THRUSHES		
<i>Sialia mexicana</i>	western bluebird	none
<i>Catharus ustulatus</i>	Swainson's thrush	SBNFWL
<i>Turdus migratorius</i>	American robin	none

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
MIMIDAE – MOCKINGBIRD AND THRASHERS		
<i>Toxostoma redivivum</i>	California thrasher	none
<i>Oreoscoptes montanus</i>	sage thrasher	none
<i>Mimus polyglottos</i>	northern mockingbird	none
STURNIDAE – STARLINGS		
<i>Sturnus vulgaris</i> *	European starling	none
BOMBYCILLIDAE – WAXWING FAMILY		
<i>Bombycilla cedrorum</i>	cedar waxwing	none
PTILOGONATIDAE – SILKY-FLYCATCHERS		
<i>Phainopepla nitens</i>	phainopepla	none
PARULIDAE – WOOD-WARBLERS		
<i>Geothlypis tolmiei</i>	MacGillivray's warbler	SBNFWL
<i>Geothlypis trichas</i>	common yellowthroat	SBNFWL
<i>Setophaga petechial</i>	yellow warbler	SSC/SBNFWL
<i>Setophaga coronate</i>	Yellow-rumped warbler	none
<i>Cardellina pusilla</i>	Wilson's warbler	SBNFWL
<i>Icteria virens</i>	yellow-breasted chat	SSC/SBNFWL
EMBERIZIDAE – SPARROWS		
<i>Pipilo maculatus</i>	spotted towhee	none
<i>Aimophila ruficeps</i>	Southern California rufous-crowned sparrow	WL/SBNFWL
<i>Melospiza crissalis</i>	California towhee	none
<i>Spizella atrogularis</i>	black-chinned sparrow	none
<i>Chondestes grammacus</i>	lark sparrow	none
<i>Amphispiza bilineata</i>	black-throated sparrow	none
<i>Artemisiopiza belli</i>	Bell's (Sage) sparrow	WL/SBNFWL
<i>Melospiza melodia</i>	song sparrow	SBNFMIS
<i>Melospiza lincolni</i>	Lincoln's sparrow	SBNFWL
<i>Zonotrichia leucophrys</i>	White-crowned sparrow	none
<i>Junco hyemalis</i>	dark-eyed junco	none
CARDINALIDAE – CARDINALS, GROSBEAKS		
<i>Piranga ludoviciana</i>	western tanager	none
<i>Pheucticus melanocephalus</i>	black-headed grosbeak	none
<i>Passerina caerulea</i>	blue grosbeak	none
ICTERIDAE – BLACKBIRDS, COWBIRDS AND ORIOLES		
<i>Agelaius phoeniceus</i>	red-winged blackbird	none
<i>Sturnella neglecta</i>	western meadowlark	none
<i>Euphagus cyanocephalus</i>	Brewer's blackbird	none
<i>Quiscalus mexicanus</i>	great-tailed grackle	none
<i>Molothrus ater</i> *	brown-headed cowbird	none
<i>Icterus cucullatus</i>	hooded oriole	none
<i>Icterus bullockii</i>	Bullock's oriole	none
<i>Icterus parisorum</i>	Scott's Oriole	none
FRINGILLIDAE – FINCHS		
<i>Haemorhous mexicanus</i>	house finch	none
<i>Carduelis psaltria</i>	lesser goldfinch	none

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
<i>Spinus lawrencei</i>	Lawrence's goldfinch	SBNFWL
<i>Carduelis tristis</i>	American goldfinch	none
PASSERIDAE – OLD WORLD SPARROWS		
<i>Passer domesticus*</i>	house sparrow	none
MAMMALS		
SCIURIDAE – SQUIRRELS		
<i>Otospermophilus beecheyi</i>	California ground squirrel	none
<i>Xerospermophilus tereticaudatus</i>	round-tailed ground squirrel	SSC
<i>Ammospermophilus leucurus</i>	white-tailed antelope squirrel	none
GEOMYDAE – POCKET GOPHERS		
<i>Thomomys bottae</i>	Botta's pocket gopher	none
HETEROMYIDAE – KANGAROO RATS AND POCKET MICE		
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	SSC/SBNFWL
<i>Chaetodipus californicus</i>	California pocket mouse	none
<i>Chaetodipus formosus</i>	long-tailed pocket mouse	none
<i>Perognathus longimembris brevisianus</i>	Los Angeles pocket mouse	SSC/SBNFWL
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST
<i>Dipodomys agilis</i>	agile kangaroo rat	none
<i>Dipodomys simulans</i>	Dulzura kangaroo rat	none
<i>Dipodomys merriami collinus</i>	Merriam's kangaroo rat	none
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC
MURIDE – RATS AND MICE		
<i>Peromyscus fraterculus</i>	Baja mouse	none
<i>Peromyscus californicus</i>	California mouse	none
<i>Peromyscus maniculatus</i>	deer mouse	none
<i>Peromyscus boylii</i>	brush mouse	none
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	SSC/SBNFWL
<i>Reithrodontomys megalotis</i>	western harvest mouse	none
<i>Neotoma bryanti [lepida] intermedia</i>	Bryant's (San Diego desert) woodrat	SSC/SBNFWL
<i>Mus musculus</i>	house mouse	none
LEPORIDAE – HARES AND RABBITS		
<i>Sylvilagus audubonii</i>	Desert cottontail	none
<i>Lepus californicus deserticola</i>	black-tailed jack rabbit	none
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	SSC/SBNFWL
VESPERTILIONIDAE – VESPER BATS		
<i>Myotis californicus</i>	California myotis	none
<i>Myotis ciliolabrum</i>	western small-footed myotis	SBNFWL
<i>Myotis yumanensis</i>	Yuma myotis	SBNFWL
<i>Myotis evotis</i>	Long-eared myotis	SBNFWL
<i>Parastrellus hesperus</i>	canyon bat (western pipistrelle)	none
<i>Eptesicus fuscus</i>	big brown bat	none
<i>Lasiurus blossevillii</i>	western red bat	SSC/SBNFWL
<i>Lasiurus cinereus</i>	hoary bat	SBNFWL
<i>Antrozous pallidus</i>	pallid bat	SSC/SBNFSS

B-2 WILDLIFE COMPENDIUM

Scientific Name	Common Name	Special Status
MOLOSSIDAE – MOLOSSIDE BATS		
<i>Taderida brasiliensis</i>	Mexican free-tail	none
<i>Eumops perotis californicus</i>	western mastiff bat	SSC, SBNFWL
FELIDAE – CAT FAMILY		
<i>Lynx rufus</i>	Bobcat	none
<i>Felis catus</i> *	Domestic cat	none
CANIDAE – CANID FAMILY		
<i>Canis latrans</i>	coyote	none
<i>Urocyon cinereoargenteus</i>	gray fox	none
PROCYNIDAE – RACOONS		
<i>Bassariscus astutus</i>	Ring-tail	SBNFWL
CERIVIDAE – DEER		
<i>Odocoileus hemionus</i>	Mule deer	SBNFMIS
<p>Legend:</p> <p>FE = Federally Endangered SE= State-listed as Endangered ST= State-listed as Threatened FP= California Department of Fish and Wildlife Fully Protected species WL =California Department of Fish and Wildlife Watch List SSC = Species of Special Concern SBNFWL= San Bernardino National Forest Watch List species SBNFSS = San Bernardino National Forest Sensitive species MIS = San Bernardino National Forest Management Indicator species</p> <p>* introduced species</p>		

APPENDIX C
SPECIAL STATUS PLANT SPECIES

SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ² / Occurrence
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	-/SBNF SS-/1B.1	Annual herb. Sandy soils in chaparral, coastal scrub, and desert dunes; approximately 250–5,250 ft above msl. Blooming period: January–September	Yes	High potential to occur/not observed during focused surveys
<i>Acanthoscyphus parishii</i> var. <i>parishii</i>	Parish's oxytheca	-/-/4.2	Annual herb. Sandy to gravelly soil in chaparral and lower montane coniferous forest; approximately 4,000–8,500 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Allium marvinii</i>	Yucaipa onion	-/SBNF SS-/1B.1	Perennial bulbiferous herb. Openings in chaparral in clay soils; approximately 2,500–3,400 ft above msl. Blooming period: April–May	No	Not expected to occur /not observed during focused surveys
<i>Ambrosia monogyra</i>	singlewhorl burrobush	-/-/2B.2	Perennial shrub. Sandy soils in chaparral, coastal sage scrub, Sonoran desert scrub, and washes; approximately 330–1,640 ft above msl. Blooming period: August–November	Yes	Not expected to occur/not observed during focused surveys
<i>Arenaria paludicola</i>	marsh sandwort	FE-/SE/1B.1	Perennial stoloniferous herb. Sandy soils in marshes and swamps with brackish freshwater; approximately 10–600 ft above msl. Blooming period: May–August	No	Not expected to occur/not observed during focused surveys
<i>Artemisia palmeri</i>	San Diego sagewort	-/-/4.2	Deciduous shrub. Sandy soils in mesic areas in chaparral, coastal scrub, riparian forest, riparian scrub, riparian woodland; approximately 50–3,000 ft above msl. Blooming period: February–September	Yes	Not expected to occur/not observed during focused surveys
<i>Asclepias nyctaginifolia</i>	Mojave milkweed	-/-/2B.1	Perennial herb. Mojavean desert scrub and Pinyon and juniper woodland; approximately 2,870–5,580 ft above msl. Blooming period: May–June	Yes	Not expected to occur /not observed during focused surveys
<i>Asplenium vespertinum</i>	western spleenwort	-/-/4.2	Perennial rhizomatous herb. Rocky areas in chaparral, cismontane woodland, and coastal scrub; approximately 590–3,300 ft above msl. Blooming period: February–June	Yes	High potential to occur/not observed during focused surveys
<i>Astragalus hornii</i> var. <i>hornii</i>	Horn's milk-vetch	-/-/1B.1	Annual herb. Lake margins and alkaline soils in meadows, seeps, and playas; approximately 200–2,800 ft above msl. Blooming period: May–October	No	Not expected to occur /not observed during focused surveys
<i>Astragalus lentiginosus</i> var. <i>antoniuss</i>	San Antonio milk-vetch	-/SBNF SS-/1B.3	Perennial herb. Montane coniferous forest; approximately 4,920–8,500 ft above msl. Blooming period: April–July	No	Not expected to occur/not observed during focused surveys
<i>Astragalus lentiginosus</i> var. <i>coachellae</i>	Coachella Valley milk-vetch	FE-/1B.2	Annual and perennial herb. Desert dunes and Sonoran desert scrub in sandy soils; approximately 130–2,150 ft above msl. Blooming period: February–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Astragalus leucolobus</i>	Big Bear Valley woollypod	-/SBNF WL-/1B.2	Perennial herb. Rocky areas in lower and upper montane coniferous forest, pavement pebble plain, and pinyon and juniper woodland; approximately 5,700–9,600 ft above msl. Blooming period: May– July	No	Not expected to occur/not observed during focused surveys
<i>Astragalus pachypus</i> var. <i>jaegeri</i>	Jaeger's bush milk-vetch	-/SBNF SS-/1B.1	Perennial shrub. Sandy or rocky soils in chaparral, cismontane woodland, coastal scrub, and grassland; approximately 1,200–3,000 ft above msl. Blooming period: December–June	Yes	High potential to occur/not observed during focused surveys
<i>Astragalus tricarinatus</i>	triple ribbed milk-vetch	FE-/1B.2	Perennial herb. Sandy to gravelly soil in Joshua tree woodland and Sonoran Desert scrub; approximately 1,500–3,900 ft above msl. Blooming period: February–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Atriplex coronata</i> var. <i>notatior</i>	San Jacinto Valley crownscale	FE-/1B.1	Annual herb. Alkali soils in playas, vernal pools, and mesic foothill and valley grasslands; approximately 500–1,600 ft above msl. Blooming period: April–August	No	Not expected to occur/not observed during focused surveys
<i>Atriplex coulteri</i>	Coulter's saltbush	-/-/1B.2	Perennial herb. Alkaline or clay soils in coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland; approximately 10–1,500 ft above msl. Blooming period: March–October	No	Not expected to occur/not observed during focused surveys
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	-/-/1B.2	Annual herb. Alkaline conditions in coastal bluff scrub and coastal scrub; approximately 30–700 ft above msl. Blooming period: April–October	No	Not expected to occur/not observed during focused surveys
<i>Berberis nevini</i>	Nevin's barberry	FE-/SE/1B.1	Evergreen shrub. Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian scrub; approximately 900–2,700 ft above msl. Blooming period: March–June	Yes	Not expected to occur/not observed during focused surveys
<i>Botrychium crenulatum</i>	scalloped moonwort	-/SBNF SS-/2B.2	Perennial rhizomatous herb. Bogs, fens, meadows, seeps, marshes, freshwater swamps, montane coniferous forests; approximately 4,200–10,800 ft above msl. Blooming period: June–September	No	Not expected to occur/not observed during focused surveys
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT-/SE/1B.1	Perennial bulbiferous herb. Often found in clay soils in openings in chaparral, cismontane woodland, coastal scrub, playas, valley and foothill grassland, and vernal pools; approximately 80–3,700 ft above msl. Blooming period: March–June	No	Low potential to occur/not observed during focused surveys
<i>California macrophylla</i>	round-leaved filaree	-/-/1B.1	Annual herb. Clay soils in cismontane woodland and valley and foothill grassland; approximately 50–4,000 ft above msl. Blooming period: March–May	No	Not expected to occur/not observed during focused surveys
<i>Calochortus palmeri</i> var. <i>munzii</i>	San Jacinto mariposa lily	-/SBNF SS-/1B.2	Perennial bulbiferous herb. Chaparral, lower montane coniferous forest, meadows and seeps; approximately 4,000–7,200 ft above msl. Blooming period: May–July	Yes	Low potential to occur/not observed during focused surveys
<i>Calochortus palmeri</i> var. <i>palmeri</i>	Palmer's mariposa lily	-/SBNF SS-/1B.2	Perennial bulbiferous herb. Mesic soils in chaparral, lower montane coniferous forests, meadows and seeps; approximately 3,280–7,800 ft above msl. Blooming period: April–July	Yes	Low potential to occur/not observed during focused surveys
<i>Calochortus plummerae</i>	Plummer's mariposa lily	-/SBNF WL-/4.2	Perennial bulbiferous herb. Granitic and rocky areas in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland; approximately 330–5,550 ft above msl. Blooming period: May–July	Yes	Observed during focused surveys

SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a / Occurrence
<i>Canbya candida</i>	white pygmy-poppy	-/SBNF SS/-/4.2	Annual herb. Gravelly, sandy, or granitic soils in Joshua tree woodland, Mojavean desert scrub, pinyon and juniper woodland; approximately 2,000–4,800 ft above msl. Blooming period: March–June	Yes	High potential to occur/not observed during focused surveys
<i>Carex comosa</i>	bristly sedge	-/-/2B.1	Perennial rhizomatous herb. Coastal prairie margins of marshes and swamps, valley and foothill grassland; approximately 0–2,000 ft above msl. Blooming period: May–September	No	Not expected to occur/not observed during focused surveys
<i>Castilleja plagiotoma</i>	Mojave paintbrush	-/SBNF SS/-/4.3	Hemiparasitic perennial herb. Great basin scrub (alluvial soils), lower montane coniferous forests, Joshua tree, pinyon and juniper woodland; approximately 1,000–8,200 ft above msl. Blooming period: April–June	Yes	High potential to occur/not observed during focused surveys
<i>Castela emoryi</i>	Emory's crucifixion-thorn	-/-/2B.2	Deciduous shrub. Gravelly soil in Mojavean desert scrub, playas, and Sonoran desert scrub; approximately 300–2,200 ft above msl. Blooming period: April–October	Yes	Not expected to occur/not observed during focused surveys
<i>Caulanthus simulans</i>	Payson's jewel-flower	-/SBNF SS/-/4.2	Annual herb. Sandy and granitic soils in chaparral and coastal scrub; approximately 300–7,200 ft above msl. Blooming period: February–June	No	Not expected to occur/not observed during focused surveys
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	-/-/1B.1	Annual herb. Alkaline soils in chenopod scrub, meadows and seeps, playas, riparian woodland, and valley and foothill grassland; approximately 0–2,100 ft above msl. Blooming period: April–September	Yes	Low potential to occur/not observed during focused surveys
<i>Chloropyron maritimum</i> spp. <i>maritimum</i>	salt marsh bird's-beak	FE/-/SE/1B.2	Hemiparasitic annual herb. Coastal dunes and coastal salt marshes and swamps; 0–100 ft above msl. Blooming period: May–October	No	Not expected to occur/not observed during focused surveys
<i>Chorizanthe leptotheca</i>	peninsular spineflower	-/-/4.2	Annual herb. Alluvial fans or granitic areas in chaparral, coastal scrub, and lower montane coniferous forest; approximately 1,000–6,200 ft above msl. Blooming period: May–August	Yes	High potential to occur/not observed during focused surveys
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	-/SBNF SS/-/1B.1	Annual herb. Sandy or rocky openings in chaparral, coastal scrub, cismontane woodland, and valley and foothill grassland; approximately 900–4,000 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys
<i>Chorizanthe spinosa</i>	Mojave spineflower	-/-/4.2	Annual herb. Sometimes alkaline soils in chenopod scrub, Joshua tree woodland, Mojavean desert scrub, and playas; approximately 20–4,300 ft above msl. Blooming period: March–July	Yes	Moderate potential to occur/not observed during focused surveys
<i>Chorizanthe xanti</i> var. <i>leucotheca</i>	white-bracted spineflower	-/SBNF SS/-/1B.2	Annual herb. Sandy or gravelly soils in coastal scrub alluvial fans, Mojavean desert scrub, and pinyon and juniper woodland; approximately 1,000–4,000 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys
<i>Colubrina californica</i>	Las Animas colubrina	-/-/2B.3	Deciduous shrub. Mojavean desert scrub and Sonoran desert scrub; approximately 30–3,300 ft above msl. Blooming period: April–June	Yes	Not expected to occur/not observed during focused surveys
<i>Convolvulus simulans</i>	small-flowered morning glory	-/-/4.2	Annual herb. Friable clay soils or serpentine seeps in chaparral openings, coastal scrub, and valley and foothill grassland; approximately 100–2,300 ft above msl. Blooming period: March–July	No	Not expected to occur/not observed during focused surveys
<i>Coryphantha alversonii</i>	Alverson's foxtail cactus	-/-/4.3	Perennial stem succulent. Sandy or rocky soils that are typically granitic in Mojavean or Sonoran desert scrub; approximately 250–5,000 ft above msl. Blooming period: April–June	Yes	Not expected to occur/not observed during focused surveys
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	-/-/2B.2	Annual parasitic vine. Freshwater marshes and swamps; approximately 50–920 ft above msl. Blooming period: July–October	No	Not expected to occur/not observed during focused surveys
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla	-/-/1B.1	Stem succulent. Chaparral and coastal scrub, typically on xeric hillsides; approximately 100–500 ft above msl. Blooming period: April–May	Yes	Not expected to occur/not observed during focused surveys
<i>Deinandra mohavensis</i>	Mojave tarplant	-/SBNF SS/SE/1B.3	Annual herb. Mesic areas in chaparral, coastal scrub, and riparian scrub; approximately 2,100–5,300 ft above msl. Blooming period: May–January	Yes	Not expected to occur/not observed during focused surveys
<i>Deinandra paniculata</i>	paniculate tarplant	-/-/4.2	Annual herb. Usually found in vernal mesic soils in coastal scrub, valley and foothill grassland, and vernal pools; approximately 80–3,100 ft above msl. Blooming period: April–November	Yes	High potential to occur/not observed during focused surveys
<i>Ditaxis serrata</i> var. <i>californica</i>	California ditaxis	-/-/3.2	Perennial herb. Sandy soil in Mojavean or Sonoran desert scrub; approximately 0–1,500 ft above msl. Blooming period: March–December	Yes	Observed during focused surveys
<i>Dodecahema leptoceras</i>	slender-horned spineflower	FE/-/SE/1B.1	Annual herb. Sandy soils in chaparral, cismontane woodland, and alluvial fan coastal scrub; approximately 650–2,500 ft above msl. Blooming period: April–June	Yes	Observed during focused surveys (60 feet outside study area)
<i>Eriastrum densifolium</i> ssp. <i>sanctorum</i>	Santa Ana River woollystar	FE/-/SE/1B.1	Perennial herb. Sandy to gravelly soil in chaparral and coastal scrub in alluvial fans; approximately 300–2,000 ft above msl. Blooming period: April–September	Yes	Observed during focused surveys
<i>Eriogonum evanidum</i>	vanishing wild buckwheat	-/SBNF SS/-/1B.1	Annual herb. Sandy or gravelly soils in chaparral, cismontane woodland, lower montane coniferous forest, and pinyon and juniper woodland; approximately 3,600–7,300 ft above msl. Blooming period: July–October	Yes	Low potential to occur/not observed during focused surveys

SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a / Occurrence
<i>Euphorbia misera</i>	cliff spurge	-/-/2B.2	Perennial shrub. Rocky areas in coastal bluff scrub, coastal scrub, and Mojavean desert scrub; approximately 3–1,640 ft above msl. Blooming period: December–October	Yes	Not expected to occur/not observed during focused surveys
<i>Fimbristylis thermalis</i>	hot springs fimbristylis	-/-/2B.2	Perennial rhizomatous herb. Alkaline soils near hot springs in meadows and seeps; approximately 360–4,300 ft above msl. Blooming period: July–September	No	Not expected to occur/not observed during focused surveys
<i>Galium angustifolium</i> ssp. <i>gabrielense</i>	San Antonio Canyon bedstraw	-/SBNF WL/-/4.3	Perennial herb. Granitic, sandy, or rocky soil in chaparral, lower montane coniferous forest; approximately 4,000–8,700 ft above msl. Blooming period: April–August	Yes	Low potential to occur/not observed during focused surveys
<i>Galium californicum</i> ssp. <i>primum</i>	Alvin Meadow bedstraw	-/SBNF SS/-/1B.2	Perennial herb. Granitic to sandy soil in chaparral and lower montane coniferous forests; approximately 4,400–5,600 ft above msl. Blooming period: May–July	Yes	Not expected to occur/not observed during focused surveys
<i>Galium johnstonii</i>	Johnston's bedstraw	-/SBNF WL/-/4.3	Perennial herb. Chaparral, lower montane coniferous forest, pinyon and juniper woodland, riparian woodland; approximately 4,000–7,500 ft above msl. Blooming period: June–July	Yes	Low potential to occur /not observed during focused surveys
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	-/-/1A	Perennial rhizomatous herb. Coastal salt and freshwater marshes and swamps; approximately 30–5,500 ft above msl. Blooming period: August–October	Yes	Not expected to occur/not observed during focused surveys
<i>Heuchera caespitosa</i>	urn-flowered alumroot	-/SBNF SS/-/4.3	Perennial rhizomatous herb. Rocky soil in montane riparian forest, cismontane woodland, lower and upper montane coniferous forest; approximately 3,800–8,700 ft above msl. Blooming period: May–August	Yes	Low potential to occur/not observed during focused surveys
<i>Heuchera hirsutissima</i>	shaggy-haired alumroot	-/SBNF SS/-/1B.3	Perennial rhizomatous herb. Rocky to granitic soils in upper and subalpine coniferous forests; approximately 5,000–11,500 ft above msl. Blooming period: May–July	No	Not expected to occur/not observed during focused surveys
<i>Heuchera parishii</i>	Parish's alumroot	-/SBNF SS/-/1B.3	Perennial rhizomatous herb. Rocky and sometimes carbonate soils in coniferous forests and alpine boulder and rock fields; approximately 5,000–12,500 ft above msl. Blooming period: June–August	No	Not expected to occur/not observed during focused surveys
<i>Hordeum intercedens</i>	vernal barley	-/-/3.2	Annual herb. Coastal dunes, coastal scrub, saline flats and depressions in valley and foothill grassland, and vernal pools; approximately 20–3,300 ft above msl. Blooming period: March–June	Yes	Low potential to occur/not observed during focused surveys
<i>Horkelia cuneata</i> var. <i>puberula</i>	mesa horkelia	-/SBNF SS/-/1B.1	Perennial herb. Sandy and gravelly soils in maritime chaparral, cismontane woodland, and coastal scrub; approximately 230–2,700 ft above msl. Blooming period: February–September	Yes	High potential to occur/not observed during focused surveys
<i>Imperata brevifolia</i>	California satintail	-/SBNF SS/-/2B.1	Perennial rhizomatous herb. Mesic soils in chaparral, coastal scrub, Mojavean desert scrub, riparian scrub, meadows and seeps (often alkali); approximately 0–4,000 ft above msl. Blooming period: September–May	Yes	Moderate potential to occur/not observed during focused surveys
<i>Juglans californica</i>	Southern California black walnut	-/SBNF WL/-/4.2	Deciduous tree. Alluvial areas in chaparral, cismontane woodland, and coastal scrub; approximately 160–3,000 ft above msl. Blooming period: March–August	Yes	Observed during focused surveys
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	-/-/1B	Annual herb. Coastal salt marsh, coastal salt swamps, playas, vernal pools; approximately 3–4,000 ft above msl. Blooming period: February–June	No	Not expected to occur/not observed during focused surveys
<i>Lepechinia fragrans</i>	fragrant pitcher sage	-/SBNF SS/-/4.2	Perennial herb. Chaparral; approximately 70–4,300 ft above msl. Blooming period: March–October	Yes	High potential to occur/not observed during focused surveys
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	-/SBNF WL/-/4.3	Annual herb. Openings in chaparral and sage scrub; approximately 0–2,900 ft above msl. Blooming Period: January–July	Yes	High potential to occur/not observed during focused surveys
<i>Lilium humboldtii</i> ssp. <i>ocellatum</i>	ocellated Humboldt lily	-/SBNF WL/-/4.2	Perennial bulbiferous herb. Openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland; approximately 100–5,900 ft) above msl. Blooming period: March–August	Yes	High potential to occur/not observed during focused surveys
<i>Lilium parryi</i>	lemon lily	-/SBNF SS/-/1B.2	Perennial bulbiferous herb. Mesic areas in upper and lower montane coniferous forest, meadows and seeps, and riparian forest; approximately 4,000–9,000 ft above msl. Blooming period: July–August	No	Not expected to occur/not observed during focused surveys
<i>Linanthus maculatus</i>	Little San Bernardino Mountains linanthus	-/SBNF WL/-/1B.2	Annual herb. Sandy soils in desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub; approximately 640–6,800 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	sagebrush loeflingia	-/-/2B.2	Annual herb. Sandy soil in desert dunes, great basin scrub, and Sonoran desert scrub; approximately 2,300–5,300 ft above msl. Blooming period: April–May	Yes	Low potential to occur/not observed during focused surveys
<i>Lycium parishii</i>	Parish's desert-thorn	-/-/2B.3	Perennial shrub. Coastal scrub and Sonoran desert scrub; approximately 1,000–3280 ft above msl. Blooming period: March–April	Yes	Not expected to occur/not observed during focused surveys
<i>Malacothamnus parishii</i>	Parish's bush-mallow	-/-/1A	Deciduous shrub. Chaparral and coastal scrub; approximately 1,000–1,500 ft above msl. Blooming period: June–July	Yes	Not expected to occur/not observed during focused surveys
<i>Mentzelia tricuspidis</i>	spiny-hair blazing star	-/-/2B.1	Annual herb. Sandy or gravelly slopes, and washes in Mojavean desert scrub; approximately 500–4,200 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys

SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a / Occurrence
<i>Mimulus johnstonii</i>	Johnston's monkeyflower	-/-/-/4.3	Annual herb. In the scree, disturbed areas, roadsides, and rocky to gravelly soils in lower montane coniferous forest; approximately 3,198–9,578 ft above msl. Blooming period: May–August	No	Not expected to occur/not observed during focused surveys
<i>Monardella australis</i> ssp. <i>jokerstii</i>	Jokerst's monardella	-/SBNF SS/-/1B.1	Perennial rhizomatous herb. Steep scree or talus slopes between breccia, secondary alluvial benches along drainages and washes; approximately 4,430–5,740 ft above msl. Blooming period: July–September	No	Not expected to occur/not observed during focused surveys
<i>Monardella pringlei</i>	Pringle's monardella	-/-/-/1A	Annual herb. Coastal scrub; approximately 1,000–1,300 ft) above msl. Blooming period: May–June	Yes	Not expected to occur/not observed during focused surveys
<i>Monardella saxicola</i>	rock monardella	-/SBNF SS/-/4.2	Perennial rhizomatous herb. Rocky, usually serpentinite soils in chaparral, closed-cone and lower montane coniferous forest; approximately 1,640–5,900 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Muhlenbergia californica</i>	California muhly	-/SBNF WL/-/4.3	Perennial rhizomatous herb. Mesic soils and seeps and streambeds; approximately 330–6,560 ft above msl. Blooming period: June–September	Yes	Low potential to occur/not observed during focused surveys
<i>Muilla coronata</i>	crowned muilla	-/SBNF WL/-/4.2	Perennial bulbiferous herb. Chenopod scrub, Mojavean desert scrub, Joshua tree and pinyon and juniper woodland; approximately 2,500–6,400 ft above msl. Blooming period: March–May	Yes	High potential to occur/not observed during focused surveys
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mouse-tail	-/-/-/3.1	Annual herb. Valley and foothill grassland, and alkaline vernal pools; approximately 70–2,100 ft above msl. Blooming period: March–June	No	Not expected to occur/not observed during focused surveys
<i>Nama stenocarpum</i>	mud nama	-/-/-/2B.2	Annual/perennial herb. Marshes and swamps, also riverbanks and lake margins; approximately 20–1,640 ft above msl. Blooming period: January–July	No	Not expected to occur/not observed during focused surveys
<i>Nasturtium gambelii</i>	Gambel's water cress	FE/-/ST/1B.1	Perennial rhizomatous herb. Freshwater or brackish marshes and swamps; approximately 20–1,100 ft above msl. Blooming period: April–October	No	Not expected to occur/not observed during focused surveys
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender cottonheads	-/-/-/2B.2	Annual herb. Coastal dunes, desert dunes, and Sonoran desert scrub; approximately 30–1,600 ft above msl. Blooming period: March–May	Yes	Low potential to occur/not observed during focused surveys
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	short-joint beavertail	-/SBNF SS/-/1B.2	Stem succulent shrub. Chaparral, Mojavean desert scrub, Joshua tree, pinyon and juniper woodland; approximately 1,400–5,900 ft above msl. Blooming period: April–August	Yes	Observed during focused surveys
<i>Orobanche valida</i> ssp. <i>valida</i>	Rock Creek broomrape	-/SBNF SS/-/1B.2	Perennial parasitic herb. Granitic soils in chaparral and pinyon and juniper woodland. Obligate parasite on <i>Garrya fremontii</i> ; approximately 4,100–6,560 ft above msl. Blooming period: May–September	No	Not expected to occur/not observed during focused surveys
<i>Pediomelum castoreum</i>	Beaver Dam breadroot	-/-/-/1B	Perennial herb. Sandy washes and roadcuts in Joshua tree woodland and Mojavean desert scrub; approximately 2,000–5,000 ft above msl. Blooming period: April–May	Yes	High potential to occur/not observed during focused surveys
<i>Penstemon pseudospectabilis</i> ssp. <i>pseudospectabilis</i>	desert beardtongue	-/-/-/2B.2	Perennial herb. Sandy, sometimes rocky, washes in Mojavean and Sonoran desert scrub; approximately 260–6,300 ft above msl. Blooming period: January–May	No	Not expected to occur/not observed during focused surveys
<i>Phacelia parishii</i>	Parish's phacelia	-/-/-/1B.1	Annual herb. Clay or alkaline soils in playas and Mojavean desert scrub; approximately 1,800–4,000 ft above msl. Blooming period: April–July	Yes	Not expected to occur and not observed during focused surveys
<i>Pickeringia montana</i> var. <i>tomentosa</i>	woolly chaparral-pea	-/-/-/4.3	Evergreen shrub. Gabbroic, granitic, or clay soils in chaparral; approximately 0–5,600 ft above msl. Blooming period: May–August	Yes	Not expected to occur/not observed during focused surveys
<i>Plagiobothrys collinus</i> var. <i>ursinus</i>	Bear Valley popcornflower	-/SBNF SS/-/1	Annual herb. Sandy to gravelly soils in open conifer forest; approximately 3,600–7,870 ft above msl. Blooming period: likely March–June (Baldwin et al. 2012).	Yes	High potential to occur/not observed during focused surveys
<i>Quercus durata</i> var. <i>gabrielensis</i>	San Gabriel oak	-/-/-/4.2	Evergreen shrub. Chaparral and cismontane woodland; approximately 1,500–3,300 ft above msl. Blooming period: April–May	Yes	Observed during focused surveys
<i>Quercus turbinella</i>	shrub live oak	-/-/-/4.3	Evergreen shrub. Chaparral, cismontane and pinyon and juniper woodland, lower montane coniferous forest; approximately 3,940–6,560 ft above msl. Blooming period: April–June	Yes	Not expected to occur/not observed during focused surveys
<i>Ribes divaricatum</i> var. <i>parishii</i>	Parish's gooseberry	-/-/-/1A	Deciduous shrub. Riparian woodland; approximately 2,100–10,000 ft above msl. Blooming period: February–April	Yes	Not expected to occur/not observed during focused surveys
<i>Romneya coulteri</i>	Coulter's matilija poppy	-/-/-/4.2	Perennial rhizomatous herb. Chaparral and coastal scrub; often in burned areas; approximately 65–4,000 ft above msl. Blooming period: March–July	Yes	Observed during focused surveys
<i>Schoenus nigricans</i>	black bog-rush	-/SBNF SS/-/2B.2	Perennial herb. Marshes and swamps that are often alkaline; approximately 490–6,560 ft) above msl. Blooming period: August–September	No	Not expected to occur/not observed during focused surveys
<i>Selaginella eremophila</i>	desert spike-moss	-/-/-/2B.2	Perennial rhizomatous herb. Chaparral and Sonoran desert scrub on gravelly or rocky soils; approximately 700–3,000 ft above msl. Blooming period: May–July	Yes	High potential to occur/not observed during focused surveys
<i>Senecio astephanus</i>	San Gabriel ragwort	-/-/-/4.3	Annual herb. Chaparral, cismontane woodland, coastal scrub, and alkaline flats; approximately 50–2,600 ft above msl. Blooming period: January–April	Yes	High potential to occur/not observed during focused surveys

SPECIAL STATUS PLANT SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Scientific Name	Common Name	Status (Federal/SBNF/State/CRPR)	Habitat*	Suitable Habitat Present in Study Area (Yes/No)	Potential ^a / Occurrence
<i>Senna covesii</i>	Cove's senna	-/-/2B.2	Perennial herb. Sandy Sonoran desert scrub; approximately 900–3,500 ft above msl. Blooming period: March–June.	Yes	High potential to occur/not observed during focused surveys
<i>Sidalcea neomexicana</i>	Salt Spring checkerbloom	-/SBNF SS/-/2B.2	Perennial herb. Alkaline and mesic soils within chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playas; approximately 50–5,000 ft above msl. Blooming period: March–June	Yes	Moderate potential to occur/not observed during focused surveys
<i>Sidalcea pedata</i>	Bear Valley checkerbloom	-/-/1B.2	Perennial herb. Mesic soils in meadows and seeps and desert pavement plains; approximately 5,250–8,200 ft above msl. Blooming Period: May–August	No	Not expected to occur/not observed during focused surveys
<i>Sphenopholis obtusata</i>	prairie wedge grass	-/-/2B.2	Perennial herb. Mesic soils within cismontane woodland, and meadows and seeps; approximately 1,000–6,600 ft above msl. Blooming period: April–July	Yes	Low potential to occur/not observed during focused surveys
<i>Streptanthus bernardinus</i>	Laguna Mountains jewel-flower	-/SBNF WL/-/4.3	Perennial herb. Chaparral and lower montane coniferous forest; approximately 2,200–8,200 ft above msl. Blooming period: May–August	Yes	High potential to occur/not observed during focused surveys
<i>Streptanthus campestris</i>	southern jewel-flower	-/SBNF SS/-/1B.3	Perennial herb. Rocky areas in chaparral, lower montane coniferous forest, pinyon and juniper woodland; approximately 3,000–7,500 ft above msl. Blooming period: April–July	Yes	High potential to occur/not observed during focused surveys
<i>Symphotrichum defoliatum</i>	San Bernardino aster	-/SBNF SS/-/1B.2	Perennial rhizomatous herb. Near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic grassland; approximately 0–7,000 ft above msl. Blooming period: July–November	Yes	Low potential to occur/not observed during focused surveys
<i>Syntrichopappus lemmonii</i>	Lemmon's syntrichopappus	-/SBNF WL/-/4.3	Annual herb. Sandy to gravelly soil in chaparral, Joshua tree woodland, and pinyon and juniper woodland; approximately 1,640–6,000 ft above msl. Blooming period: April–June	Yes	High potential to occur/not observed during focused surveys
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	-/-/2B.1	Annual herb. Alkaline soils in meadows, seeps, marshes, swamps, riparian forests, and vernal pools; approximately 20–1,400 f above msl. Blooming period: May–September	Yes	Not expected to occur/not observed during focused surveys
<i>Viola purpurea</i> ssp. <i>aurea</i>	golden violet	-/SBNF WL/-/2B.2	Perennial herb. Sandy soils in Great Basin scrub and pinyon and juniper woodland; approximately 3,280–8,200 ft above msl. Blooming period: April–June	No	Not expected to occur/not observed during focused surveys

m: meters; ft: feet; msl: mean sea level

Federal (USFWS)	Federal (SBNF)	STATE (CDFW)
FE Endangered	SBNF SS SBNF Sensitive species	SE Endangered
FT Threatened	SBNF WL SBNF Watch List species	ST Threatened

CRPR List Categories

- List 1A Plants Presumed Extinct in California
- List 1B Plants Rare, Threatened, or Endangered in California and Elsewhere
- List 2B Plants Rare, Threatened, or Endangered in California But More Common Elsewhere
- List 3 Plants that require more information before they can be assigned to another rank or rejected
- List 4 Plants of Limited Distribution – A Watch List

CRPR Threat Code Extensions

- None Plants lacking any threat information
- .1 Seriously Endangered in California (over 80% of occurrences threatened; high degree and immediacy of threat)
- .2 Fairly Endangered in California (20–80% of occurrences threatened)
- .3 Not Very Threatened in California (less than 20% of occurrences threatened; low degree and immediacy of threat or no current threats known)

* Source: CNPS 2015 unless otherwise indicated

^a **Potential (Low/Moderate/High) Definition**

Not expected: Species has an extremely limited or no potential to occur within the Study Area due to factors including, but not limited to: absence of suitable habitat; Study Area distance from nearest known location is greater than twenty miles; species is believed to be extirpated from the vicinity of the Study Area; elevation range over 200 feet of the lowest or highest recorded elevation for the species; and/or, required soils are not present.

Low: Species has low potential to occur within the Study Area due to factors including, but not limited to: very poor habitat quality; Study Area distance from nearest known location is greater than five miles; records in the vicinity of the Study Area are historic, i.e. greater than 20 years old; elevation range of the Study Area is within 200 feet of the lowest or highest recorded elevation for the species; and, required or preferred soils are of degraded quality.

Moderate: Species has moderate potential to occur within the Study Area. This species would have been characterized as having high potential; however, factors such as degraded habitat quality and/or absence of preferred soils reduce the potential of the species to occur.

High: Species has high potential to occur within the Study Area. The habitat and soil requirements are found in good or better condition within the Study Area and the Study Area is easily within the known elevation range for this species.

Chaparral Sand-Verbena (*Abronia villosa* var. *aurita*)

The chaparral sand-verbena is an SBNF Sensitive species and has a CRPR of 1B.1. This annual herb in the Four O'Clock Family (Nyctaginaceae) is a California-endemic species. In the region of the Study Area, chaparral sand-verbena is known to occur in Imperial, Orange, Riverside, and San Diego Counties (CCH 2015). Chaparral sand-verbena can be found in sandy soils in Chaparral, Coastal scrub, and Desert dunes at an elevation range between approximately 250 and 5,250 feet above msl, and it blooms between January and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the chaparral sand-verbena has high potential to occur in the Study Area. Because this is an annual species, this species may not have germinated due to drought conditions even though suitable habitat is present.

Parish's Oxytheca (*Acanthoscyphus parishii* var. *parishii*)

Parish's oxytheca has a CRPR of 4.2. This annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, Parish's oxytheca is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). Parish's oxytheca can be found in sandy to gravelly soil in Chaparral and Lower montane coniferous forests at an elevation range between approximately 4,000 and 8,500 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The nearest observation is from the eastern San Gabriel Mountains, below Mount Baldy, approximately 10 miles from the Study Area. The Study Area does provide suitable habitat for this species, but the Study Area is at the lowest end of the elevation range; therefore, Parish's oxytheca has low potential to occur in the Study Area.

Yucaipa Onion (*Allium marvinii*)

The Yucaipa onion is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial bulbiferous herb in the Onion Family (Alliaceae) is a California-endemic species. In the region of the Study Area, Yucaipa onion is known to occur in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Yucaipa onion can be found in openings in Chaparral in clay soils at an elevation range between approximately 2,500 and 3,400 feet above msl, and it blooms between April and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the Yucaipa onion is not expected to occur in the Study Area.

Singlewhorl Burrobush (*Ambrosia monogyra*)

The singlewhorl burrobush has a CRPR of 2B.2. This perennial shrub in the Sunflower Family (Asteraceae) is native to California, Arizona, New Mexico, and Texas. In the region of the Study Area, the singlewhorl burrobush is known to occur in Imperial, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The singlewhorl burrobush can be found in sandy soils in Chaparral, Coastal sage scrub, Sonoran desert scrub, and Washes at an elevation range between approximately 330 and 1,640 feet above msl, and it blooms between August and November (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round and would have been observed during surveys if present; therefore, the singlewhorl burrobush is not expected to occur in the Study Area.

Marsh Sandwort (Arenaria paludicola)

The marsh sandwort is a federally and State-listed Endangered species and it has a CRPR of 1B.1. This perennial stoloniferous herb in the Pink Family (Caryophyllaceae) is a California-endemic species. In the region of the Study Area, marsh sandwort is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The marsh sandwort can be found in sandy soils in marshes and swamps with brackish freshwater at an elevation range between approximately 10 and 600 feet above msl and blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable marsh and/or swamp habitat to support this species; therefore the marsh sandwort is not expected to occur in the Study Area.

San Diego Sagewort (Artemisia palmeri)

The San Diego sagewort has a CRPR of 4.2. This deciduous shrub in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the San Diego sagewort is known to occur in Orange, Riverside, and San Diego Counties (CCH 2015). The San Diego sagewort can be found in sandy soils in mesic areas in Chaparral, Coastal scrub, Riparian forest, Riparian scrub, and Riparian woodland at an elevation range between approximately 50 and 3,000 feet above msl, and it blooms between February and September (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round and would have been observed during surveys if present; therefore, the San Diego sagewort is not expected to occur in the Study Area.

Mojave Milkweed (Asclepias nyctaginifolia)

The Mojave milkweed has a CRPR of 2B.1. This perennial herb in the Dogbane Family (Apocynaceae) is native to California, Nevada, Arizona, and New Mexico. In the region of the Study Area, the Mojave milkweed is known to occur in San Bernardino County (CCH 2015). Mojave milkweed can be found in Mojavean desert scrub and Pinyon and juniper woodland at an elevation range between approximately 2,870 and 5,580 feet above msl, and it blooms between May and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. Although the Study Area does provide suitable habitat for this species, the sole record from this area is 100 years old; therefore, the Mojave milkweed is not expected to occur in the Study Area and is believed to be extirpated from this area.

Western Spleenwort (Asplenium vespertinum)

The western spleenwort has a CRPR of 4.2. This perennial rhizomatous herb in the Spleenwort Family (Aspleniaceae) is a California-endemic species. In the region of the Study Area, the western spleenwort is known to occur in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Western spleenwort can be found in rocky areas in Chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 590 and 3,300 feet above msl, and it blooms between February and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the western spleenwort has high potential to occur in the Study Area. However, due to drought conditions, the above ground structures of this perennial rhizomatous herb may not have been present even though there is suitable habitat.

Horn's Milk-Vetch (Astragalus hornii var. hornii)

Horn's milk-vetch has a CRPR of 1B.1. This annual herb in the Pea Family (Fabaceae) is native to California, Nevada, and Utah. In the region of the Study Area, Horn's milk-vetch is known to occur in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). Horn's milk-vetch can be found along lake margins and in alkaline soils in Meadows, Seeps, and Playas at an elevation range between approximately 200 and 2,800 feet above msl, and it blooms between May and October (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable soils to support this species; therefore, Horn's milk-vetch is not expected to occur in the Study Area.

San Antonio Milk-Vetch (Astragalus lentiginosus var. antonius)

The San Antonio milk-vetch has a CRPR of 1B.3. This perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the San Antonio milk-vetch is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). San Antonio milk-vetch can be found in Montane coniferous forest at an elevation range between approximately 4,920 and 8,500 feet above msl, and it blooms between April and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable soils and is outside the elevation range to support this species; therefore, the San Antonio milk-vetch is not expected to occur in the Study Area.

Coachella Valley Milk-Vetch (Astragalus lentiginosus var. coachellae)

The Coachella Valley milk-vetch is a federally listed Endangered species that has a CRPR of 1B.2. This annual and perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the Coachella Valley milk-vetch is known to occur in Riverside County (CCH 2015). Coachella Valley milk-vetch can be found in Desert dunes and Sonoran desert scrub in sandy soils at an elevation range between approximately 130 and 2,150 feet above msl, and it blooms between February and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate elevation. However, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the Coachella Valley milk-vetch to be present. This species therefore has a moderate potential to occur in the Study Area.

Big Bear Valley Woollypod (Astragalus leucolobus)

The Big Bear Valley woollypod is an SBNF Watch List species and has a CRPR of 1B.2. This perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the Big Bear Valley woollypod is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The Big Bear Valley woollypod can be found in rocky areas in Lower and upper montane coniferous forest, Pavement pebble plain, and Pinyon and juniper woodland at an elevation range between approximately 5,700 to 9,600 feet above msl, and it blooms between May and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the Study Area is more than 300 meters (984 feet) below the lower limit of the known elevation range; therefore, the Big Bear Valley woollypod is not expected to occur in the Study Area.

Jaeger's Bush Milk-Vetch (*Astragalus pachypus* var. *jaegeri*)

Jaeger's bush milk-vetch is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial sub-shrub in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, Jaeger's bush milk-vetch is known to occur in Kern, Los Angeles, Orange, Riverside, and San Diego Counties (CCH 2015). Jaeger's bush milk-vetch can be found in sandy or rocky soils in Chaparral, Cismontane woodland, Coastal scrub, and Grassland at an elevation range between approximately 1,200 and 3,000 feet above msl, and it blooms between December and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate elevation. This species has high potential to occur within the Study Area. However, due to drought conditions, this species may not have re-sprouted even though suitable habitat is present.

Triple Ribbed Milk-Vetch (*Astragalus tricarinatus*)

The Triple ribbed milk-vetch is a federally listed Endangered species and has a CRPR of 1B.2. This perennial herb in the Pea Family (Fabaceae) is a California-endemic species. In the region of the Study Area, the triple ribbed milk-vetch is known to occur in Riverside and San Bernardino Counties (CCH 2015). Triple ribbed milk-vetch can be found in sandy to gravelly soil in Joshua tree woodland and Sonoran desert scrub at an elevation range between approximately 1,500 and 3,900 feet above msl, and it blooms between February and May (CNPS 2014). The Study Area does provide suitable habitat for this species, in that it has the required soils and is at the appropriate elevation. However, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the triple ribbed milk-vetch to be present. This species therefore has a moderate potential to occur in the Study Area.

San Jacinto Valley Crownscale (*Atriplex coronata* var. *notatior*)

The San Jacinto Valley crownscale is a federally listed Endangered species and has a CRPR of 1B.1. This annual herb in the Goosefoot Family (Chenopodiaceae) is a California-endemic species. In the region of the Study Area, San Jacinto Valley crownscale is known to occur in Riverside County (CCH 2015). The San Jacinto Valley crownscale can be found in alkali soils in Playas, Vernal pools, and mesic Valley and foothill grasslands at an elevation range between approximately 500 and 1,600 feet above msl, and it blooms between April and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the San Jacinto Valley crownscale is not expected to occur in the Study Area.

Coulter's Saltbush (*Atriplex coulteri*)

Coulter's saltbush has a CRPR of 1B.1. This perennial herb in the Goosefoot Family (Chenopodiaceae) is a California-endemic species. In the region of the Study Area, Coulter's saltbush is known to occur in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Coulter's saltbush can be found in alkaline or clay soils in Coastal bluff scrub, Coastal dunes, Coastal scrub, and Valley and foothill grassland at an elevation range between approximately 10 and 1,500 feet above msl, and blooms between March and October (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, Coulter's saltbush is not expected to occur in the Study Area.

Davidson's Saltscale (*Atriplex serenana* var. *davidsonii*)

Davidson's saltscale has a CRPR of 1B.2. This annual herb in the Goosefoot Family (Chenopodiaceae) is a California-endemic species. In the region of the Study Area, Davidson's saltscale is known to occur in Los Angeles, Orange, Riverside, and San Diego Counties (CCH 2015). Davidson's saltscale can be found in alkaline conditions in Coastal bluff scrub and Coastal scrub at an elevation range between approximately 30 and 700 feet above msl, and it blooms between April and October (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, Davidson's saltscale is not expected to occur in the Study Area.

Nevin's Barberry (*Berberis nevinii*)

Nevin's barberry is a federally and State-listed Endangered species and has a CRPR of 1B.1. This evergreen shrub in the Barberry Family (Berberidaceae) is a California-endemic species. In the region of the Study Area, Nevin's barberry is known to occur in Imperial, Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Nevin's barberry can be found in sandy or gravelly soils in Chaparral, Cismontane woodland, Coastal scrub, and Riparian scrub at an elevation range between approximately 900 and 2,700 feet above msl, and it blooms between March and June (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round, and would have been observed during surveys if present; therefore, Nevin's barberry is not expected to occur in the Study Area.

Scalloped Moonwort (*Botrychium crenulatum*)

The scalloped moonwort is an SBNF Sensitive species and has a CRPR of 2B.2. This perennial rhizomatous herb in the Adder's Tongue Family (Ophioglossaceae) is native to Washington, Oregon, California, Idaho, Montana, Wyoming, Nevada, Utah, and Arizona. In the region of the Study Area, the scalloped moonwort is known to occur in San Bernardino County (CCH 2015). Scalloped moonwort can be found in Bogs, Fens, Meadows, Seeps, Marshes, Freshwater swamps, and Montane coniferous forests at an elevation range between approximately 4,200 and 10,800 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable habitat (i.e., Bogs, Fens, Meadows, Seeps, Marshes, Freshwater swamps, and Montane coniferous forests) to support this species; therefore, the scalloped moonwort is not expected to occur in the Study Area.

Thread-Leaved Brodiaea (*Brodiaea filifolia*)

The thread-leaved brodiaea is a federally listed Threatened and State-listed Endangered species that has a CRPR of 1B.1. This perennial cormous herb in the Brodiaea Family (Themidaceae) is a California-endemic species. In the region of the Study Area, the thread-leaved brodiaea is known to occur in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Thread-leaved brodiaea is often found in clay soils in openings in Chaparral, Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, and Vernal pools at an elevation range between approximately 80 and 3,700 feet above msl, and it blooms between March and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the thread-leaved brodiaea is not expected to occur in the Study Area.

Round-Leaved Filaree (*California macrophylla*)

The round-leaved filaree has a CRPR of 1B.1. This annual herb in the Geranium Family (Geraniaceae) is native to California and Oregon. In the region of the Study Area, round-leaved filaree is known to occur in Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The round-leaved filaree can be found in clay soils in Cismontane woodland and Valley and foothill grassland at an elevation range between approximately 50 and 4,000 feet above msl, and it blooms between March and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the round-leaved filaree is not expected to occur in the Study Area.

San Jacinto Mariposa Lily (*Calochortus palmeri* var. *munzii*)

The San Jacinto mariposa lily is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, the San Jacinto mariposa lily is known to occur in Riverside and San Diego Counties (CCH 2015). The San Jacinto mariposa lily can be found in Chaparral, Lower montane coniferous forests, Meadows, and Seeps at an elevation range of approximately 4,000 and 7,200 feet above msl, and it blooms between May and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the Study Area is at the lowest end of the known elevation range; therefore, the San Jacinto mariposa lily has a low potential to occur in the Study Area.

Palmer's Mariposa Lily (*Calochortus palmeri* var. *palmeri*)

Palmer's mariposa lily is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, Palmer's mariposa lily is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). Palmer's mariposa lily can be found in mesic soils in Chaparral, Lower montane coniferous forests, Meadows, and Seeps at an elevation range of approximately 3,280 and 7,800 feet above msl, and it blooms from April to July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the Study Area is at the lowest end of the known elevation range; therefore, Palmer's mariposa lily has a low potential to occur in the Study Area.

Plummer's Mariposa Lily (*Calochortus plummerae*)

Plummer's mariposa lily (*Calochortus plummerae*) is an SBNF Watch List species and has a CRPR of 4.2. This purple-flowered herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, Plummer's mariposa lily can be found in Los Angeles, Orange, Riverside, and San Bernardino Counties (CCH 2015). Plummer's mariposa lily occurs in granitic and rocky soils in Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grasslands, and Lower montane coniferous forests at an elevation range of approximately 330 and 5,500 feet above msl, and it blooms between May and July (CNPS 2014). Approximately 190 individuals were observed from MPs 18 to 22. The specific habitat for Plummer's mariposa lily in the Study Area is on flat to gentle slopes that are generally east-to south-facing. These areas typically have rocky to loamy soils and are dominated by leafy California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*), black sage, red brome, shortpod mustard, chamise, and one-sided blue grass.

White Pygmy-Poppy (*Carbaya candida*)

The white pygmy-poppy is an SBNF Sensitive species and has a CRPR of 4.2. This annual herb in the Poppy Family (Papaveraceae) is a California-endemic species. In the region of the Study Area, the white pygmy-poppy is known to occur in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). The white pygmy-poppy can be found in gravelly, sandy, or granitic soils in Joshua tree woodland, Mojavean desert scrub, and Pinyon and juniper woodland at an elevation range of approximately 2,000 to 4,800 feet above msl, and it blooms from March to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the white pygmy-poppy has high potential to occur in the Study Area. However, due to drought conditions, this species may not have germinated even though suitable habitat is present. Therefore, it may occur in low numbers in the Study Area.

Bristly Sedge (*Carex comosa*)

The bristly sedge has a CRPR of 2B.1. This perennial rhizomatous herb in the Sedge Family (Cyperaceae) is found throughout North America. In the region of the Study Area, the bristly sedge is known to occur in San Bernardino County (CCH 2015). The bristly sedge can be found in Coastal prairie, Marshes and swamp margins, and Grasslands around these margins at an elevation range of approximately 0 to 2,000 feet above msl, and it blooms from May to September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This Study Area does not contain suitable habitat for this species (i.e., Coastal prairie, Marshes and swamp margins); therefore, the bristly sedge is not expected to occur in the Study Area.

Mojave Paintbrush (*Castilleja plagiotoma*)

The Mojave paintbrush is an SBNF Sensitive species and has a CRPR of 4.3. This hemiparasitic perennial herb in the Broomrape Family (Orobanchaceae) is a California-endemic species. In the region of the Study Area, the Mojave paintbrush is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The Mojave paintbrush can be found in Great basin scrub, Lower montane coniferous forests, Joshua tree, and Pinyon and juniper woodland at an elevation range of approximately 1,000 to 8,200 feet above msl, and it blooms from April to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Mojave paintbrush has high potential to occur in the Study Area. However, due to drought conditions, this hemiparasitic perennial herb may not have re-sprouted even though suitable habitat is present.

Emory's Crucifixion-Thorn (*Castela emoryi*)

Emory's crucifixion-thorn has a CRPR of 2B.2. This deciduous shrub in the Simarouba Family (Simaroubaceae) is native to California, Arizona, and Sonora, Mexico. In the region of the Study Area, Emory's crucifixion-thorn is known to occur in Imperial, Riverside, and San Bernardino Counties (CCH 2015). Emory's crucifixion-thorn can be found in Mojavean desert scrub, Playas, and Sonoran desert scrub in gravelly soil at an elevation range of approximately 300 to 2,200 feet above msl, and it blooms from April to October (CNPS 2014). The Study Area does provide suitable habitat for this species. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. This species is easily detectable year-round and would have been observed during surveys if present; therefore, Emory's crucifixion-thorn is not expected to occur in the Study Area.

Payson's Jewel-Flower (*Caulanthus simulans*)

Payson's jewel-flower is an SBNF Sensitive species and has a CRPR of 4.2. This annual herb in the Mustard Family (Brassicaceae) is a California-endemic species. In the region of the Study Area, Payson's jewel-flower is known to occur in Imperial, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Payson's jewel-flower can be found in sandy and granitic soils in Chaparral and Coastal scrub at an elevation range of approximately 300 to 7,200 feet above msl, and it blooms from February to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does contain suitable habitat for this species, but records indicate that the nearest occurrence is over 20 miles away from the nearest boundary of the Study Area (CCH 2015); therefore, Payson's jewel-flower is not expected to occur in the Study Area.

Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)

The smooth tarplant has a CRPR of 1B.1. This annual herb in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the smooth tarplant is known to occur in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The smooth tarplant can be found in Chenopod scrub, Meadows, Seeps, Playas, Riparian woodland, and Grasslands in alkaline soils at an elevation range of approximately 0 to 2,100 feet above msl, and it blooms from April to September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the required soils for this species; therefore, the smooth tarplant has low potential to occur in the Study Area.

Salt Marsh Bird's-Beak (*Chloropyron maritimum* spp. *maritimum*)

The salt marsh bird's-beak is a federally and State-listed Endangered species and has a CRPR of 1B.2. This hemiparasitic annual herb in the Broomrape Family is native to California and Baja California, Mexico. In the region of the Study Area, the salt marsh bird's-beak can be found in Los Angeles, Orange, San Bernardino, and San Diego Counties (CCH 2015). Salt marsh bird's-beak can be found in Coastal dunes, Salt marshes, and Swamps at an elevation range of approximately 0 to 100 feet above msl, and it blooms from May to October (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not support suitable habitat for this species (i.e., Coastal dunes, Salt marshes, and Swamps); therefore, the salt marsh bird's-beak is not expected to occur in the Study Area.

Peninsular Spineflower (*Chorizanthe leptotheca*)

The peninsular spineflower has a CRPR of 4.2. This annual herb in the Buckwheat Family is native to California and Baja California. In the region of the Study Area, the peninsular spineflower can be found in Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The peninsular spineflower can be found in alluvial fans or granitic areas in Chaparral, Coastal scrub, and Lower montane coniferous forests at an elevation range of approximately 1,000 to 6,200 feet above msl, and it blooms from May to August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the peninsular spineflower has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Parry's Spineflower (*Chorizanthe parryi* var. *parryi*)

Parry's spineflower is an SBNF Sensitive species and has a CRPR of 1B.1. This white-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, Parry's spineflower can be found in Los Angeles, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Parry's spineflower occurs in sandy or rocky openings of Chaparral, Coastal scrub, Cismontane woodland, and Valley and foothill grasslands at an elevation range of approximately 900 and 4,000 feet above msl, and it blooms between April and June (CNPS 2014). Approximately 300 individuals were observed near MP 25 and approximately 1,750 individuals were observed near MP 28 southeast of the I-15 and I-215 interchange. The specific habitat for Parry's spineflower in the Study Area consists of flat to slightly sloping land in gravelly soil in areas dominated by hairy yerba santa, chaparral yucca, chamise, red brome, and hairy rat-tail fescue (*Festuca myuros*).

Mojave Spineflower (*Chorizanthe spinosa*)

The Mojave spineflower has a CRPR of 4.2. This annual herb in the Buckwheat Family is a California-endemic species. In the region of the Study Area, the Mojave spineflower can be found in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). The Mojave spineflower can be found in Chenopod scrub, Joshua tree woodland, Playas, and Mojavean desert scrub sometimes in alkaline soils at an elevation range of approximately 20 to 4,300 feet above msl, and it blooms from March to July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the preferred soils for this species; therefore, the Mojave spineflower has moderate potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

White-Bracted Spineflower (*Chorizanthe xanti* var. *leucotheca*)

The white-bracted spineflower is an SBNF Sensitive species and has a CRPR of 1B.2. This white-to pink-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, the white-bracted spineflower is known to occur in Riverside and San Bernardino Counties (CCH 2015). The white-bracted spineflower is found in sandy or gravelly soils in Coastal scrub alluvial fans, Mojavean desert scrub, and Pinyon and juniper woodland at an elevation range of approximately 900 and 4,000 feet above msl, and it blooms from April to June (CNPS 2014). Approximately 150 individuals were observed near MP 25; 75 individuals were observed between MPs 25 and 26; and one individual was observed between MPs 28 and 29. The specific habitat for the white-bracted spineflower in the Study Area consists of flat wash areas dominated by leafy California buckwheat, ripgut brome, hairy yerba santa, and California scale-broom.

Las Animas Colubrina (*Colubrina californica*)

The Las Animas colubrina has a CRPR of 2B.3. This deciduous shrub in the Buckthorn Family (Rhamnaceae) is native to California, Arizona, and Baja California and Sonora, Mexico. In the region of the Study Area, the Las Animas colubrina can be found in Imperial and Riverside Counties (CCH 2015). The Las Animas colubrina can be found in Mojavean and Sonoran desert scrub at an elevation range of approximately 30 to 3,300 feet above msl, and it blooms from April to June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, the Las Animas colubrina is not expected to occur in the Study Area.

Small-Flowered Morning Glory (Convolvulus simulans)

The small flowered morning glory has a CRPR of 4.2. This annual herb in the Morning Glory Family (Convolvulaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the small-flowered morning glory can be found in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The small-flowered morning glory can be found in openings of Chaparral, Coastal scrub, and Valley and foothill grasslands in friable clay soils or serpentine seeps at an elevation range of approximately 100 to 2,300 feet above msl and blooms from March to July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not support habitat for this species due to the lack of required soils; therefore, the small-flowered morning glory is not expected to occur in the Study Area.

Alverson's Foxtail Cactus (Coryphantha alversonii)

Alverson's foxtail cactus has a CRPR of 4.3. This perennial stem succulent in the Cactus Family (Cactaceae) is a California-endemic species. In the region of the Study Area, Alverson's foxtail cactus is known to occur in San Bernardino and Riverside Counties (CCH 2015). Alverson's foxtail cactus can be found in sandy or rocky soils which are typically granitic in Mojavean or Sonoran desert scrub at an elevation range between approximately 250 and 5,000 feet above msl, and it blooms from April to June. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, Alverson's foxtail cactus is not expected to occur in the Study Area.

Peruvian Dodder (Cuscuta obtusiflora var. glandulosa)

The Peruvian dodder has a CRPR rank of 2B.2. This annual parasitic vine in the Morning Glory Family (Convolvulaceae) is native to California, Texas, and Baja California and Sonora, Mexico (CNPS 2014). The Peruvian dodder is not known to occur in the region of the Study Area (CCH 2015). The Peruvian dodder can be found in freshwater Marshes and freshwater swamps at an elevation range between approximately 50 and 920 feet above msl, and it blooms from July to October. The Peruvian dodder was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable habitat to support this species (i.e., freshwater Marshes and freshwater swamps); therefore, the Peruvian dodder is not expected to occur in the Study Area.

Snake Cholla (Cylindropuntia californica var. californica)

The snake cholla has a CRPR of 1B.1. This stem succulent in the Cactus Family (Cactaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the snake cholla is known to occur in Riverside and San Diego Counties (CCH 2015). The snake cholla can be found in Chaparral and Coastal scrub, typically on xeric hillsides at an elevation range between approximately 100 and 500 feet above msl, and it blooms from April to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, the snake cholla is not expected to occur in the Study Area.

Mojave Tarplant (Deinandra mohavensis)

The Mojave tarplant is an SBNF Sensitive and a State-listed Endangered species that has a CRPR of 1B.3. This annual herb in the Sunflower Family (Asteraceae) is a California-endemic

species. It was believed to be extinct, but was rediscovered in 1994 in the San Jacinto Mountains (CNPS 2014). In the region of the Study Area, the Mojave tarplant is known to occur in Kern, San Bernardino, Riverside, and San Diego Counties. The Mojave tarplant can be found in mesic areas in Chaparral, Coastal scrub, and Riparian scrub at an elevation range between approximately 2,100 and 5,300 feet above msl, and it blooms from May to January. The Mojave tarplant was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat; however, the single known occurrence is over 25 miles away from the nearest boundary to the Study Area; therefore, the Mojave tarplant is not expected to occur in the Study Area.

Paniculate Tarplant (Deinandra paniculata)

The paniculate tarplant has a CRPR of 4.2. This annual herb in the Sunflower Family (Asteraceae) is native to California and Baja California, Mexico. In the region of the Study Area, the paniculate tarplant is known to occur in Los Angeles, Riverside, Orange, and San Diego Counties (CCH 2015). The paniculate tarplant is usually found in vernal mesic soils in Coastal scrub, Valley and foothill grassland, and Vernal pools at an elevation range between approximately 80 and 3,100 feet above msl, and it blooms from April to November. The paniculate tarplant was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the paniculate tarplant has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

California Ditaxis (Ditaxis serrata var. californica)

The California ditaxis has a CRPR of 3.2. This white-flowered perennial herb in the Spurge Family (Euphorbiaceae) is native to California and Sonora, Mexico. In the region of the Study Area, the California ditaxis can be found in Riverside and San Diego Counties (CCH 2015). The California ditaxis occurs in sandy soil in scrub habitats in the Mojave and Sonoran deserts at an elevation between approximately 0 and 1,500 feet above msl, and it blooms between March and December (CNPS 2014). One individual was observed to the east of the Desert Center Compression Station. Numerous individuals of the non-special status serrated silverbush, a taxon which co-occurs with and closely resembles the special status taxon, were observed around the station as well. The specific habitat for the California ditaxis in the Study Area consists of flat terrain in a moderately disturbed area dominated by white-bur-sage, creosote bush, and rattlesnake spurge (*Euphorbia melanadenia*).

Slender-Horned Spineflower (Dodecahema leptoceras)

The slender-horned spineflower is a federally and State-listed Endangered species and has a CRPR of 1B.1. This white-flowered annual herb in the Buckwheat Family (Polygonaceae) is a California-endemic species. In the region of the Study Area, the slender-horned spineflower can be found in Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The slender-horned spineflower is found in sandy soils in Chaparral, Cismontane woodland, and alluvial fan Coastal scrub at an elevation range of approximately 650 to 2,500 feet above msl, and it blooms from April to June (CNPS 2014). Approximately 30 individuals were observed near MP 25 occurring approximately 60 feet outside the Study Area. The specific habitat for the slender-horned spineflower near the Study Area consists of an instream island of the Cajon Wash with sandy soil that is darker in color than surrounding soil. The habitat is dominated by redstem filaree, red brome, wild oat, leafy California buckwheat, and cane cholla. The Study Area does support suitable habitat for this species; however, it is expected to be limited to sandy soils in Cajon Wash and Santa Ana River. The slender-horned spineflower has high potential to occur in the Study

Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Santa Ana River Woollystar (Eriastrum densifolium ssp. sanctorum)

The Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*) is federally and State-listed Endangered species and has a CRPR of 1B.1. This blue-flowered, long-lived perennial herb in the Phlox Family (Polemoniaceae) is a California-endemic species. In the region of the Study Area, the Santa Ana River woollystar can be found in Orange, Riverside, and San Bernardino Counties (CCH 2015). The Santa Ana River woollystar occurs in sandy to gravelly soil in Chaparral, Coastal scrub, and alluvial fans and drainages at an elevation range of approximately 300 and 2,000 feet above msl, and it blooms between April and September (CNPS 2014). Near MP 45 in the Santa Ana River Wash (in between the Tippecanoe Avenue Bridge and Mountain View Avenue), 134 individuals were observed in 15 locations. The specific habitat for the Santa Ana River woollystar in the Study Area is on flat in-channel islands in the Santa Ana River Wash in sandy soil dominated by leafy California buckwheat, deerweed, mule fat, upright sessileflower false goldenaster, California croton, and Fremont cottonwood. Within the Study Area, this species is not expected to occur outside of the Santa Ana River.

Vanishing Wild Buckwheat (Eriogonum evanidum)

The vanishing wild buckwheat is an SBNF Sensitive species and has a CRPR of 1B.1. This annual herb in the Buckwheat Family (Polygonaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the vanishing wild buckwheat is known to occur in San Bernardino, Riverside, and San Diego Counties (CCH 2015). The vanishing wild buckwheat can be found in sandy or gravelly soils in Chaparral, Cismontane woodland, Lower montane coniferous forest, and Pinyon and juniper woodland at an elevation range between approximately 3,600 and 7,300 feet above msl, and it blooms from July to October. The vanishing wild buckwheat was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it occurs at the lowest end of this species' elevation range; therefore, the vanishing wild buckwheat has a low potential to occur in the Study Area.

Cliff Spurge (Euphorbia misera)

The cliff spurge has a CRPR of 2B.2. This perennial shrub in the Spurge Family (Euphobiaceae) is native to California and Isla Guadalupe, Baja California, Mexico. In the region of the Study Area, the cliff spurge is known to occur in Los Angeles, Riverside, Orange, and San Diego Counties (CCH 2015). The cliff spurge can be found in rocky areas in Coastal bluff scrub, Coastal scrub, and Mojavean desert scrub at an elevation range between approximately 30 and 1,640 feet above msl, and it blooms from December to October. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, the cliff spurge is not expected to occur in the Study Area.

Hot Springs Fimbristylis (Fimbristylis thermalis)

The Hot Springs fimbristylis as a CRPR of 2B.2. The perennial rhizomatous herb in the Sedge Family (Cyperaceae) is native to California and western North America, including Arizona and Nevada. In the region of the Study Area, the Hot Springs fimbristylis is known to occur in Los Angeles, Kern, and San Bernardino Counties (CCH 2015). The Hot Springs fimbristylis can be found in alkaline soils near hot springs in Meadows and seeps at an elevation range between approximately 360 and 4,400 feet above msl, and it blooms from July to September. The Hot

Springs fimbriatilis was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not support suitable soils and habitat (i.e., hot springs in Meadows and seeps) for this species; therefore, the Hot Springs fimbriatilis is not expected to occur in the Study Area.

San Antonio Canyon Bedstraw (*Galium angustifolium* ssp. *gabrielense*)

The San Antonio Canyon bedstraw is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Madder Family (Rubiaceae) is a California-endemic species. In the region of the Study Area, the San Antonio Canyon bedstraw is known to occur in Los Angeles and San Bernardino Counties (CNPS 2014). The San Antonio Canyon bedstraw can be found in granitic, sandy, or rocky soil in Chaparral and Lower montane coniferous forest at an elevation range between approximately 4,000 and 8,700 feet above msl, and it blooms from April to August. The San Antonio Canyon bedstraw was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is at the lowest part of this species elevation range; therefore, the San Antonio Canyon bedstraw has low potential to occur in the Study Area.

Alvin Meadow Bedstraw (*Galium californicum* ssp. *primum*)

The Alvin Meadow bedstraw is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial herb in the Madder Family (Rubiaceae) is a California-endemic species. In the region of the Study Area, the Alvin Meadow bedstraw is known from only four occurrences in San Bernardino and Riverside Counties (CNPS 2014). The Alvin Meadow bedstraw can be found in granitic to sandy soil in Chaparral and Lower montane coniferous forests at an elevation range between approximately 4,400 and 5,600 feet above msl, and it blooms from May to July. The Alvin Meadow bedstraw was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but the sole occurrence in the region is over 100 years old; therefore, the Alvin Meadow bedstraw is not expected to occur in the Study Area.

Johnston's Bedstraw (*Galium johnstonii*)

Johnston's bedstraw is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Madder Family (Rubiaceae) is a California-endemic species. In the region of the Study Area, Johnston's bedstraw is known to occur in Los Angeles, San Bernardino, and Riverside Counties; the reported occurrences in San Diego County date back to 1927 (CCH 2015). Johnston's bedstraw can be found in Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, and Riparian woodland at an elevation range between approximately 4,000 and 7,500 feet above msl, and it blooms from June to July. Johnston's bedstraw was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but the elevation range is at the lowest level for this species; therefore, Johnston's bedstraw has low potential to occur in the Study Area.

Los Angeles Sunflower (*Helianthus nuttallii* ssp. *parishii*)

The Los Angeles sunflower has a CRPR of 1A. This perennial rhizomatous herb in the Sunflower Family (Asteraceae) is native to California and believed to be extinct. In the region of the Study Area, the Los Angeles sunflower was known to occur in Los Angeles, San Bernardino, and Orange Counties; it was last seen in 1937 (CNPS 2014). The Los Angeles sunflower was found in Coastal salt marsh and freshwater Marshes and freshwater swamps at an elevation range between approximately 30 and 5,500 feet above msl; it blooms from August to October. The Los Angeles sunflower was not observed in the Study Area during focused surveys, which were

conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is considered extinct; therefore, the Los Angeles sunflower is not expected to occur in the Study Area.

Urn-Flowered Alumroot (Heuchera caespitosa)

The urn-flowered alumroot is an SBNF Sensitive species and has a CRPR of 4.3. This perennial rhizomatous herb in the Saxifrage Family (Saxifragaceae) is a California-endemic species. In the region of the Study Area, the urn-flowered alumroot is known to occur in Los Angeles, Kern, and Riverside Counties (CCH 2015). The urn-flowered alumroot can be found in rocky soil in Montane riparian forest, Cismontane woodland, and Lower and upper montane coniferous forest at an elevation range between approximately 3,800 and 8,700 feet above msl, and it blooms from May to August. The urn-flowered alumroot was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is at the lowest end of this species' elevation range; therefore, the urn-flowered alumroot has low potential to occur in the Study Area.

Shaggy-Haired Alumroot (Heuchera hirsutissima)

The shaggy-haired alumroot is an SBNF Sensitive species and has a CRPR of 1B.3. This perennial rhizomatous herb in the Saxifrage Family (Saxifragaceae) is a California-endemic species. In the region of the Study Area, the shaggy-haired alumroot is known to occur in Riverside County, and there is one record in San Bernardino County dating to 1982 (CCH 2015). The shaggy-haired alumroot can be found on rocky to granitic soils in Upper and subalpine coniferous forests at an elevation range between approximately 5,000 to 11,500 feet above msl, and it blooms from May to July. Shaggy-haired alumroot was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable habitat that meets the elevation requirement for this species; therefore, the shaggy-haired alumroot is not expected to occur in the Study Area.

Parish's Alumroot (Heuchera parishii)

Parish's alumroot is an SBNF Sensitive species and has a CRPR of 1B.3. This perennial rhizomatous herb in Saxifrage Family (Saxifragaceae) is a California-endemic species. In the region of the Study Area, Parish's alumroot is known to occur in San Bernardino County; there is one record in Riverside County dating to 1932 (CCH 2015). Parish's alumroot can be found in rocky and sometimes carbonate soils in Coniferous forests and Alpine boulder and rock fields at an elevation range between approximately 5,000 and 12,500 feet above msl, and it blooms from June to August. Parish's alumroot was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable habitat that meets the elevation requirement for this species; therefore, Parish's alumroot is not expected to occur in the Study Area.

Vernal Barley (Hordeum intercedens)

The vernal barley has a CRPR of 3.2. This annual herb in the Grass Family (Poaceae) is native to California and is also found elsewhere in North America and beyond including Baja California, Mexico. In the region of the Study Area, it is known to occur in Los Angeles, Kern, Riverside, Orange, and San Diego Counties (CCH 2015). The vernal barley can be found in Coastal dunes, Coastal scrub, saline flats and depressions in Valley and foothill grassland, and Vernal pools at an elevation range between approximately 20 and 3,300 feet above msl, and it blooms from March to June. The vernal barley was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support

limited suitable habitat for this species, but these areas are heavily infested by non-native species and degraded by erosion; therefore, the vernal barley has low potential to occur in the Study Area.

Mesa Horkelia (Horkelia cuneata var. puberula)

The mesa horkelia is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial herb in the Rose Family (Rosaceae) is a California-endemic species. In the region of the Study Area, the mesa horkelia is known to occur in Los Angeles, San Bernardino, and San Diego Counties (CCH 2015). The mesa horkelia can be found in sandy and gravelly soils in Maritime chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 230 and 2,700 feet above msl, and it blooms from February to September. The mesa horkelia was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the mesa horkelia has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted and may not have developed even though suitable habitat is present.

California Satintail (Imperata brevifolia)

The California satintail is an SBNF Sensitive species and has a CRPR of 2B.1. This perennial rhizomatous herb in the Grass Family (Poaceae) is native to California and western North America. The California satintail can be found in mesic soils in Chaparral, Coastal scrub, Mojavean desert scrub, Riparian scrub, Meadows, and Seeps (often alkali) at an elevation between sea level and 4,000 feet above msl, and it blooms from September to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but the required soils are degraded by erosion; therefore, the California satintail has moderate potential to occur in the Study Area.

Southern California Black Walnut (Juglans californica)

The Southern California black walnut is an SBNF Watch List species and has a CRPR of 4.2. This catkin-flowered tree in the Walnut Family (Juglandaceae) is a California-endemic species. In the region of the Study Area, the Southern California black walnut can be found in Kern, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The Southern California black walnut occurs in alluvial areas in Chaparral, Cismontane woodland, and Coastal scrub at an elevation range between approximately 160 and 3,000 feet above msl, and it blooms from March to August (CNPS 2014). Eight individuals were observed between MPs 25 and 26; three individuals were observed between MPs 42 and 43; three individuals were observed near MP 45; and three individuals were observed near MP 59. The specific habitat for the Southern California black walnut in the Study Area consists of generally flat ground in relatively disturbed areas or adjacent to riparian washes with some co-occurring shrubs such as California sagebrush, hairy yerba santa, leafy California buckwheat, and deerweed with an understory of non-native herbs including red brome, ripgut brome, and redstem filaree.

Coulter's Goldfields (Lasthenia glabrata ssp. coulteri)

Coulter's goldfields has a CRPR of 1B. This annual herb in the Sunflower Family (Asteraceae) is native to California and Baja California, Mexico. In the region of the Study Area, Coulter's goldfields is known to occur in Los Angeles, Riverside, and Orange Counties. Coulter's goldfields can be found in Coastal salt marshes, Coastal salt swamps, Playas, and Vernal pools at an elevation range between approximately 3 and 4,000 feet above msl, and it blooms from February to June. Coulter's goldfields was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide habitat that is

suitable to support this species (i.e., Coastal salt marshes, Coastal salt swamps, Playas, and Vernal pools); therefore, Coulter's goldfields is not expected to occur in the Study Area.

Fragrant Pitcher Sage (Lepechinia fragrans)

The fragrant pitcher sage is an SBNF Sensitive species and has a CRPR of 4.2. This perennial herb in the Mint Family (Lamiaceae) is a California-endemic species. In the region of the Study Area, the fragrant pitcher sage is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The fragrant pitcher sage can be found in Chaparral at an elevation range between approximately 70 and 4,300 feet above msl, and it blooms from March to October. The fragrant pitcher sage was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, the fragrant pitcher sage has high potential to occur in the Study Area. However, due to drought conditions, of this perennial herb may not have re-sprouted even though suitable habitat is present.

Robinson's Pepper-Grass (Lepidium virginicum var. robinsonii)

Robinson's pepper-grass is an SBNF Watch List species and has a CRPR of 4.3. This annual herb in the Mustard Family (Brassicaceae) is native to California and Baja California. In the region of the Study Area, Robinson's pepper-grass is known to occur in Los Angeles, Kern, San Bernardino, Riverside, Orange, and San Diego Counties (CCH 2015). Robinson's pepper-grass can be found in openings in Chaparral and Sage scrub at an elevation range between sea level and 2,900 feet above msl, and it blooms from January to July. Robinson's pepper-grass was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, Robinson's pepper-grass has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Ocellated Humboldt Lily (Lilium humboldtii ssp. ocellatum)

The ocellated Humboldt lily is an SBNF Watch List species and has a CRPR of 4.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is a California-endemic species. In the region of the Study Area, the ocellated Humboldt lily is known to occur in Kern, Los Angeles, San Bernardino, Orange, and San Diego Counties (CCH 2015). The ocellated Humboldt lily can be found in openings in Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, and Riparian woodland at an elevation range between approximately 100 and 5,900 feet above msl, and it blooms from March to August. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the ocellated Humboldt lily has high potential to occur in the Study Area. However, due to drought conditions, this bulbiferous herb may not have re-sprouted even though suitable habitat is present.

Lemon Lily (Lilium parryi)

The lemon lily is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial bulbiferous herb in the Lily Family (Liliaceae) is native to California, Arizona, and Sonora, Mexico. In the region of the Study Area, the lemon lily is known to occur in Los Angeles, San Bernardino, and Riverside Counties (CCH 2015). The lemon lily can be found in mesic areas in Upper and lower montane coniferous forest, Meadows and seeps, and Riparian forest at an elevation range between approximately 4,000 and 9,000 feet above msl, and it blooms from July to August. This species was not observed during focused surveys, which were conducted pursuant to protocols

established by the CDFW. The Study Area does not provide suitable mesic habitat to support this species; therefore, the lemon lily is not expected to occur in the Study Area.

Little San Bernardino Mountains Linanthus (Linanthus maculatus)

The Little San Bernardino Mountains linanthus is an SBNF Watch List species and has a CRPR of 1B.2. This annual herb in the Phlox Family (Polemoneaceae) is a California-endemic species. In the region of the Study Area, the Little San Bernardino Mountains linanthus is known to occur in San Bernardino, Riverside, and Imperial Counties (CCH 2015). The Little San Bernardino Mountains linanthus can be found on sandy soils in Desert dunes, Joshua tree woodland, Mojavean desert scrub, and Sonoran desert scrub at an elevation range between approximately 640 and 6,800 feet above msl, and it blooms from March to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Little San Bernardino Mountains linanthus has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Sagebrush Loeflingia (Loeflingia squarrosa var. artemisiarum)

The sagebrush loeflingia has a CRPR of 2B.2. This annual herb in the Pink Family (Caryophyllaceae) is native to California and western North America. In the region of the Study Area, the sagebrush loeflingia is known to occur in Los Angeles, Kern, San Bernardino, Riverside, and San Diego Counties (CCH 2015). The sagebrush loeflingia can be found on sandy soil in Desert dunes, Great basin scrub, and Sonoran desert scrub at an elevation range between approximately 2,300 and 5,300 feet above msl, and it blooms from April to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but the required soils are of marginal quality due to erosion and high occurrences of non-native weeds; therefore, the sagebrush loeflingia has low potential to occur in the Study Area.

Parish's Desert-Thorn (Lycium parishii)

Parish's desert-thorn has a CRPR of 2B.3. This perennial shrub in the Nightshade Family (Solanaceae) is native to California, Arizona and Sonora, Mexico. In the region of the Study Area, Parish's desert-thorn is known to occur in San Bernardino, Imperial and San Diego Counties. Parish's desert-thorn can be found in Coastal scrub and Sonoran desert scrub at an elevation range between approximately 1,000 and 3,280 feet above msl, and it blooms from March to April. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, Parish's desert-thorn is not expected to occur in the Study Area.

Parish's Bush-Mallow (Malacothamnus parishii)

Parish's bush-mallow has a CRPR of 1A. This deciduous shrub in the Mallow Family is a California-endemic species and is believed to be extinct. In the region of the Study Area, Parish's bush-mallow is known to occur in San Bernardino County (CNPS 2014). Parish's bush-mallow can be found in Chaparral and Coastal scrub at an elevation range between approximately 1,000 and 1,500 feet above msl, and it blooms between June and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species,

but this species was only observed once in 1895 (CNPS 2014); therefore, Parish's bush-mallow is not expected to occur in the Study Area and is believed to be extirpated from this area.

Spiny-Hair Blazing Star (Mentzelia tricuspis)

The spiny-hair blazing star has a CRPR of 2B.1. This annual herb in the Loasa Family (Loasaceae) is native to California, Nevada, Utah, and Arizona. In the region of the Study Area, the spiny-hair blazing star is known to occur in Imperial, Kern, Riverside, and San Bernardino Counties (CCH 2015). Spiny-hair blazing star can be found in Mojavean desert scrub in sandy or gravelly slopes and washes at an elevation range between approximately 500 and 4,200 feet above msl, and it blooms between March and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the spiny-hair blazing star has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Johnston's Monkeyflower (Mimulus johnstonii)

Johnston's monkeyflower has a CRPR of 4.3. This annual herb in the Lopseed Family (Phrymaceae) is a California-endemic species. In the region of the Study Area, Johnston's monkeyflower is known to occur in Kern, Los Angeles, and San Bernardino Counties (CCH 2015). Johnston's monkeyflower can be found in Lower montane coniferous forest in scree, disturbed areas, roadsides, and rocky to gravelly soils at an elevation range of approximately 3,200 to 9,600 feet above msl, and it blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the suitable substrate (i.e., lower montane coniferous forest) to support the species; therefore, Johnston's monkeyflower is not expected to occur in the Study Area.

Jokerst's Monardella (Monardella australis ssp. jokerstii)

Jokerst's monardella is an SBNF Sensitive species and has a CRPR of 1B.1. This perennial rhizomatous herb in the Mint Family is a California-endemic species. In the region of the Study Area, Jokerst's monardella is known to occur in San Bernardino and Riverside Counties (CCH 2015). Jokerst's monardella can be found in steep scree or talus slopes between breccia and in secondary alluvial benches along drainages and washes at an elevation range between approximately 4,400 and 5,700 feet above msl, and it blooms between July and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide the suitable elevation requirement for this species; therefore, Jokerst's monardella is not expected to occur in the Study Area.

Pringle's Monardella (Monardella pringlei)

Pringle's monardella has a CRPR of 1A. This annual herb in the Mint Family is a California-endemic species and is believed to be extinct. In the region of the Study Area, Pringle's monardella was known to occur in Riverside and San Bernardino Counties (CCH 2015). Pringle's monardella was previously found in Coastal scrub at an elevation range between approximately 1,000 and 1,300 feet above msl; it bloomed between May and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is considered extinct; therefore, Pringle's monardella is not expected in the Study Area.

Rock Monardella (*Monardella saxicola*)

The rock monardella is an SBNF Sensitive species and has a CRPR of 4.2. This perennial rhizomatous herb in the Mint Family is a California-endemic species. In the region of the Study Area, the rock monardella is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The rock monardella can be found in Chaparral or Closed-cone and lower montane coniferous forests in rocky, usually serpentine, soils at an elevation range of approximately 1,640 to 5,900 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide preferred soils to support this species; therefore, the rock monardella has only a low potential to occur in the Study Area.

California Muhly (*Muhlenbergia californica*)

The California muhly is an SBNF Watch List species and has a CRPR of 4.3. This perennial rhizomatous herb in the Grass Family is a California-endemic species. In the region of the Study Area, the California muhly is known to occur in Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). The California muhly can be found in Seeps and Streambeds in mesic soils at an elevation range from approximately 330 to 6,560 feet above msl, and it blooms between June and September (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide preferred soils to support this species; therefore, the California muhly has only low potential to occur in the Study Area.

Crowned Muilla (*Muilla coronata*)

The crowned muilla is an SBNF Watch List species and has a CRPR of 4.2. This perennial cormous herb in the Brodiaea Family is native to California and Nevada. In the region of the Study Area, the crowned muilla is known to occur in Kern, Los Angeles, Riverside, and San Bernardino Counties (CCH 2015). Crowned muilla can be found in Chenopod scrub, Mojavean desert scrub, Joshua tree, and Pinyon and juniper woodland at an elevation range from approximately 2,500 to 6,400 feet above msl, and it blooms between March and May (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the crowned muilla has high potential to occur in the Study Area. However, due to drought conditions, this perennial cormous herb may not have re-sprouted even though suitable habitat is present.

Little Mousetail (*Myosurus minimus* ssp. *apus*)

The little mousetail has a CRPR of 3.1. This annual herb in the Buttercup Family (Ranunculaceae) is native to California, Oregon, and Baja California, Mexico. In the region of the Study Area, the little mousetail is known to occur in Kern, Riverside, San Bernardino, and San Diego Counties (CCH 2015). The little mousetail can be found in alkaline Vernal pools and adjacent grasslands at an elevation range from approximately 70 to 2,100 feet above msl, and it blooms between March and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable wetland habitat to support this species; therefore, the little mousetail is not expected to occur in the Study Area.

Mud Nama (Nama stenocarpum)

The mud nama has a CRPR of 2B.2. This semi-perennial herb in the Borage Family (Boraginaceae) is native to California, Arizona, Texas, and Baja California and Sonora, Mexico. In the region of the Study Area, the mud nama is known to occur in Imperial, Los Angeles, Orange, Riverside, and San Diego Counties (CCH 2015). The mud nama can be found in Marshes, Swamps, Riverbanks, and Lake margins at an elevation range from approximately 20 to 1,640 feet above msl, and it blooms between January and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable wetland habitat to support this species; therefore, the mud nama is not expected to occur in the Study Area.

Gambel's Water Cress (Nasturtium gambelii)

Gambel's water cress is a federally listed Endangered species, a State-listed Threatened species, and has a CRPR of 1B.1. This perennial rhizomatous herb in the Mustard Family (Brassicaceae) is a California-endemic species. In the region of the Study Area, Gambel's water cress is known from Los Angeles and San Bernardino Counties, although the occurrences are historical dating from 1882 to 1910 (CCH 2015). Gambel's water cress can be found in freshwater or brackish Marshes and swamps at an elevation range between approximately 20 and 1,100 feet above msl, and it blooms from April to October. This species was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable wetland habitat to support this species; therefore, Gambel's water cress is not expected to occur in the Study Area.

Slender Cottonheads (Nemacaulis denudata var. gracilis)

The slender cottonheads has a CRPR of 2B.2. This annual herb in the Buckwheat Family (Polygonaceae) is native to California, Arizona, and Baja California and Sonora, Mexico. In the region of the Study Area, the slender cottonheads is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties, although there are reported occurrences in Los Angeles County between 1901 and 1905. The slender cottonheads can be found on Coastal dunes, Desert dunes, and Sonoran desert scrub at an elevation range between approximately 30 and 1,600 feet above msl, and it blooms from March to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species only at the Whitewater Pressure Limiting Station, but the station is approximately 300 feet above its known elevation range. In addition, the habitat present is degraded by a dominance of invasive non-native plant species, reducing the potential for the slender cottonheads to be present. Therefore, the slender cottonheads has low potential to occur in the Study Area.

Short-Joint Beavertail (Opuntia basilaris var. brachyclada)

The short-joint beavertail is an SBNF Sensitive species and has a CRPR of 1B.2. This magenta-flowered succulent shrub in the Cactus Family (Cactaceae) is a California-endemic species. In the region of the Study Area, the short-joint beavertail can be found in Los Angeles and San Bernardino Counties (CCH 2015). The short-joint beavertail occurs in Chaparral, Mojavean desert scrub, Joshua tree woodland, and Pinyon and juniper woodland at an elevation range between approximately 1,400 and 5,900 feet above msl, and it blooms from April to August (CNPS 2014). Using *Short-Joint Beavertail Cactus Identification for TRTP 2010 Botanical Surveys* (ICF 2010) as a guide, it was determined that nearly all observations of beavertail cactus are a hybrid between the special status taxon (*Opuntia basilaris var. brachyclada*) and the common taxon (*Opuntia basilaris var. basilaris*). As such, the hybrid populations were treated conservatively and

were determined to be the special status taxon. Numerous populations were observed roughly from MPs 12 to 22, although some populations of the common taxon occur. The total number of short-joint beavertail cactus individuals in the Study Area is estimated to be 100. The specific habitat for the short-jointed beavertail cactus consists of northeast- to east-facing sandy to gravelly, slight to moderate slopes (near MP 13) and gentle south-facing slopes in sandy to gravelly soil or relatively flat areas of granitic gravelly soil (between MPs 15 and 22). This species is readily observable and no additional occurrences are expected within the Study Area. These areas also include the following species: bristly fiddleneck (*Amsinckia tessellata*), round-nut pectocarya, red brome, chamise, burned Tucker's oak, desert needle grass, chaparral woollystar, chaparral yucca, leafy California buckwheat, Mediterranean schismus, interior goldenbush, and hairy yerba santa.

Rock Creek Broomrape (*Orobanche valida* ssp. *valida*)

The Rock Creek broomrape is an SBNF Sensitive species and has CRPR of 1B.2. This perennial parasitic herb in the Broom-Rape Family (Orobanchaceae) is a California-endemic species. In the region of the Study Area, the Rock Creek broomrape is known to occur in Los Angeles and San Bernardino Counties (CCH 2015). The Rock Creek broomrape can be found on granitic soils in Chaparral and Pinyon and juniper woodland and is an obligate parasite on Fremont's silk tassel (*Garrya fremontii*). It occurs at an elevation range between approximately 4,100 and 6,560 feet above msl and blooms from May to September. This species and its host plant were not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; however, this species' host plant is easily detectable year-round and would have been observed during surveys if present; therefore, the Rock Creek broomrape is not expected to occur in the Study Area.

Beaver Dam Breadroot (*Pedimelum castoreum*)

The Beaver Dam breadroot has a CRPR of 1B. This perennial herb in the Legume Family (Fabaceae) is native to California and western North America. In the region of the Study Area, the Beaver Dam breadroot is known to occur in San Bernardino County (CCH 2015). The Beaver Dam breadroot can be found in sandy washes and roadcuts in Joshua tree woodland and Mojavean desert scrub at an elevation range between approximately 2,000 and 5,000 feet above msl, and it blooms from April to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Beaver Dam breadroot has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Desert Beardtongue (*Penstemon pseudospectabilis* ssp. *pseudospectabilis*)

The desert beardtongue has a CRPR of 2B.2. This perennial herb in the Plantain Family (Plantaginaceae) is native to California. In the region of the Study Area, the desert beardtongue is known to occur in San Bernardino, Riverside, and Imperial Counties. Desert beardtongue can be found on sandy, sometimes rocky, washes in Mojavean and Sonoran desert scrub at an elevation range between approximately 260 and 6,300 feet above msl, and it blooms from January to May. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Desert Center Compressor Station is the only portion of the Study Area within 18 miles of a known population of this species (CCH 2015). The required habitat (i.e., washes) is not found in this area; therefore, the desert beardtongue is not expected to occur in the Study Area.

Parish's Phacelia (*Phacelia parishii*)

Parish's phacelia has a CRPR of 1B.1. This annual herb in the Borage Family (Boraginaceae) is native to California and Nevada. In the region of the Study Area, Parish's phacelia is known to occur in San Bernardino and Riverside Counties (CCH 2015). Parish's phacelia can be found on clay or alkaline soils in Playas and Mojavean desert scrub at an elevation range between approximately 1,800 and 4,000 feet above msl, and it blooms from April to July (CNPS 2014). Parish's phacelia was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide habitat suitable to support the species, but the nearest extant record of this species is over 30 miles northeast of the Study Area; therefore, Parish's phacelia is not expected to occur in the Study Area.

Woolly Chaparral-Pea (*Pickeringia montana* var. *tomentosa*)

The woolly chaparral-pea has a CRPR of 4.3. This evergreen shrub in the Legume Family (Fabaceae) is a California-endemic. In the region of the Study Area, the woolly chaparral-pea is known to occur in San Bernardino, Riverside, Orange, and San Diego Counties, although there is one record from Los Angeles County that dates to 1889 (CCH 2015). The woolly chaparral-pea can be found on gabbroic, granitic, or clay soils in Chaparral at an elevation range between approximately 0 and 5,600 feet above msl, and it blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but this species is easily detectable year-round and would have been observed during surveys if present; therefore, the woolly chaparral-pea is not expected to occur in the Study Area.

Bear Valley Popcornflower (*Plagiobothrys collinus* var. *ursinus*)

The Bear Valley popcornflower is an SBNF Sensitive species. This annual herb in the Borage Family (Boraginaceae) is native to California and western North America. In the region of the Study Area, the Bear Valley popcornflower is known to occur in San Bernardino, Riverside and San Diego Counties (CCH 2015). The Bear Valley popcornflower can be found on Sandy to gravelly soils in open conifer forest at an elevation range between approximately 3,600 and 7,870 feet above msl, and it likely blooms between March and June (Baldwin et al. 2012). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Bear Valley popcornflower has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

San Gabriel Oak (*Quercus durata* var. *gabrielensis*)

The San Gabriel oak has a CRPR of 4.2. This catkin-flowered shrub in the Oak Family (Fagaceae) is a California-endemic species. In the region of the Study Area, the San Gabriel oak can be found in Los Angeles and San Bernardino Counties (CCH 2015). The San Gabriel oak occurs in Chaparral and Cismontane woodland at an elevation range between approximately 1,500 and 3,300 feet above msl, and it blooms between April and May (CNPS 2014). Four individuals were observed between MPs 21 and 22. The specific habitat for the San Gabriel oak in the Study Area is on west-facing slopes in loamy soil dominated by black sage, western poison oak, hoary leaf ceanothus (*Ceanothus crassifolius*), fruitful interior live oak (*Quercus wislizeni* var. *frutescens*), and leafy California buckwheat.

Shrub Live Oak (*Quercus turbinella*)

The shrub live oak has a CRPR of 4.3. This evergreen shrub in the Oak Family (Fagaceae) is native to California and is also found in western North America. In the region of the Study Area, the shrub live oak is known to occur in Los Angeles, Kern, San Bernardino, Riverside, Imperial, and San Diego Counties (CCH 2015). The shrub live oak can be found in Chaparral, Cismontane and Pinyon and juniper woodland, and Lower montane coniferous forest at an elevation range between approximately 3,940 and 6,560 feet above msl, and it blooms between April and June (CNPS 2014). This species was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is easily detectable year-round and would have been observed during surveys if present; therefore, the shrub live oak is not expected to occur in the Study Area.

Parish's Gooseberry (*Ribes divaricatum* var. *parishii*)

Parish's gooseberry has a CRPR of 1A. This deciduous shrub in the Gooseberry Family (Grossulariaceae) is a California-endemic and is believed to be extinct. In the region of the Study Area, Parish's gooseberry was known to occur in Los Angeles and San Bernardino Counties (CCH 2015). It was last seen in 1980 at Whittier Narrows Nature Center in Los Angeles County. Parish's gooseberry was previously found in Riparian woodland at an elevation range between approximately 210 to 1,000 feet above msl; it bloomed between February and April (CNPS 2014). This species was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species, but it is easily detectable year-round and would have been observed during surveys if present; therefore, Parish's gooseberry is not expected to occur in the Study Area.

Coulter's Matilija Poppy (*Romneya coulteri*)

Coulter's matilija poppy has a CRPR of 4.2. This white-flowered perennial herb in the Poppy Family (Papaveraceae) is native to California and Baja California, Mexico. In the region of the Study Area, Coulter's matilija poppy can be found in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties (CCH 2015). Coulter's matilija poppy occurs in Chaparral and Coastal scrub habitats, often in burned areas, at an elevation range between approximately 65 and 4,000 feet above msl, and it blooms between March and July (CNPS 2014). Approximately 100 individuals were observed in the Study Area near MP 27. The specific habitat for Coulter's matilija poppy in the Study Area consists of a roadside stand at the top of a steep east-facing slope dominated by deerweed (*Acmispon glaber* var. *glaber*), California sagebrush, tarragon sagebrush (*Artemisia dracunculus*), hairy yerba santa, and California everlasting (*Pseudognaphalium californicum*).

Black Bog-Rush (*Schoenus nigricans*)

The black bog-rush is an SBNF Sensitive species and has a CRPR of 2B.2. This perennial herb in the Sedge Family (Cyperaceae) is native to California and is also found elsewhere in North America and beyond. In the region of the Study Area, the black bog-rush is known to occur in San Bernardino County (CCH 2015). The black bog-rush can be found in Marshes and Swamps that are often alkaline at an elevation range between approximately 490 and 6,560 feet above msl, and it blooms between August and September (CNPS 2014). The black bog-rush was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable alkaline wetland habitat to support this species; therefore, the black bog-rush is not expected to occur in the Study Area.

Desert Spike-Moss (*Selaginella eremophila*)

The desert spike-moss has a CRPR of 2B.2. This perennial rhizomatous herb in the Spike-Moss Family (Selaginellaceae) is native to California, Arizona, New Mexico, Texas, and Baja California, Mexico. In the region of the Study Area, the desert spike-moss is known to occur in Riverside, Imperial, and San Diego Counties (CCH 2015). The desert spike-moss can be found in Chaparral and Sonoran desert scrub on gravelly or rocky soils at an elevation range between approximately 700 and 3,000 feet above msl, and it blooms between May and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the desert spike-moss has high potential to occur in the Study Area. However, due to drought conditions, this perennial rhizomatous herb may not have re-sprouted even though suitable habitat is present.

San Gabriel Ragwort (*Senecio astephanus*)

The San Gabriel ragwort has a CRPR of 4.3. This annual herb in the Sunflower Family (Asteraceae) is a California-endemic species. In the region of the Study Area, the San Gabriel ragwort is known to occur in Los Angeles, San Bernardino, and San Diego Counties (CCH 2015). The San Gabriel ragwort can be found in Chaparral, Cismontane woodland, Coastal scrub, and Alkaline flats at an elevation range between approximately 50 and 2,600 feet above msl, and it blooms between January and April (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the San Gabriel ragwort has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may not have germinated even though suitable habitat is present.

Cove's Senna (*Senna covesii*)

Cove's senna has a CRPR of 2B.2. This perennial herb in the Legume Family (Fabaceae) is native to California, Arizona, and Baja California, Mexico. In the region of the Study Area, Cove's senna is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties (CCH 2015). Cove's senna can be found in sandy Sonoran desert scrub at an elevation range between approximately 900 and 3,500 feet above msl, and it blooms between March and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, Cove's senna has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Salt Spring Checkerbloom (*Sidalcea neomexicana*)

The Salt Spring checkerbloom is an SBNF Sensitive species and has a CRPR of 2B.2. This perennial herb in the Mallow Family (Malvaceae) is native to California and is also found elsewhere in western North America. In the region of the Study Area, the Salt Spring checkerbloom is known to occur in San Bernardino, Riverside, Orange, and San Diego Counties, although there are records for Los Angeles County that date back to the early 1890s (CCH 2015). The Salt Spring checkerbloom can be found on alkaline and mesic soils in Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, and Playas at an elevation range between approximately 50 and 5,000 feet above msl, and it blooms between March and June. This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the Salt Spring checkerbloom has moderate potential to occur in the Study Area.

Bear Valley Checkerbloom (Sidalcea pedata)

The Bear Valley checkerbloom has a CRPR of 1B.2. This perennial herb in the Mallow Family (Malvaceae) is a California-endemic species. In the region of the Study Area, the Bear Valley checkerbloom is known to occur in San Bernardino County. The Bear Valley checkerbloom can be found on mesic soils in meadows and seeps and Desert pavement plains at an elevation range between approximately 5,250 and 8,200 feet above msl, and it blooms between May and August (CNPS 2014). The Bear Valley checkerbloom was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable habitat that meets the elevation requirement for this species; therefore, the Bear Valley checkerbloom is not expected to occur in the Study Area.

Prairie Wedge Grass (Sphenopholis obtusata)

The prairie wedge grass has a CRPR of 2B.2. This perennial herb in the Grass Family (Poaceae) is native to California and elsewhere in North America. In the region of the Study Area, the prairie wedge grass is known to occur in San Bernardino, Riverside, Orange, and San Diego Counties (CCH 2015). The prairie wedge grass can be found on mesic soils in Cismontane woodland and Meadows and seeps at an elevation range between approximately 1,000 and 6,600 feet above msl, and it blooms between April and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the prairie wedge grass has low potential to occur in the Study Area.

Laguna Mountains Jewel-Flower (Streptanthus bernardinus)

The Laguna Mountains jewel-flower is an SBNF Watch List species and has a CRPR of 4.3. This perennial herb in the Mustard Family (Brassicaceae) is native to California and Baja California, Mexico. In the region of the Study Area, it is known to occur in San Bernardino, Riverside, and San Diego Counties, although there is one record for Los Angeles County dating to 1906 (CCH 2015). The Laguna Mountains jewel-flower can be found in Chaparral and Lower montane coniferous forest at an elevation range between approximately 2,200 and 8,200 feet above msl, and it blooms between May and August (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the Laguna Mountains jewel-flower has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

Southern Jewel-Flower (Streptanthus campestris)

The southern jewel-flower is an SBNF Sensitive species and has a CRPR of 1B.3. This perennial herb in the Mustard Family (Brassicaceae) is native to California and Baja California, Mexico. In the region of the Study Area, the southern jewel-flower is known to occur in San Bernardino, Riverside, Imperial, and San Diego Counties, although there is one record for Los Angeles County dating to 1896 (CCH 2015). The southern jewel-flower can be found in rocky areas in Chaparral, Lower montane coniferous forest, and Pinyon and juniper woodland at an elevation range between approximately 3,000 and 7,500 feet above msl, and it blooms between April and July (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species; therefore, the southern jewel-flower has high potential to occur in the Study Area. However, due to drought conditions, this perennial herb may not have re-sprouted even though suitable habitat is present.

San Bernardino Aster (Symphyotrichum defoliatum)

The San Bernardino aster is an SBNF Sensitive species and has a CRPR of 1B.2. This perennial rhizomatous herb in the Sunflower Family (Asteraceae) is native to California. In the region of the Study Area, the San Bernardino aster is known to occur in Los Angeles, San Bernardino, Riverside, Orange and San Diego Counties (CCH 2015), although many of the occurrences date back to the early 1900s. The San Bernardino aster can be found near ditches, streams, and springs in Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, and grasslands that are vernal mesic at an elevation range between approximately 0 and 6,700 feet above msl, and it blooms between July and November (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide suitable habitat for this species, but is degraded by a high cover of non-native species and erosion; therefore, the San Bernardino aster has low potential to occur in the Study Area.

Lemmon's Syntrichopappus (Syntrichopappus lemmonii)

Lemmon's syntrichopappus is an SBNF Watch List species and has a CRPR of 4.3. This annual herb in the Sunflower Family (Asteraceae) is endemic to California. In the region of the Study Area, Lemmon's syntrichopappus is known to occur in Los Angeles, Kern, San Bernardino, and Riverside Counties (CCH 2015). Lemmon's syntrichopappus can be found on sandy to gravelly soil in Chaparral, Joshua tree woodland, and Pinyon and juniper woodland at an elevation range between approximately 1,640 and 6,000 feet above msl, and it blooms between April and June (CNPS 2014). This species was not observed in the Study Area during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does support suitable habitat for this species; therefore, Lemmon's syntrichopappus has high potential to occur in the Study Area. However, due to drought conditions, this annual herb may have germinated even though suitable habitat is present.

Wright's Trichocoronis (Trichocoronis wrightii var. wrightii)

Wright's trichocoronis has a CRPR of 2B.1. This annual herb in the Sunflower Family (Asteraceae) is native to California. In the region of the Study Area, it is known to occur in Riverside County (CCH 2015). Wright's trichocoronis can be found in alkaline soils in Meadows, Seeps, Marshes, Swamps, Riparian forests, and Vernal pools at an elevation range between approximately 20 and 1,400 feet above msl, and it blooms between May and September (CNPS 2014). This species was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does not provide suitable soils to support this species; therefore, Wright's trichocoronis is not expected to occur in the Study Area.

Golden Violet (Viola purpurea ssp. aurea)

The golden violet is an SBNF Watch List species and has a CRPR of 2B.2. This perennial herb in the Violet Family (Violaceae) is native to California and Nevada. In the region of the Study Area, the golden violet is known to occur in Kern and San Bernardino Counties (CCH 2015). The golden violet can be found on sandy soils in Great Basin scrub and Pinyon and juniper woodland at an elevation range between approximately 3,280 and 8,200 feet above msl, and it blooms between April and June (CNPS 2014). The species was not observed during focused surveys, which were conducted pursuant to protocols established by the CDFW. The Study Area does provide the required habitat for this species; however, all records in San Bernardino County are at least 90 years old (CCH 2015). Therefore, the golden violet is not expected to occur in the Study Area.

APPENDIX D
SPECIAL STATUS WILDLIFE SPECIES

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/ Occurrence
Invertebrates					
<i>Pyrgulopsis</i> sp.	springsnail	-/-/SBNF WL	Aquatic: seeps and springs	No	Not expected
<i>Branchinecta lynchi</i>	vernal pool fairy shrimp	FT/-/-	Small and shallow vernal pools, and found in a range of natural and artificially created ephemeral ponds.	Yes	Not observed ^c
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/-/-	Elevations between sea level and 2,300 feet above msl and within 40 miles of the Pacific Ocean. Occurs in vernal pools and depressions in San Diego Mesa hardpan and claypan basins, typically in chamise chaparral, but also in coastal sage scrub or annual grassland.	Yes	Not observed ^c
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/-/-	Generally found only in deeper natural and created pools.	Yes	Not observed ^c
<i>Plebulina emigdionis</i>	San Emigdio blue butterfly	-/-/SBNF SS	Found locally in Southern California from Inyo County south through the Mojave Desert, Bouquet and Mint Canyons, and Los Angeles County. Four-winged saltbush (<i>Atriplex canescens</i>) is the host plant.	No	Not expected
<i>Callophrys [lincisalia] mossii hidakupa</i>	San Gabriel Mountains elfin butterfly	-/-/SBNF SS	Cliffs and rocky outcrops, broadleaf stonecrop (<i>Sedum spathulifolium</i>) is the host plant.	No	Not expected
<i>Glaucopsyche piasus</i>	Arrowhead blue butterfly	-/-/SBNF SS	Chaparral and coastal sage scrub (lupine species [<i>Lupinus</i> spp.] are host plants)	Yes	Low potential
<i>Euphydryas editha augustina</i>	August checkerspot butterfly	-/-/SBNF SS	Found only in yellow pine forests of the San Bernardino Mountains. Its host plant is Chinese houses (<i>Collinsia heterophylla</i>)	No	Not expected
<i>Diplectrona californica</i>	California diplectronan caddisfly	-/-/SBNF WL	Found in two known locations: in Claremont in San Bernardino County and in Mill Creek at Thurman Flats in the SBNF.	No	Not expected
<i>Pleocoma bicolor</i>	bicolored rainbeetle	-/-/SBNF WL	Pine forest, mixed conifer forest, or black oak woodlands	No	Not expected
<i>Cicindela tranquebarica viridissim</i>	greenest tiger beetle	-/-/SBNF WL	Sandy flats along streams	Yes	Low potential
<i>Hydroporus simplex</i>	simple hydroporus diving beetle	-/-/SBNF WL	Creeks, lakes or ponds, and probably microhabitats in shallow edge areas	Yes	Low potential
<i>Paleoxenus dohrni</i>	Dorhn's elegant eucnemid beetle	-/-/SBNF WL	Found in the lower portions of the incense-cedar (<i>Calocedrus decurrens</i>) stumps and under the bark of old trunks of bigcone Douglas-fir (<i>Pseudotsuga macrocarpa</i>) during spring and summer.	No	Not expected
Fish					
<i>Siphateles bicolor mohavensis</i>	Mohave tui chub	FE/SE, FP/-	Deep pools and sloughs with freshwater flow with aquatic ditchgrass (<i>Ruppia maritima</i>) for egg attachment	No	Not expected
<i>Gila orcutti</i>	arroyo chub	-/SSC/SBNF SS	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths below 16 inches; substrates of sand or mud	Yes	Not expected ^c
<i>Rhinichthys osculus</i>	Santa Ana speckled dace	-/SSC/SBNF SS	Permanent streams with cool, flowing, rocky-bottomed washes, shallow cobble and gravel riffles	Yes	Observed
<i>Catostomus santaanae</i>	Santa Ana sucker	FT/SSC/-	Small, shallow, cool, clear streams that run from slow to swift; substrates are generally coarse gravel, rubble and boulders	Yes	Not expected ^c
<i>Gasterosteus aculeatus williamsoni</i>	unarmored threespine stickleback	FE/SE, FP/-	Weedy pools, backwaters, and among emergent vegetation at the stream edge in small Southern California streams. Clear water with abundant vegetation	Yes	Not expected ^c
<i>Gasterosteus aculeatus microcephalus</i>	partially armored threespine stickleback	-/-/SBNF WL	Freshwater, occurs in permanent pools or backwaters, and in slow moving water along the margins of the stream.	Yes	Not expected ^c
Amphibians					
<i>Ensatina eschscholtzii croceater</i>	yellow-blotched ensatina	-/SSC/SBNF SS	Evergreen and deciduous forests, shaded canyons, oak woodlands, mixed grasslands, and chaparral	Yes	Not expected
<i>Ensatina klauberi</i>	large-blotched ensatina	-/SSC/SBNF SS	Moist and shaded evergreen and deciduous woodlands	Yes	High potential
<i>Ensatina eschscholtzii</i>	Monterey ensatina	-/-/SBNF WL	Deciduous and evergreen forests and shaded canyons, oak woodlands, mixed grasslands, and chaparral	Yes	High potential
<i>Aneides lugubris</i>	arboreal salamander	-/-/SBNF WL	Yellow pine and black oak forests in the Sierra Nevada and in coastal oak forests	Yes	Low potential
<i>Batrachoseps major</i>	garden slender salamander	-/-/SBNF WL	Riparian, woodlands, grasslands, meadows, chaparral and coastal sage scrub	Yes	High potential
<i>Batrachoseps gabrieli</i>	San Gabriel Mountain slender salamander	-/-/SBNF SS	Talus, mixed conifer forests, riparian	Yes	Low potential
<i>Spea hammondi</i>	western spadefoot toad	-/SSC/SBNF WL	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture.	Yes	Moderate potential

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Anaxyrus californicus</i>	arroyo toad	FE/SSC/SBNF MIS	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically 3 rd order); adjacent stream terraces and uplands for foraging and wintering.	Yes	Not observed within Crowder Creek, Cleghorn Creek, and Pitman Creek. Present within Cajon Wash.
<i>Anaxyrus punctatus</i>	red spotted toad	-/-/SBNF WL	Associated with rocky desert streams, and also found in oases, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, river floodplains. Prefers rocky areas where it can hide in cracks and under rocks.	Yes	Low potential
<i>Rana draytonii</i>	California red-legged frog	FT/SSC/-	Lowland streams, wetlands, riparian woodlands, livestock ponds; dense, shrubby or emergent vegetation associated with deep, still or slow-moving water; uses adjacent uplands.	Yes**	Not expected
<i>Rana muscosa</i>	southern mountain yellow-legged frog	FE/SE, SSC/-	Lakes, ponds, meadow streams, isolated pools and open riverbanks; rocky canyons in narrow canyons and in chaparral	Yes**	Not expected
Reptiles					
<i>Emys marmorata</i>	western pond turtle	-/SSC/SBNF SS	Aquatic, riparian	No	Not expected
<i>Gopherus agassizii</i>	desert tortoise	FT/ST/-	Arid and semi-arid habitats including sandy or gravelly locations along riverbanks, washes, sandy dunes, canyon bottoms, desert oases, rocky hillsides, creosote flats, and hillsides.	Yes	Scat/Burrow Observed
<i>Sauromalus obesus</i>	common chuckwalla	-/-/SBNF WL	Desert, woodlands (pinyon-juniper)	No	Not expected
<i>Crotaphytus bicinctores</i>	Mojave black-collared lizard	-/-/SBNF WL	Desert, sparsely vegetated, rocky habitats, including alluvial fans, lava flows, hillsides, canyons, and rocky plains	Yes	High potential
<i>Callisaurus draconiodes rhodostictus</i>	zebra-tail lizard	-/-/SBNF WL	Desert, sandy washes	Yes	Expected
<i>Sceloporus vandenburgianus</i>	southern sagebrush lizard	-/-/SBNF WL	Mixed conifer forests, woodlands (oak and pinyon-juniper), chaparral and coastal sage scrub, cliffs and rocky outcrops	No	Not expected
<i>Phrynosoma blainvillii</i>	coast horned lizard	-/SSC/SBNF WL	Open areas of sandy soil in valleys, foothills and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland	Yes	Observed
<i>Xantusia henshawi</i>	granite night lizard	-/-/SBNF WL	Found exclusively in association with cracks and crevices in exfoliating granitic and volcanic rocks. Found in association with coastal sage scrub, chaparral, oak and sycamore woodland, and desert intergrade vegetation.	Yes	Low potential
<i>Xantusia vigilis</i>	desert night lizard	-/-/SBNF WL	Desert, chaparral and lower pine woodlands	Yes	Observed
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	-/-/SBNF WL	Chaparral, woodlands, riparian, mixed conifer forests from sea level to 5,495 feet above msl.	Yes	High potential
<i>Aspidoscelis hyperythrus</i>	orange-throated whiptail	-/SSC/SBNF SS	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood	Yes	Moderate potential
<i>Anniella stebinsi [pulchra pulchra]</i>	Southern California (silvery) legless lizard	-/SSC/SBNF SS	Stabilized dunes, beaches, dry washes, chaparral, scrubs, pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils	Yes	Moderate potential
<i>Lichanura orcutti [trivigata]</i>	three-lined boa	-/-/SBNF SS	Chaparral, grasslands, cliffs and rocky outcrops, riparian	Yes	Moderate potential
<i>Charina umbratica</i>	southern rubber boa	-/ST/SBNF SS	Montane oak-conifer and mixed conifer forests, montane chaparral, wet meadows; usually in vicinity of streams or wet meadows	No	Not expected
<i>Diadophis punctatus modestus</i>	San Bernardino ringneck snake	-/-/SBNF SS	Moist habitats including wet meadows, rocky hillsides, gardens, farmland, grassland, chaparral, mixed conifer forest, and woodland.	Yes	High potential
<i>Lampropeltis zonata parvirubra</i>	San Bernardino mountain kingsnake	-/SSC/SBNF SS	Wide range of habitats including conifer forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal scrub.	Yes	Moderate potential
<i>Salvadora hexalepis virgultea</i>	coast patch-nosed snake	-/SSC/SBNF WL	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites.	Yes	Not expected
<i>Thamnophis elegans</i>	mountain garter snake	-/-/SBNF WL	Inhabits stream-sides, springs, mountain lakes, grassland, meadows, brush, woodland, and coniferous forest.	No	Not expected
<i>Thamnophis hammondi</i>	two-striped garter snake	-/SSC/SBNF SS	Riparian, aquatic habitats	Yes	High potential
<i>Crotalus ruber</i>	northern red-diamond rattlesnake	-/SSC/SBNF SS	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Yes	Observed
<i>Crotalus mitchellii pyrrhus</i>	southwestern speckled rattlesnake	-/-/SBNF WL	Chaparral and coastal sage scrub, woodlands, desert, cliffs and rocky outcrops	Yes	High potential

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/ Occurrence
Birds					
<i>Ixobrychus exilis [hesperis]</i>	(western) least bittern (Nesting)	-/SSC/SBNF WL	Nests in freshwater and brackish marshes with dense, tall growths of aquatic and semi-aquatic vegetation.	No	Not expected
<i>Cathartes aura</i>	turkey vulture (Breeding)	-/-/SBNF WL	Aerial, grasslands, chaparral and coastal sage scrub, woodlands, desert, cliffs and rocky outcrops	Yes	Observed
<i>Gymnogyps californianus</i>	California condor	FE/SE,FP/-	Requires open savannah, grassland, and foothill chaparral with cliffs, large trees, and snags for roosting. Nests in rock formations, deep caves, and occasionally in cavities in giant sequoia trees (<i>Sequoiadendron giganteus</i>); forages in relatively open grassland and savanna where large animal carcasses can be detected.	Yes	Not expected
<i>Pandion haliaetus</i>	osprey (Nesting)	-/FP, WL/SBNF WL	Occurs near large bodies of water, including rivers, lakes, reservoirs, bays, estuaries, and surf zones.	No	Not expected for nesting
<i>Elanus leucurus</i>	white-tailed kite (Nesting)	-/FP/SBNF WL	Nests primarily in oaks (<i>Quercus</i> spp.), willows (<i>Salix</i> spp.), and sycamores (<i>Platanus</i> sp.) and forages in grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees.	Yes	Observed
<i>Haliaeetus leucocephalus</i>	bald eagle (Nesting and Wintering)	-/SE, FP/SBNF SS	Large bodies of water or free-flowing rivers with abundant fish and adjacent snags or perches, and nests in large, old growth trees or snags in remote stands near water.	No	Not expected for nesting
<i>Circus cyaneus</i>	northern harrier (Nesting)	-/SSC/SBNF WL	Occurs year-round over open habitats, nesting on the ground within dense vegetation.	Yes	Observed
<i>Accipiter striatus</i>	sharp-shinned hawk (Nesting)	-/WL/SBNF WL	Breeds in high elevation forests in the western United States and boreal forests in Canada and Alaska.	Yes	Observed
<i>Accipiter cooperii</i>	Cooper's hawk (Nesting)	-/WL/SBNF WL	Wooded urban areas and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores (<i>Platanus</i> sp.) and willows (<i>Salix</i> spp.).	Yes	Observed
<i>Accipiter gentilis</i>	northern goshawk (Nesting)	-/SSC/SBNF SS	Boreal and temperate forests with a Holarctic distribution	No	Not expected
<i>Buteo swainsoni</i>	Swainson's hawk (Nesting)	-/ST/SBNF WL	Breeds over grassland-dominated habitats in North America.	No	Not expected for nesting
<i>Buteo albonotatus</i>	zone-tailed hawk	-/-/SBNF WL	Mixed conifer forests, woodlands (pinyon-juniper)	Yes	Not expected ^c
<i>Buteo regalis</i>	ferruginous hawk (Wintering)	-/WL/SBNF WL	Inhabits open, dry habitats such as grasslands, shrublands, rangelands, and plowed agricultural fields.	Yes	Observed
<i>Aquila chrysaetos</i>	golden eagle (Nesting and Wintering)	-/FP, WL/SBNF WL	Open and semi-open country such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions.	Yes	Observed
<i>Charadrius alexandrinus nivosus</i>	western snowy plover (Nesting)	FT/SSC/-	During the breeding season, this species is found above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	No	Not expected
<i>Charadrius montanus</i>	mountain plover (Wintering)	-/SSC/-	Winters in dry short-grass plains and fields, plowed fields, and sandy deserts up to 8,202 feet above msl.	No	Not expected
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo (Nesting)	FT/SE/SBNF SS	Nests in dense, wide riparian woodlands and forests with well-developed understories.	No	Not expected
<i>Psiloscops [Otus] flammeolus</i>	flamulated owl (Nesting)	-/-/SBNF WL	Occupies open, mature to old ponderosa pine or other forest with similar features (e.g., dry montane conifer or aspen [<i>Populus</i>] forests, often with oak [<i>Quercus</i>], dense saplings, or other brushy understory).	No	Not expected
<i>Otus [Megascops] kennicottii</i>	western screech owl	-/-/SBNF WL	Occupies a wide variety of woodland and forest habitats, with highest densities in riparian deciduous woodlands at low elevations.	Yes	Moderate potential
<i>Glaucidium gnoma</i>	northern pygmy-owl	-/-/SBNF WL	Occupies forests or open woodlands in foothills and mountains, including adjacent meadows while foraging.	Yes	Observed
<i>Athene cunicularia</i>	burrowing owl (Burrow Sites and Some Wintering Sites)	-/SSC/SBNF WL	Inhabits gently sloping areas, characterized by low, sparse vegetation within open, treeless areas within grassland, steppe, and/or desert biomes.	Yes	Not observed ^c
<i>Strix occidentalis</i>	California spotted owl	-/SSC/SBNF SS, SBNF MIS	Occurs in habitat that has a mixture of tree sizes and usually at least 2 canopy layers, with some very large, old trees present.	No	Not expected
<i>Asio otus</i>	long-eared owl (Nesting)	-/SSC/SBNF WL	Occupies coniferous, deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, desert oases.	Yes	Low potential
<i>Aegolius acadicus</i>	northern saw-whet owl	-/-/SBNF WL	Occupies mixed forest habitats that have dense conifers for roosting and deciduous trees for nesting and foraging, and are also known to be known in coniferous swamps, savannahs, riparian areas, and shrub-steppe habitat.	No	Not expected
<i>Chordeiles minor</i>	common nighthawk	-/-/SBNF WL	Occupies a wide variety of open and semi-open habitats, especially savanna, grasslands and fields, and around human habitations.	No	Not expected
<i>Antrostomus [Caprimulgus] arizonae</i>	Mexican whip-poor-will	-/-/SBNF WL	Found on steep mountains slopes with a mixture of oaks and conifers.	No	Not expected
<i>Cypseloides niger</i>	black swift (Nesting)	-/SSC/SBNF WL	Nests in dark inaccessible sites with unobstructed flight paths on ledges or shallow caves in steep rock faces and canyons, usually behind or next to waterfalls.	No	Not expected
<i>Selasphorus [Stellula] calliope</i>	Calliope hummingbird	-/-/SBNF WL	Mountain meadows and streamside thickets of willows within arid mixed coniferous forest	No	Not expected

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Melanerpes lewis</i>	Lewis's woodpecker (Nesting)	-/-/SBNF WL	Occurs west of the Great Plains and breeds in open forests ranging from low-elevation riparian habitats to higher-elevation burns and pine forest.	Yes	No potential for nesting
<i>Sphyrapicus thyroideus</i>	Williamson's sapsucker	-/-/SBNF WL	Inhabits open coniferous and mixed coniferous-deciduous forests of western North America.	No	Not expected
<i>Sphyrapicus ruber</i>	red-breasted sapsucker (Nesting)	-/-/SBNF WL	Common breeder in mountains west of the deserts; breeds in coniferous forests that have an admixture of deciduous trees.	Yes	No potential for nesting
<i>Picoides nuttallii</i>	Nuttall's woodpecker (Nesting)	-/-/SBNF WL	Occupies oak woodlands, but is also found in riparian woodlands; rarely found in conifer forests.	Yes	Observed
<i>Picoides albolarvatus</i>	white-headed woodpecker (Nesting)	-/SSC/SBNF WL	Generally found in the highest mountain ranges.	No	Not expected
<i>Falco columbarius</i>	merlin (Wintering)	-/WL/SBNF WL	Prefers vast open space areas such as estuaries, grasslands, and deserts.	Yes	Moderate potential
<i>Falco peregrinus anatum</i>	American peregrine falcon (Nesting)	-/FP/SBNF WL	Uses a variety of habitats, particularly wetlands and coastal areas. Prefers inaccessible areas such as those provided by cliffs, high building ledges, bridges, or other such structures for nesting.	Yes	Observed
<i>Falco mexicanus</i>	prairie falcon (Nesting)	-/WL/SBNF WL	Foraging habitats include grassland and scrub vegetation types and nest almost exclusively on cliffs.	Yes	Observed
<i>Contopus cooperi</i>	olive-sided flycatcher (Nesting)	-/SSC/-	Most often associated with openings, edges, or human-made openings in forest habitats.	Yes	Observed
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher (Nesting)	FE/SE/-	Willow-dominated riparian habitats that are similar to least Bell's vireo nesting habitats, shows a stronger preference for sites with surface water in the vicinity, such as along streams, on the margins of a pond or lake, and at wet mountain meadows.	Yes	Not observed ^c
<i>Empidonax wrightii</i>	gray flycatcher	-/-/SBNF WL	Breeds in arid woodlands and scrub habitats of the interior western United States.	No	Not expected
<i>Lanius ludovicianus</i>	loggerhead shrike (Nesting)	-/SSC/SBNF WL	Inhabits open habitats with short vegetation such as pastures, agricultural fields, riparian areas, and open woodlands.	Yes	Observed
<i>Vireo bellii pusillus</i>	least Bell's vireo (Nesting)	FE/SE/-	Breeds primarily in riparian habitats dominated by willows with dense understory vegetation.	Yes	Observed
<i>Vireo vicinior</i>	gray vireo (Nesting)	-/SSC/SBNF SS	Occupies arid habitats such as dry oak-juniper and pinyon-juniper woodlands, dry chaparral, and thorn scrub.	Yes	Not expected
<i>Vireo plumbeus</i>	plumbeous vireo	-/-/SBNF WL	Found primarily in montane coniferous and mixed forests in Transition Zones.	No	Not expected
<i>Vireo cassinii</i>	Cassin's vireo	-/-/SBNF WL	Occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills.	Yes	Low potential for nesting ^c
<i>Vireo gilvus</i>	warbling vireo	-/-/SBNF WL	Occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills.	Yes	Low potential for nesting
<i>Eremophila alpestris actia</i>	California horned lark	-/WL/SBNF WL	Occupies open, generally barren country, avoids forests, and prefers bare ground to grasses taller than a few centimeters.	Yes	Observed
<i>Progne subis</i>	purple martin (Nesting)	-/SSC/SBNF WL	Forages over riparian areas, forests, and woodland; it is found in a variety of habitats during migration.	Yes	Not expected
<i>Tachycineta bicolor</i>	tree swallow	-/-/SBNF WL	Occupies open areas near bodies of water that include fields, marshes, shorelines, and wooded swamps with standing dead trees.	Yes	High potential
<i>Campylorhynchus bruneicapillus sandiegense</i>	San Diego cactus wren (San Diego and Orange Counties only)	-/SSC/SBNF SS	Inhabit coastal sage scrub and alluvial sage scrub habitats that have sufficient amounts of prickly pear cactus and/or cholla (<i>Opuntia</i> spp.).	Yes	Not expected
<i>Poliioptila californica</i>	coastal California gnatcatcher	FT/SSC/-	Occurs in coastal regions of highly urbanized Los Angeles, Orange, Riverside, and San Diego Counties.	Yes	Not observed ^c
<i>Cinclus mexicanus</i>	American dipper	-/-/SBNF WL	Often nests near bridges, small waterfalls and small diversion dams, and cliffs or boulders with overhanging ledges.	Yes	Not expected
<i>Catharus ustulatus</i>	Swainson's thrush	-/-/SBNF WL	Occupies riparian woodland and thickets of willow or alder, aspen forests, and sometimes coastal scrub.	Yes	Low potential nesting
<i>Catharus guttatus</i>	hermit thrush (Breeding)	-/-/SBNF WL	Common migrant and winter visitor along the coast, uncommon in the interior, and an uncommon and local summer resident in mountain forests where it is most numerous at higher elevations of the San Bernardino Mountains.	No	Not expected
<i>Toxostoma bendirei</i>	Bendire's thrasher	-/SSC/SBNF WL	Occupies desert habitats, primarily in areas with tall open vegetation such as cholla, Joshua trees, and yucca, and adjacent juniper woodland, but also is present locally in agricultural areas with adjacent grassland with scattered shrubs and yuccas.	No	Not expected
<i>Toxostoma lecontei</i>	Le Conte's thrasher	-/SSC/SBNF WL	Occupies open desert scrub habitats, particularly saltbush and creosote in association with sandy washes.	Yes	Observed
<i>Anthus rubescens</i>	American pipit (water pipit) (Breeding)	-/-/SBNF WL	Frequents alpine meadows of <i>Carex</i> , <i>Salix</i> , and <i>Deschampsia</i> , and fell fields associated with cushion plants (<i>Silene</i> , <i>Trifolium</i> , <i>Phlox</i> , and <i>Arenaria</i>).	No	Not expected for nesting

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Oreothlypis [Vermivora] virginiae</i>	Virginia's warbler (Nesting)	-/WL/SBNF WL	Breeds in arid montane woodlands, oak thickets, pinyon-juniper, coniferous scrub, chaparral, and in brushy steep mountain slopes in or near dry coniferous woodlands.	Yes	Not expected
<i>Oporornis tolmiei</i>	MacGillivray's warbler	-/-/SBNF WL	Breeds in dense shrubby areas, such as coniferous forest undergrowth and edge, brushy hillsides, riparian thickets, and chaparral.	No	Not expected for nesting
<i>Geothlypis trichas</i>	common yellowthroat	-/-/SBNF WL	Breeds in marshes (especially cattail) thickets near water, bogs, brushy pastures, old fields, and, locally, undergrowth of humid forest; migration and winter habitats include brushy and shrubby areas in both moist and arid regions.	Yes	Observed
<i>Setophaga petechia</i>	yellow warbler (Nesting)	-/SSC/SBNF WL	Breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats.	Yes	Observed
<i>Wilsonia pusilla</i>	Wilson's warbler	-/-/SBNF WL	Mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone	Yes	Not expected for nesting
<i>Icteria virens</i>	yellow-breasted chat (Nesting)	-/SSC/SBNF WL	Occupies second growth, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows, including low wet places near streams, pond edges, or swamps; thickets with few tall trees; early successional stages of forest regeneration; commonly in sites close to human habitation.	Yes	Observed
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	-/WL/SBNF WL	Occupies moderate to steep slopes vegetated with low scattered scrub cover interspersed with patches of grasses, forbs or rock outcrops, and shows a preference for coastal sage scrub dominated by California sagebrush (<i>Artemisia californica</i>), but also may occur in coastal bluff scrub and chaparral.	Yes	Observed
<i>Spizella atrogularis</i>	black-chinned sparrow (Nesting)	-/-/SBNF WL	Breeds in chaparral, sagebrush, arid scrub, and brushy hillsides.	Yes	Observed
<i>Artemisiospiza belli</i>	Bell's (sage) sparrow	-/WL/SBNF WL	Breeds in low, dense chamise chaparral and in dry scrub vegetation types, often with stands of cactus.	Yes	Observed
<i>Ammodramus savannarum</i>	grasshopper sparrow (Nesting)	-/SSC/-	Prefers more lush areas with some shrub cover in arid grasslands.	Yes	Low potential
<i>Melospiza melodia</i>	song sparrow	-/-/SBNF MIS	Common year-round resident of riparian and other wet, scrub habitats, along the coast, as well as locally into the mountains and deserts.	Yes	Observed
<i>Melospiza lincolni</i>	Lincoln's sparrow	-/-/SBNF WL	Breeds locally in the high mountains of the western United States.	Yes	Not expected for nesting
<i>Piranga rubra</i>	summer tanager (Nesting)	-/SSC/SBNF WL	Breeding habitat consists of low elevation riparian woodlands dominated by willows and cottonwoods	Yes	Not expected
<i>Agelaius tricolor</i>	tri-colored blackbird (Nesting Colony)	-/SSC/SBNF WL	Colonially nesting birds prefer to breed in marsh vegetation of bulrushes and cattails and have also been recorded nesting in willows, blackberries, and mustard.	Yes	Not expected for nesting
<i>Xanthocephalus</i>	yellow-headed blackbird (Nesting)	-/SSC/-	Nests in marshes with tall emergent vegetation such as tules (<i>Scirpus</i> spp.) and cattails (<i>Typha</i> spp.) adjacent to open water	No	Not expected
<i>Spinus [Carduelis] lawrencei</i>	Lawrence's goldfinch (Nesting)	-/-/SBNF WL	Breeding habitat typically consists of arid and open woodlands near three features: chaparral or other brushy areas; tall annual weedy fields; and a water source provided by a stream, small lake, or farm pond.	Yes	Observed
Mammals					
<i>Xerospermophilus mohavensis</i>	Mohave ground squirrel	-/ST/-	Most commonly found in creosote scrub, but also in Joshua tree woodland, desert saltbush scrub, desert sink scrub, desert greasewood scrub, and shadscale scrub. Digs burrows in sandy and gravelly soils on flat to moderately sloping terrain.	Yes	Not observed ^c
<i>Callospermophilus lateralis bernardinus</i>	San Bernardino golden-mantled ground squirrel	-/-/SBNF WL	It occurs in open pine and mixed conifer forests and in pinyon-juniper woodlands on the northern, desert slopes of the mountains s from 3,600 to 10,000 feet above msl.	No	Not expected
<i>Tamias [Neotamias] speciosus</i>	lodgepole chipmunk	-/-/SBNF WL	Known from isolated populations in Southern California mountains in open-canopy forests of mixed conifer, Jeffrey pine, lodgepole and limber pine, and occasionally in chaparral from 6,000 to 10,350 feet above msl.	No	Not expected
<i>Glaucomys sabrinus californicus</i>	San Bernardino flying squirrel	-/SSC/SBNF SS	Mixed coniferous forest including white fir and Jeffrey pine with a lack of oak components at higher elevations. It occurs at elevations between 4,000 and 8,400 feet above msl.	No	Not expected
<i>Chaetodipus fallax</i>	northwestern San Diego pocket mouse	-/SSC/SBNF WL	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. Prefers areas with sandy, graveled, or rocky substrates.	Yes	Observed
<i>Perognathus fallax pallidus</i>	pallid San Diego pocket mouse	-/SSC/SBNF WL	Coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper woodland. Elevational range is from sea level to 6,000 feet above msl.	Yes	High potential
<i>Dipodomys merriami parvus</i>	San Bernardino kangaroo rat	FE/SSC/-	Sparse scrub habitat, alluvial scrub/coastal scrub habitats on gravelly and sandy soils near river and stream terraces	Yes	Observed
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE/ST/-	Annual and perennial grassland habitats, coastal scrub, or sagebrush with sparse canopy cover or in disturbed areas	Yes	Observed

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Perognathus alticolus</i>	white-eared pocket mouse	-/SSC/SBNF SS	Primary habitat is open grassy/weedy/dry bracken areas among sage scrub understory in ponderosa/Jeffrey pine, pinyon/juniper, or montane hardwood-conifer associations.	No	Not expected
<i>Perognathus longimembris brevinasus</i>	Los Angeles pocket mouse	-/SSC/SBNF WL	Alluvial systems containing fine, loose, and deep sandy soils, or in adjacent areas. Higher benches adjacent to sandy washes and broader areas of sandy soils in grasslands outside washes and dense sage scrub.	Yes	Observed
<i>Neotoma bryanti [lepida] intermedia^d</i>	Bryant's woodrat	-/SSC/SBNF WL	Joshua tree, pinyon-juniper, mixed and chamise-redshank chaparral, sagebrush, coastal sage scrub, and most desert habitats. Most abundant in rocky areas with Joshua trees. Elevational range from sea level to 8,500 feet above msl.	Yes	Observed
<i>Onychomys torridus ramona</i>	southern grasshopper mouse	-/SSC/SBNF WL	Arid desert habitats of the Mojave Desert and other habitats, including succulent shrub, wash, and riparian areas, but also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats	Yes	Observed
<i>Erethizon dorsatum</i>	porcupine	-/-/SBNF WL	Common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats. Prefers open stands of conifers. Uses caves, large rock crevices, hollow logs, and trees for cover.	No	Not expected
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	-/SSC/SBNF WL	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Yes	Observed
<i>Macrotus californicus</i>	California leaf-nosed bat	-/SSC/SBNF WL	Desert, woodlands (pinyon-juniper)	Yes	Not expected ^e
<i>Myotis ciliolabrum</i>	western small-footed myotis	-/-/SBNF WL	Arid woodlands and shrublands near water; roosts in caves, crevices, mines, and abandoned buildings	Yes	Observed
<i>Myotis yumanensis</i>	Yuma myotis	-/-/SBNF WL	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Yes	Observed
<i>Myotis volans</i>	long-legged myotis	-/-/SBNF WL	Primarily coniferous forests, but also seasonally in riparian and desert habitats; roosts in crevices in cliffs, caves, mines, buildings, exfoliating tree bark, and snags	Yes	Low potential
<i>Myotis lucifugus</i>	little brown myotis (San Bernardino Mountains Population)	-/-/SBNF WL	Chaparral and coastal sage scrub, marshes, meadows, grasslands, fields, agricultural areas, woodlands	Yes	Observed
<i>Myotis evotis</i>	long-eared myotis	-/-/SBNF WL	Nearly all brush, woodland, and forest habitats from sea level to 9,000 feet above msl, but prefers coniferous habitats; forages along habitat edges, in open habitats, and over water; roosts in buildings, crevices, under bark, and snags; caves are used as night roosts	Yes	Observed
<i>Myotis thysanodes</i>	fringed myotis	-/-/SBNF SS	Primarily drier woodlands, including oak, pinyon-juniper, ponderosa pine; also occurs in desert scrub, mesic coniferous forest, grassland, and sage-grass steppe from sea level to 9,350 feet above msl. Roosts in crevices in buildings, mines, rocks, cliff faces, and bridges, and large, decadent trees and snags	Yes	Low potential
<i>Lasionycteris noctivagans</i>	silver-haired bat	-/-/SBNF WL	Mixed conifer forests (old growth); roosts under bark and large snags	Yes	Low potential
<i>Lasiurus xanthius</i>	western yellow bat	-/SSC/SBNF WL	Riparian, desert, washes, palm oasis; roosts in tree foliage	Yes	Low potential
<i>Lasiurus blossevillii</i>	western red bat	-/SSC/SBNF WL	Mixed conifer forests, riparian	Yes	Observed
<i>Lasiurus cinereus</i>	hoary bat	-/-/SBNF WL	Desert, woodlands, mixed conifer forests; roosts in tree foliage	Yes	Observed
<i>Euderma maculatum</i>	spotted bat	-/SSC/SBNF WL	Foothills, mountains, and desert regions of Southern California, including arid deserts, grasslands, and mixed conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Yes	Low potential
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	-/SC, SSC/SBNF SS	Forages in mixed conifer forests, riparian, aquatic, woodlands, chaparral and coastal sage scrub. Roosts in caves and mines.	Yes	Low potential
<i>Antrozous pallidus</i>	pallid bat	-/SSC/SBNF SS	Grasslands, shrublands, woodlands, forests; most common in open dry habitats with rocky outcrops for roosting, but also roosts in manmade structures and trees	Yes	Observed
<i>Eumops perotis californicus</i>	western mastiff bat	-/SSC/SBNF WL	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees and tunnels	Yes	Observed
<i>Nyctinomops femerosaccus</i>	pocketed free-tailed bat	-/-/SBNF WL	Woodlands (pinyon-juniper), desert	Yes	Low potential
<i>Felis concolor</i>	mountain lion	-/-/SBNF WL, SBNF MIS	Riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree/brush edges	Yes	High potential
<i>Bassariscus astutus</i>	ringtail	-/-/SBNF WL	Riparian habitats and brush stands of most forest, oak woodlands, pinyon juniper, chaparral, desert, and shrub habitats at elevations from sea level to 8,800 feet above msl. Use hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses for cover, and are usually found close to permanent water.	Yes	Moderate potential
<i>Spilogale gracilis</i>	western spotted skunk	-/-/SBNF WL	Occurs in shrub and brush habitats with moderate canopy-closure; in pen forest and woodland with scattered openings; and in riparian habitats.	Yes	Low potential
<i>Taxidea taxus</i>	American badger	-/SSC/SBNF WL	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Yes	Moderate potential

SPECIAL STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE STUDY AREA

Species Name	Common Name	Status (Federal/State/SBNF)	Habitat	Suitable Habitat ^a Present within Study Area (Yes/No)	Potential/Occurrence
<i>Odocoileus hemionus</i>	mule deer	-/-/SBNF MIS	Occur in early to intermediate successional stages of most forest, woodland, and brush habitats. Prefers a mosaic of various-aged vegetation that provides woody cover, meadow and shrubby openings, and free water.	Yes	Observed
<i>Ovis canadensis nelsoni</i>	Nelson's bighorn sheep	-/-/SBNF WL	Occur between from 3,000 to 10,000 feet above msl and graze and browse in areas of low growing vegetation close to steep terrain. Occur in steep slopes and cliffs, rough and rocky topography, sparse vegetation, canyons, washes, and alluvial fans. Water is a critical factor in the distribution of Nelson's bighorn sheep.	Yes	Low potential

msl: mean sea level;
SBNF: San Bernardino National Forest

Occurrence (Low/Moderate/High) Definition

Low: Species has low potential to occur within the Study Area due to factors including, but not limited to: very poor habitat quality; Study Area distance from nearest known location is greater than five miles; records in the vicinity of the Study Area are historic, i.e. greater than 20 years old; elevation range of the Study Area is within 200 feet of the lowest or highest recorded elevation for the species; and, required or preferred soils are of degraded quality.

Moderate: Species has moderate potential to occur within the Study Area. This species would have been characterized as having high potential; however, factors such as degraded habitat quality and/or absence of preferred soils reduce the potential of the species to occur.

High: Species has high potential to occur within the Study Area. The habitat and soil requirements are found in good or better condition within the Study Area and the Study Area is easily within the known elevation range for this species.

** Limited habitat, species believed to be extirpated from the region.

^a Suitable habitat takes into consideration habitat and range/elevation restrictions. If the Study Area is outside the range/elevation, no suitable habitat is present.

^b The expectation finding is predominantly based on the resident/nesting status of a species; further explanation is provided in Section 5 when suitable habitat is present, but the species is not expected (e.g., wintering, migrant) or not observed due to lack of detection during focused surveys.

^c Refer to Section 5 of Species Accounts

^d *Neotma ledipda intermedia* has been recently split into two species by Patton et al. 2014. All woodrats west of the coastal mountains are now considered *N. bryanti*.

Federal Status	State Status	SBNF Status
FE: Federally Endangered	SSC: California Species of Special Concern	MIS: Management Indicator species
FT: Federally Threatened	SC: Candidate for State listing as Threatened or Endangered	SBNF WL: San Bernardino National Forest Watch List species
	SE: State-listed as Endangered	SBNF SS: San Bernardino National Forest Sensitive species
	ST: State-listed as Threatened	
	WL: California Department of Fish and Wildlife Watch List	

Invertebrates

Springsnail (*Pyrgulopsis* sp.)

The springsnail is an SBNF Watch List species (USFS 2014). This species is widespread in the United States, extending into southern Canada and northern Mexico, where habitat includes lakes, springs, seeps, marshes, and diverse lotic waters. In California, much of its habitat is unknown, but records indicate that it occurs in Great Basin, Inyo County, Mono County, the Amargosa River Basin, Death Valley, Panamint Valley, Saline Valley, the San Bernardino Mountains, and the Salton Sea Basin in Riverside County (Hershler 1994). Springsnail species have been reported in mud and a spring 85 miles west of the Study Area (CDFW 2015). *P. californiensis* is known from several seep and spring feed drainages in the San Bernardino Mountains (Sada 2005). The Study Area does not provide suitable spring and seep habitat for this species; therefore, the springsnail is not expected to occur.

Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

The vernal pool fairy shrimp is a federally listed Threatened species (USFWS 1994). It is found primarily in the Central Valley and the foothills of the Sierra Nevada Mountains in Northern California north to Oregon (Eriksen and Belk 1999; USFWS 2005a). In Southern California, the species is known only from Western Riverside County and the Los Padres National Forest of Ventura County (CDFW 2014). They have been reported at elevations between 25 and 500 feet above msl, but a population occurs above 5,000 feet above msl (USFWS 2005a; CDFW 2014). The species is usually found in small and shallow vernal pools, although they are sometimes found in a range of natural and artificially created ephemeral habitats such as alkali pools, seasonal drainages, stock ponds, vernal swales, and rock outcrops. They occur in alluvial fans, bedrock, bedrock escarpments, basin rim, floodplain, high terrace, stream terrace, volcanic mudflow, and low terrace formations (USFWS 2005a). The nearest reported occurrence of vernal pool fairy shrimp is approximately 13.5 miles to the southeast. The Study Area provides suitable habitat for this species; however this species was determined to be absent from the study area based on negative protocol level surveys conducted in 2015. The complete Wet and Dry Season Fairy Shrimp Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 4.

On August 11, 2005, the USFWS published a Final Rule designating 597,821 acres of land as critical habitat for the vernal pool fairy shrimp and 14 other vernal pool species in 25 counties from Oregon south to Ventura County, California (USFWS 2005). The Study Area for the Proposed Project alignment is not located in final critical habitat for the vernal pool fairy shrimp.

San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)

The San Diego fairy shrimp is a federally listed Endangered species (USFWS 1997). This species is known from Orange and San Diego Counties south to Baja California, Mexico, though a disjunct population was reported from Santa Barbara (USFWS 2000; Eriksen and Belk 1999). All known localities are at elevations between sea level and 2,300 feet above msl and within 40 miles of the Pacific Ocean (USFWS 2000). It occurs in San Diego Mesa hardpan and claypan basins, typically in chamise chaparral, but also in coastal sage scrub or annual grassland. The nearest reported occurrence of San Diego fairy shrimp is approximately 30 miles to the southwest. The Study Area provides suitable habitat for this species; however this species was determined to be absent from the study area based on negative protocol level surveys conducted in 2015. The complete Wet and Dry Season Fairy Shrimp Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 4.

On December 12, 2007, the USFWS published a Final Rule designating 3,082 acres of land as critical habitat for the San Diego fairy shrimp in San Diego and Orange Counties, California (USFWS 2007). The Study Area for the Proposed Project alignment is not located in final critical habitat for the San Diego fairy shrimp.

Riverside Fairy Shrimp (*Streptocephalus woottoni*)

The Riverside fairy shrimp is a federally listed Endangered species (USFWS 1993). The distribution of this species is among the most restricted ranges for any of the fairy shrimp on the west coast. They are known from Ventura, Los Angeles, Orange, western San Diego, and Riverside Counties and immediately south of the international border in Baja California, Mexico (USFWS 2005b). They are generally found only in deeper natural and created pools (greater than one foot). The nearest reported occurrences of Riverside fairy shrimp is approximately 5.6 miles to the west. The Study Area provides suitable habitat for this species; however this species was determined to be absent from the study area based on negative protocol level surveys conducted in 2015. The complete Wet Season and Dry Fairy Shrimp Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 4.

On December 4, 2012, the USFWS published a Final Rule designating 1,724 acres of land as critical habitat for the Riverside fairy shrimp in Orange, San Diego, and Ventura Counties (USFWS 2012). The Study Area for the Proposed Project alignment is not located in final critical habitat for the Riverside fairy shrimp.

San Emigdio Blue Butterfly (*Plebulina emigdionis*)

The San Emigdio blue butterfly is an SBNF Sensitive species (USFS 2014). This species' habitat includes shadscale scrub in desert canyons and near washes; it requires four-winged saltbush (*Atriplex canescens* var. *canescens*) as a food plant for caterpillars, and appears to also require a symbiotic ant species, *Formica pilicomis*, with which it is specifically associated (Ballmer and Pratt 1992). It occurs locally in Southern California from Inyo County south through the Mojave Desert, San Joaquin Valley, Bouquet and Mint Canyons, and Los Angeles County (Emmel and Emmel 1973). The distribution of the butterfly is poorly understood, but it appears to have suffered a 50 to 70 percent population decline compared to historical estimates of abundance (Opler and Schweitzer 2009). San Emigdio blue butterfly is associated with desert riparian corridors, and has been reported from the Mojave River into Mojave Narrows in Victorville, a range of six to ten miles east of the Study Area (CDFW 2015). The Study Area is outside this species' range and does not support suitable habitat for this species; therefore, the San Emigdio blue butterfly is not expected to occur.

San Gabriel Mountains Elfin Butterfly (*Callophrys [Incisalia] mossii hidakupa*)

The San Gabriel Mountains elfin butterfly is an SBNF Sensitive species (USFS 2014). This species' habitat includes lower montane coniferous forests with broadleaf stonecrop (*Sedum spathulifolium*) as a food plant for caterpillars (Crawford 2014; Heath 2006). It occurs locally on steep north-facing canyons in the San Gabriel Mountains (Heath 2006). This species is known from only six locations in the San Gabriel and San Bernardino Mountains. Reported locations from the San Gabriel Mountains are in the San Antonio Canyon Watershed (Stoddard Canyon and five miles west of Mount Baldy) and the Big Tujunga Watershed (near Hidden Springs) (Murphy 1990). The only reported locality in the San Bernardino Mountains is near Angelus Oaks, in the Santa Ana River Watershed. The Study Area does not provide suitable habitat for this species, species has a very limited range and the Study Area and is outside this species' range; therefore, the San Gabriel Mountains elfin butterfly is not expected to occur.

Arrowhead Blue Butterfly (*Glaucopshyche piasus*)

The Arrowhead blue butterfly is an SBNF Sensitive species (USFS 2014). In Southern California, the subspecies occurs at high elevations in the San Bernardino Mountains north to the Frazier Park area in the mountains of Kern and Ventura Counties, and on the east and west slopes of the Sierra Nevada in Kern, Tulare, and Inyo Counties (Emmel and Emmel 1973). Habitats include chaparral and coastal sage scrub. Its food plant consists of lupine species (*Lupinus* spp.) including interior bush lupine (*L. excubitus*) and stinging lupine (*L. hirsutissimus*) (Emmel and Emmel 1973; Garth and Tilden 1988). The Study Area provides suitable habitat for this species; therefore, this species has a low potential because of its limited range in the San Bernardino Mountains.

August Checkerspot Butterfly (*Euphydryas editha augustina*)

The August checkerspot butterfly is an SBNF Sensitive species (USFS 2014). A subspecies of Edith's checkerspot butterfly (*E. editha*), the August checkerspot butterfly is found only in yellow pine forests of the San Bernardino Mountains (Emmel and Emmel 1973, Garth and Tilden 1988). It has been reported from elevations of around 5,000 feet above msl near Running Springs, Moonridge, Cedarpines Park, Wild Horse Creek, and Fawnskin (Emmel and Emmel 1973), to elevations of approximately 10,000 feet above msl at Sugarloaf Peak; 9,000 feet above msl at Onyx Peak; and over 10,680 feet above msl on Shields Peak and San Bernardino East Peak. Chinese houses (*Collinsia heterophylla*) is a reported food plant in the San Bernardino Mountains (Garth and Tilden 1988). The Study Area does not provide suitable habitat for this species and the Study Area is below the elevation range of this species; therefore, the August checkerspot butterfly is not expected to occur.

California Diplelectronan Caddisfly (*Diplelectrona californica*)

The California diplelectronan caddisfly is an SBNF Watch List species (USFS 2014). Claremont, San Bernardino County, where it was first discovered, and Mill Creek at Thurman Flats in the SBNF are the only two known locations for this species. Little is known about this particular species, but other species of this genus are known to occur in rapid portions of small, cool streams (Erman and Nagano 1992). This species is not expected to occur because the Study Area is outside of its range, and the Study Area does not support suitable stream rapids habitat for this species.

Bicolored Rainbeetle (*Pleocomma bicolor*)

The bicolored rainbeetle is an SBNF Watch List species (USFS 2014). This species is endemic to a small portion of the San Bernardino Mountains. The entire known range of this species is confined to an area extending from Rim of the World Drive (SR-18) near the Crestline cutoff through Crestline, Bluejay, and Arrowhead City to the north shore of Lake Arrowhead at elevations from 4,400 to 5,180 feet above msl. Most of this area is private land where there has been intensive recreational and housing development in the past two decades (Stephenson and Calcarone 1999). This rainbeetle has declined and possibly has been extirpated from much of its historical range (Hovore 1991). Most of the area within its small geographic range consists of pine forest, mixed conifer forest, or black oak woodlands (Stephenson and Calcarone 1999). The Study Area does not provide suitable habitat for this species and the Study Area is outside this species range and is at the lowest limit of this species elevation range; therefore, the bicolored rainbeetle is not expected to occur.

Greenest Tiger Beetle (*Cicindela tranquebarica viridissima*)

The greenest tiger beetle is an SBNF Watch List species (USFS 2014). This species' habitat includes sandy flats along streams (Boyd 1982). It occurs in the San Bernardino Mountains along

the Santa Ana River into Orange County (USFWS 1994). The historic range of the greenest tiger beetle spanned the coast of Southern California and included Orange, San Bernardino, and Riverside Counties including Mentone and along the San Jacinto River. It is currently known from the upper Santa Ana River wash area at the base of the San Bernardino Mountains and was observed in Bautista Canyon in the 1970s (Ballmer 1992; Stephenson and Calcarone 1999). The Santa Ana River in the Study Area provides marginally suitable habitat for this species; however, because of this species restricted range there is a low potential for this species to occur at the Santa Ana River portion of the Study Area.

Simple Hydroporus Diving Beetle (*Hydroporus simplex*)

The simple hydroporus diving beetle is an SBNF Watch List species (USFS 2014). This species' habitat is unknown and could be creeks, lakes or ponds, and probably microhabitats in shallow edge areas (Poole 1996). It occurs in the San Bernardino Mountains (CDFW 2015). Simple hydroporus diving beetle has been reported in a temporary pool in Big Bear 32 miles east of the survey area (CDFW 2015). There is a low potential for this species to occur because the Study Area provides limited suitable habitat, and passes through the San Bernardino Mountains.

Dorhn's Elegant Eucnemid Beetle (*Palaeoxenus dorhni*)

Dorhn's elegant eucnemid beetle is an SBNF Watch List species (USFS 2014). This is a false click beetle that is restricted to Southern California. False click beetles may be important indicators of forest diversity (Evans and Hogue 2006). It has been reported from Mount Wilson and Cedar Creek Canyon near Crystal Lake in Los Angeles County; Dark Canyon and Idyllwild in Riverside County; and Slover Canyon, Cleghorn Canyon, and Crestline in San Bernardino County (Muona 2000). Both the adult and the larva are found on dead pine and incense-cedar (*Calocedrus decurrens*) stumps and under the bark of old trunks of bigcone Douglas-fir (*Pseudotsuga macrocarpa*) during spring and summer (Evans and Hogue 2006). The species is found on steep slopes between 5,000 and 5,700 feet above msl. The Study Area does not provide suitable habitat for this species, and is below this species elevation range; therefore, Dorhn's elegant eucnemid beetle is not expected to occur.

Fish

Mohave Tui Chub (*Siphateles bicolor mohavensis*)

The Mohave tui chub is a federally and State-listed Endangered species and a California Fully Protected species. This subspecies was historically restricted to the Mojave River. The habitat preferences for this species include deep pools and slough-like areas of the Mojave River with aquatic ditchgrass (*Ruppia maritima*), which provides the structure for egg attachment when spawning, and thermal shelter during the summer (USFWS 1984). The USFWS reports that this species had apparently been extirpated from its historical habitat, the Mojave River, when it was listed in 1970 (USFWS 2009). The population at Camp Cady is the closest to the Proposed Project alignment, which is over 62 miles northeast of the Adelanto Compressor Station. The Study Area does not provide suitable habitat for this species and is outside this species' range; therefore, this species is not expected to occur in the Study Area.

Arroyo Chub (*Gila orcutti*)

The arroyo chub is a California Species of Special Concern and an SBNF Sensitive species (USFS 2014). This small freshwater fish is found in coastal freshwater streams and rivers with sustained flows and emergent vegetation. It prefers the slowest moving sections where the substrates consist primarily of sand or mud, but it can also be found in fairly fast-moving (31.5

inches/second or more) sections of stream over coarse substrates. The arroyo chub also prefers water with depths greater than approximately 16 inches (Moyle 2002).

This native fish was known to occur in the watersheds of the Los Angeles, San Gabriel, San Luis Rey, Santa Ana, and Santa Margarita Rivers and those of the Malibu and San Juan Creeks. Arroyo chub has also been successfully introduced into the Santa Ynez, Santa Maria, Cuyama, and Mojave River systems and other smaller coastal streams (Moyle 2002). The arroyo chub is now common at only three of its native locations: Santa Margarita and De Luz Creeks in San Diego County; Trabuco and San Juan Creeks in Orange County; and Malibu Creek in Los Angeles County (Swift et al. 1993). The Study Area provides suitable habitat for this species; however the closest CNDDDB record for the arroyo chub is from 1998, approximately 5.9 miles downstream of the Proposed Project in the Santa Ana River (CDFW 2015); therefore, this species is not expected to occur in the Study Area because of the lack of suitable hydrologic connectivity between the Study Area and the known downstream population in the Santa Ana River.

Santa Ana Speckled Dace (*Rhinichthys osculus*)

The Santa Ana speckled dace is a California Species of Special Concern and an SBNF Sensitive species (USFS 2014). The species was historically distributed throughout the upland portions of the Santa Ana, San Gabriel, and Los Angeles River systems, but it currently has a limited distribution in the headwaters of the Santa Ana and San Gabriel Rivers (Moyle et al. 1995). This species prefers permanent streams with cool, flowing, rocky-bottomed washes with shallow cobble and gravel riffles. The closest CNDDDB record for Santa Ana speckled dace is from Cajon Wash, just north of Keenbrook Road, which is in the Study Area. It is also known to occur in City Creek (approximately 3.7 miles east of the Proposed Project) and Mill Creek (approximately 10.1 miles east of the Proposed Project). Both City and Mill Creeks are tributaries to the Santa Ana River. This species was observed in Cajon Wash at the Cleghorn Creek confluence during the arroyo toad surveys. There are no Santa Ana speckled dace occurrences in the vicinity of the portion of the Santa Ana River that crosses by the Proposed Project alignment.

Santa Ana Sucker (*Catostomus santaanae*)

The Santa Ana sucker is a federally listed Threatened species and a California Species of Special Concern. Its historic range consisted of the Los Angeles, San Gabriel, and Santa Ana River systems; only these populations in its historic range are federally protected. The Santa Ana sucker is found in small, shallow streams with flows that run from slow to swift. It is most abundant where water is clear and unpolluted, although it can withstand seasonal turbidity. It is often associated with bottom materials of boulders, gravel, and cobble where there are growths of filamentous algae, though it is also occasionally found on sand or mud substrates. Although the Santa Ana sucker has generalized stream habitat requirements, it is intolerant of polluted or highly modified streams (Moyle et al. 1995).

On December 14, 2010, the USFWS published the final rule designating 9,331 acres as critical habitat for the Santa Ana sucker in Los Angeles, Orange, Riverside, and San Bernardino Counties (USFWS 2010). The Study Area is in the 2010 critical habitat for the Santa Ana sucker.

The CNDDDB does not contain any records of the Santa Ana sucker from the vicinity of the Study Area. The nearest reported Santa Ana sucker occurrence is from approximately 6.4 miles downstream of the Study Area in the Santa Ana River; therefore, the Santa Ana Sucker is not expected to occur in the Study Area due to the lack of required hydrological conditions in the Study Area due to the installation of Seven Oaks Dam up stream, lack of hydrological connection with the downstream population, and historical absence from this area.

Unarmored Threespine Stickleback (*Gasterosteus aculeatus williamsoni*)

The unarmored three-spine stickleback is a federally and State-listed Endangered species and a California Fully Protected species. Sticklebacks can occur throughout a stream but tend to gather in areas of slow flow or standing water. According to the USFWS, the unarmored three-spine stickleback is currently restricted to three areas: the upper Santa Clara River and its tributaries in Los Angeles County, San Antonio Creek on Vandenberg Air Force Base in Santa Barbara County, and Shay Creek vicinity in San Bernardino County (USFWS 2009). The Study Area provides suitable habitat for this species; however the Shay Creek population of this species is over 35 miles east of the Study Area; therefore, this species is not expected to occur in the Study Area because the Study Area is outside this species' range.

Partially Armored Threespine Stickleback (*Gasterosteus aculeatus microcephalus*)

The partially armored threespine stickleback is an SBNF Watch List species (USFS 2014). This subspecies of stickleback is a small freshwater fish that occurs in permanent pools or backwaters and in slow moving water along the margins of the stream. It is widespread north of Point Conception, but has a declining population south of the Los Angeles Basin (Swift et al. 1993). In San Bernardino County, this species is only known to occur in Big Bear Lake, where it is believed to have been introduced for mosquito control in the early 1900s (Swift et al. 1993). The Study Area provides suitable habitat for this species; however the Big Bear Lake population of this species is over 17 miles northeast of the Proposed Project; therefore, this species is not expected to occur in the Study Area because the Study Area is outside this species range.

Amphibians

Yellow-Blotched Ensatina (*Ensatina eschscholtzii croceater*)

The yellow-blotched ensatina is a California Species of Special Concern and an SBNF Sensitive species. It is a member of the family Plethodontidae, or Lungless Salamanders. Lungless salamanders do not breathe through the use of lungs; instead, they respire through their skin and mouth tissues, this requires them to live the majority of their life under cover in damp terrestrial environments. The yellow-blotched ensatina is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It inhabits deciduous and evergreen forests and shaded canyons, oak woodlands, mixed grasslands, and chaparral. Permanent water is not necessary for the yellow-blotched ensatina (Stebbins 2003). This subspecies is endemic to California, occurring in the lower Kern River Canyon, the Paiute Mountains, Breckenridge Mountain, the Tehachapi Mountains, on Mt. Abel, Mt. Pinos, near Fort Tejon, and near Frazier-Alamo Mountain. Intergrades with large-blotched ensatina (*Ensatina klauberi*) are reported from part of the eastern San Bernardino Mountains and the San Jacinto Mountains. There are no CNDDDB records of this species near the Study Area; the closest record is from Tejon Peak in the Tehachapi Mountains, approximately 80 miles northwest of the Study Area (CDFW 2015a). Although the Study Area supports suitable habitat, the Study Area is outside this species' known range; therefore, the yellow-blotched ensatina is not expected to occur in the Study Area.

Large-Blotched Ensatina (*Ensatina klauberi*)

The large-blotched ensatina is a California Species of Special Concern and an SBNF Sensitive species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It inhabits deciduous and evergreen forests as well as well shaded canyons, oak woodlands, mixed grasslands, and chaparral. Permanent water is not necessary for large-blotched ensatina (Stebbins 2003). It is found in Southern California and northern Baja California,

Mexico. In California, it is found in the peninsular ranges and part of the eastern San Bernardino Mountains, where it is known to hybridize with the yellow-blotched ensatina. The large blotched ensatina has been reported from Strawberry Creek in Idyllwild, approximately ten miles south of the Study Area (CDFW 2015a). The Study Area supports suitable habitat for this species. This species has a high potential to occur within the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Monterey Ensatina (*Ensatina eschscholtzii eschscholtzii*)

The Monterey ensatina is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It inhabits deciduous and evergreen forests and shaded canyons, oak woodlands, mixed grasslands, and chaparral. Permanent water is not necessary for the Monterey ensatina (Stebbins 2003). They are found in Southern California and northern Baja California, Mexico from San Luis Obispo County south along the coast to the extreme northwest coast of Baja California. They are also found in the San Bernardino and San Gabriel Mountains up to 6,000 feet above msl. The Study Area supports suitable habitat for this species. This species has a high potential to occur within the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Arboreal Salamander (*Aneides lugubris*)

The arboreal salamander is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. It is found on moist, mossy rock faces, under rocks and woody debris on land, inside stumps, and in urban yards and buildings (Stebbins 2003). The arboreal salamander occurs in yellow pine and black oak forests in the Sierra Nevada, and in coastal oak forests from Northern California to Baja California (Petranka 2010). This species is reported from the foothills of the National Forests in the Study Area (Stephenson and Calcarone 1999). In Southern California, this salamander is also associated with sycamores along seasonal streams. Limited suitable oak habitat for this species is present in the Study Area. Therefore, this species has a low potential to occur.

Garden Slender Salamander (*Batrachoseps major*)

The garden slender salamander is an SBNF Watch List species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the majority of its life under cover and emerging during rain events or periods of high humidity. Habitat includes oak woodland, open chaparral, riparian woodlands, canyon bottoms, lower mountain slopes, grasslands, and washes. (Stebbins 2003). This species is often found in suburban yards and gardens where they benefit from the moisture from irrigation. This subspecies is endemic to California and Baja California Norte, Mexico. It is found in the coastal interior of Southern California from the foothills of the Santa Monica, San Gabriel and San Bernardino Mountains, south into Baja California, Mexico to the vicinity of El Rosario. It is also found in a few desert localities where it has extended its range eastward from San Gorgonio Pass, through Cabazon and Snow Creek Village in Riverside County, and into the City of Palm Springs. This species has a high potential to occur because of the presence of suitable moist habitats for this species is present in the Study Area and the Study Area is within this species known range.

San Gabriel Mountain Slender Salamander (*Batrachoseps gabrieli*)

The San Gabriel Mountain slender salamander is an SBNF Sensitive species. It is a member of the family Plethodontidae, or Lungless Salamanders. This species is secretive, spending the

majority of its life under cover and emerging during rain events or periods of high humidity. Habitat includes talus slopes, mixed conifer forests, and riparian habitat (Stebbins 2003). This subspecies is a California-endemic found in at least 13 locations from San Gabriel Canyon in the eastern San Gabriel Mountains to Kimbark and Waterman Canyon in the extreme western San Bernardino Mountains. This species also occurs in Lytle Creek (Stephenson and Calcarone 1999). This species has a low potential to occur because of the marginally suitable riparian habitat for this species within the Study Area.

Western Spadefoot Toad (*Spea hammondi*)

The western spadefoot toad is a California Species of Special Concern and an SBNF Watch List species. This species breeds in slow-moving streams, vernal pools, and temporary ponds, and is rarely encountered outside its breeding season (i.e., January-March) given that it aestivates in burrows during the driest summer months and hibernates in the coldest winter months, emerging occasionally to forage during suitable conditions (Lannoo 2005). It occurs in the Great Valley and bordering foothills, and in the Coast Ranges from Monterey Bay south to Baja California, Mexico (Stebbins 2003). Western spadefoot toads inhabit valley and foothill grasslands, open chaparral, and pine-oak woodlands. From the Santa Clara River Valley in Los Angeles and Ventura Counties southward, an estimated 80 percent of the habitat for this species has been lost (Stebbins 2003). The western spadefoot toad has been reported from March Air Force Base, less than 6.5 miles west of the Study Area (CDFW 2015a). Suitable chaparral and temporary ponded habitat for this species is present in the Study Area. This species has a moderate potential to occur in the Study Area because of the presence of suitable habitat and the Study Area is within the known range of this species.

Arroyo Toad (*Anaxyrus californicus*)

The arroyo toad is a federally listed Endangered species, a California Species of Special Concern, and an SBNF Management Indicator species. Early descriptions of the habitat requirements for the arroyo toad are based on detailed life history studies conducted over a period of 16 year by Dr. Samuel Sweet (1992, 1993). Much of that work was conducted in the Los Padres National Forest in Santa Barbara County. Subsequently, additional population-level studies in other portions of the range have resulted in a somewhat broader habitat description (e.g., Griffin et al. 1999; Ramirez 1999, 2000, 2001, 2002a, 2002b, 2002c). It can generally be said that the arroyo toad frequents third order washes, streams, and arroyos in semi-arid parts of the southwest; however, they are also found in first or second order headwaters. Stream substrates range from sands to small cobble, with sandy banks supporting mule fat willows (*Salix* spp.), cottonwoods (*Populus* spp.), and/or western sycamore. The arroyo toad breeds both within streams and in small backwater pools that form along the stream margins, usually in relatively shallow water (ten centimeters or four inches) with sand or gravel substrate.

On February 9, 2011, the USFWS published a Final Rule designating 98,366 acres of critical habitat in Santa Barbara, Ventura, Los Angeles, San Bernardino, Riverside, Orange, and San Diego Counties, California. The Study Area overlaps portions of Unit 20 of designated critical habitat, which encompasses 1,775 acres in Cajon Wash from approximately 0.4 mile upstream of I-15 to SR-138. The closest known population for this species occurs in Cajon Wash, approximately 0.5 mile downstream of the Crowder Creek confluence, approximately 0.3 mile to the west of the Proposed Project alignment.

On March 27, 2014, the USFWS proposed a rule to reclassify the arroyo toad from Endangered to Threatened. The public comment period closed on November 17, 2014, and a determination was anticipated by March 27, 2015 (USFWS 2014). A final determination has not yet been announced.

The nearest reported occurrence of this species occurs in Cajon Wash, approximately 0.25 mile west of the Study Area (CDFW 2015a). Suitable breeding habitat for this species is present in the Study Area within Cajon Wash, Crowder Creek, Cleghorn Creek, and Pitman Creek; however, this species was determined to be absent from the Study Area based on negative protocol level surveys conducted in 2015 within Crowder Creek, Cleghorn Creek, and Pitman Creek. The native upland habitat areas adjacent to Cajon Wash, including those upland areas within the Study Area adjacent to Cajon Wash, may also provide suitable estivating habitat for this species. The complete Arroyo Toad Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 5.

Red Spotted Toad (*Anaxyrus punctatus*)

The red spotted toad is an SBNF Watch List species. It inhabits desert streams and oases, open grassland and scrubland, oak woodland, rocky canyons, and arroyos (Stebbins 2003). This species has an extensive range through the American southwest and into Mexico, including the full length of Baja California, Mexico. In California, it is found throughout the southeastern deserts as far north as Death Valley, and in localized populations in the peninsular ranges. It is associated with rocky desert streams and can be found in oases, pools in rocky arroyos, cattle tanks, grassland, oak woodland, scrubland, and river floodplains. It prefers rocky areas where it can hide in cracks and under rocks. Suitable habitat for this species is present in the Study Area; but this species has a low potential to occur because of this species' limited range within the Study Area.

California Red-Legged Frog (*Rana draytonii*)

The California red-legged frog is a federally listed Threatened species and a California Species of Special Concern. This species is endemic to California and northern Baja California, Mexico. In California, it is found along the coast and in the Coast Ranges from Mendocino County in the north, down to Baja California. There are two populations known to occur in the Angeles National Forest on the north slopes of the San Gabriel Mountains and in San Francisquito Canyon. This species is found in humid forests, woodlands, grasslands, streams, wetlands, ponds, and lakes from sea level to 8,000 feet above msl (Stebbins 2003). Preferred breeding habitat includes deep ponds and slow-moving streams where emergent vegetation is found on the bank edges (Jennings and Hayes 1994a). Although primarily aquatic, it has been recorded in damp terrestrial places up to approximately 300 feet from water for up to 50 consecutive days and using small mammal burrows and moist leaf litter as refugia during dry periods (Tatarian 2008; Jennings and Hayes 1994b). Limited suitable habitat for this species is present in the Study Area; however, there are no recent records near the Study Area and this species is thought to be extirpated from the region. Therefore, the California red-legged frog is not expected to occur in the Study Area.

On March 17, 2010, the USFWS issued a final critical habitat designation covering approximately 1,636,609 acres within 27 California counties (USFWS 2010b), including Los Angeles County. No portion of the Study Area is located within designated critical habitat.

Southern Mountain Yellow-Legged Frog (*Rana muscosa*)

The southern mountain yellow-legged frog is a federally and State-listed Endangered species and a California Species of Special Concern. A California endemic, the northern distribution of the southern mountain yellow-legged frog occurs on the western slopes of the Sierra Nevada Mountains from Fresno County south to Kern County, with Mather Pass representing the northern border of the species range (Vredenburg et al. 2007). The Sierra Nevada yellow-legged frog (*Rana sierra*) occurs north of Mather Pass on the eastern slopes of the Sierra Nevada Mountains. The southern distribution of this species consists of several small, isolated populations in the San Gabriel, San Bernardino, and San Jacinto Mountains. Within the southern range of the mountain yellow-legged frog in the San Gabriel, San Bernardino, and San Jacinto Mountains, this species

is found in relatively high-gradient, narrow, rocky, perennial creeks, permanent plunge pools within intermittent creeks, and pools in montane riparian and/or chaparral habitat from 1,200 to 7,500 feet above msl (Jennings and Hayes 1994a). Breeding pools must maintain water during the entire tadpole growth phase which can last from one to four years. Substrates within the aquatic habitat consist of varying proportions of silt, sand, gravel, cobble, rock, and boulders. Boulders and open gravel banks projecting above the water level are required for sunning. Aquatic refugia, including pools with overhanging banks, fallen logs, or rocks are required to escape predators.

There are CNDDDB records of southern mountain yellow-legged frog as close as 0.75 mile from the Study Area, although all these records are over 50 years old and represent localized populations that are now considered extirpated (CDFW 2015a; Jennings and Hayes 1994b). Limited suitable habitat for this species is present in the Study Area; however, there are no recent records near the Study Area and this species is thought to be extirpated from the region. Therefore, the southern mountain yellow-legged frog is not expected to occur in the Study Area.

A Final Rule was published on September 14, 2006, designating 8,283 acres of critical habitat for the southern mountain yellow-legged frog (USFWS 2006). The nearest critical habitat is 3.5 miles east of the Study Area along the SR-330/City Creek Road.

Reptiles

Western Pond Turtle (*Emys marmorata*)

The western pond turtle is a California Species of Special Concern and an SBNF Sensitive species. Formerly divided into two subspecies, the full species is currently protected (CDFG 2011). It occurs at elevations from sea level to approximately 6,700 feet above msl, though it is located primarily between sea level and 4,980 feet above msl (Stebbins 2003). Historically, the western pond turtle was continuously distributed from the Pacific slope drainages from Washington state to northern Baja California, Mexico (Jennings and Hayes 1994). This aquatic turtle occurs in ponds, lakes, marshes, rivers, streams, and irrigation ditches with a rocky or muddy bottom and aquatic vegetation such as watercress (*Nasturtium* spp.), cattails (*Typha* spp.), or waterlilies (*Nymphaea* spp.) (Stebbins 2003). It requires an upland area in which to lay eggs, typically in a clay or silty substrate (Jennings and Hayes 1994). The nearest reported occurrence of this species is from above Silverwood Lake, approximately eight miles east of the Study Area (CDFW 2015a). Suitable habitat for this species is not present in the Study Area; therefore, the western pond turtle has is not expected to occur in the Study Area because of the lack of suitable aquatic habitat.

Desert Tortoise (*Gopherus agassizii*)

The desert tortoise is a federally and State-listed Threatened species. It has two distinct populations, the Mojave and Sonoran, of which the Mojave population is divided into two subpopulations, the eastern and western Mojave. It has been suggested that these populations could be divided into species, subspecies, distinct population segments, and evolutionarily significant units or management units (Berry et al. 2002); however, these designations remain unresolved. In 1994, the USFWS published the *Desert Tortoise (Mojave Population) Recovery Plan* (USFWS 1994b), which was subsequently revised in 2011 (USFWS 2011). This plan identified threats to the desert tortoise and its habitat. It also recommended actions to recover tortoise populations to the point where the species would persist as viable populations in the wild and eventually be removed from protections provided by the FESA.

Within the western Mojave range, tortoises occur in creosote bush, cactus (*Opuntia* spp.), and shadscale scrub habitats, and Joshua tree woodland between sea level and 4,000 feet above msl

(Berry 1990). Desert tortoises have unique characteristics that enable them to survive in a desert environment. Elephantine limbs and well-developed claws enable tortoises to burrow into desert soils to escape the heat of the day. Introduced plant species have greatly encroached upon native plant species in the desert tortoise's natural range and have, therefore, degraded the existing natural ecosystem. Desert tortoises have, however, adapted to eating filaree (*Erodium* spp.) and other non-native species (Brooks 1999).

In 1994, the USFWS designated approximately 6.4 million acres as "critical habitat" for the Mojave population of the desert tortoise (USFWS 1994a). The Study Area is located within designated critical habitat.

The protocol-level desert tortoise surveys performed within the Survey Area identified five burrows that could potentially be used by desert tortoises and one that was definitely used by desert tortoise. The latter was a Class 3 burrow that was found at the Shaver Summit Pressure Limiting Station. Additionally, ten scat from four different locations were found at the Shaver Summit Pressure Limiting Station. Five of the scat from two locations were from the current year while the remaining five scat in the two other locations were deposited in a year prior to the survey. Throughout the rest of the Survey Area, three of the burrows identified during the survey were classified as Class 4, and two burrows were classified as Class 5. Although suitable habitat for desert tortoise was observed in the Study Area, no live tortoises, tortoise carcasses, scat, or egg shell fragments were observed in the Study Area except at the Shaver Summit Pressure Limiting Station location, where scat and a Class 3 burrow were observed. The presence of only Class 4 and 5 burrows in other portions of the Survey Area, combined with the absence of other diagnostic desert tortoise sign, indicates that desert tortoises likely do not occur in the Survey Area outside of the Shaver Summit Pressure Limiting Station. The complete Desert Tortoise Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 6.

Common Chuckwalla (*Sauromalus obesus*)

The common chuckwalla (*Sauromalus obesus*) is an SBNF Watch List species. This large herbivorous lizard is distributed throughout the Great Basin, Mojave and Sonoran Deserts including Southern California, Nevada, Utah, and Arizona as well as Sonora and Baja California, Mexico. In California, they range from the eastern slope of the peninsular ranges and the western Mojave Desert to Arizona and Nevada (Jones and Lovich 2009). The chuckwalla occurs primarily on rocky outcrops, lava flows, and rocky hillsides at elevations up to 4,500 feet, although they are more common at lower elevations (SDNHM 2007). The Study Area is outside the range for this species; therefore, the common chuckwalla is not expected to occur in the Study Area.

Mojave Black-Collared Lizard (*Crotaphytus bicinctores*)

The Mojave black-collared lizard is a SBNF Watch List species. This medium-sized lizard inhabits the Great Basin, Mojave, and Sonoran Deserts and is associated with sparsely vegetated, rocky habitats, including alluvial fans, lava flows, hillsides, canyons, and rocky plains (Jones and Lovich 2009). Scattered populations are known approximately one mile west of the Study Area in the Middle and North Forks of Lytle Creek, but the majority of this species distribution is in the Mojave Desert (Stebbins 2003). There is suitable habitat for this species in the Mojave Desert portion of the Study Area. Therefore, the Mojave black-collared lizard has a high potential to occur in the Study Area.

Zebra-Tail Lizard (*Callisaurus draconoides rhodostictus*)

The zebra-tail lizard is an SBNF Watch List species. This medium-sized lizard is widely distributed throughout the Great Basin, Mojave, and Sonoran Deserts. In California, it inhabits the Mojave

and Sonoran Deserts up to the desert slopes of the Peninsular and Transverse Mountains, and from the Owens Valley north along the eastern edge of the Sierra Nevada Mountains. It inhabits flat, sandy, and open terrain such as dunes, desert pavement, floodplains, arroyos, and drainages in foothills and bajadas from sea level to approximately 4,760 feet above msl (Jones and Lovich 2009). Suitable habitat for this species occurs in the Study Area. This species has a high potential to occur in the Mojave and Sonoran Desert portion of the Study Area because of the presence of suitable habitat sandy habitat and drainages.

Southern Sagebrush Lizard (*Sceloporus vandenburgianus*)

The southern sagebrush lizard is an SBNF Watch List species. This subspecies of sagebrush lizard is found only in the Transverse and Peninsular Mountains of Southern California, and in the Sierra San Pedro Martir of northern Baja California, Mexico. It occurs in shrublands such as chaparral, manzanita, and ceanothus, as well as open pine and Douglas fir forests from at least 4,500 feet above msl (Jones and Lovich 2009). This small lizard prefers open areas with scattered low bushes. The majority of the Study Area is below the minimum elevation range for this species. The portion of the Study Area at Cajon Summit is at the minimum elevation range for this species; therefore, the southern sagebrush lizard is not expected to occur in the Study Area.

Coast Horned Lizard (*Phrynosoma blainvillii*)

The coast horned lizard is a California Species of Special Concern and a SBNF Watch List species. Coast horned lizard occurs throughout much of California, west of the desert and Cascade-Sierra highlands south to Baja California, Mexico (Stebbins 2003). This species is a small, spiny, somewhat rounded lizard that occurs in scrubland, grassland, coniferous forests, and broadleaf woodland vegetation types (Stebbins 2003). It prefers open areas for basking and loose, friable soil for burrowing (Stebbins 2003). It has been reported north of the Cajon Pass, less than 0.25 mile east of the Study Area (CDFW 2015a), and was observed in the Study Area during 2015 focused surveys for arroyo toad.

Granite Night Lizard (*Xantusia henshawi*)

The granite night lizard is an SBNF Watch List species. This small lizard is endemic to the northern Peninsular Ranges in California and Baja California, Mexico. This species is found exclusively in association with cracks and crevices in exfoliating granitic and volcanic rocks. It is found in coastal sage scrub, chaparral, oak and sycamore woodland, and desert intergrade vegetation types (Jones and Lovich 2009). The Study Area is located in the northern extent of its range, near City of Banning, California. Marginally suitable habitat for this species occurs in the Study Area. Therefore, this species has a low potential to occur because the Study Area is at this species northern range limit and supports marginally suitable habitat that lacks exfoliating granitic and lava rocks.

Desert Night Lizard (*Xantusia vigilis*)

The desert night lizard is an SBNF Watch List species. This small lizard inhabits the Mojave and Sonoran Deserts in California, Nevada, Arizona, and Utah. This species lives in and under decaying yuccas, agaves, Bigelow's Nolinias, Saguaros, prickly pears, and pine logs (Jones and Lovich 2009). Although associated primarily with the desert, this species ranges up into the adjacent chaparral and lower pine woodland habitats (Jones and Lovich 2009). Desert night lizard was observed in the Study Area during 2015 burrowing owl surveys.

Coronado Skink (*Eumeces skiltonianus interparietalis*)

The Coronado skink is an SBNF Watch List species. This wide spread species occupies a wide variety of habitats west of the Rocky Mountains. It is found in treeless meadows, grasslands, riparian areas, chaparral, piñon/juniper, juniper/sage woodland, and open pine/oak forests. Coronado skinks are secretive, and are seldom found on the surface of the ground, as they prefer to hide under rocks, woody debris, leaves, and thick vegetation (Jones and Lovich 2009). Suitable chaparral and piñon/juniper habitat is present in the Study Area; therefore, the Coronado skink has a high potential to occur in the Study Area (Stephenson and Calcarone 1999).

Orange-Throated Whiptail (*Aspidoscelis hyperythrus*)

The orange-throated whiptail is a California Species of Special Concern and an SBNF Sensitive species. This species occurs between sea level and 2,000 feet above msl in the western Peninsular Ranges from Orange and San Bernardino Counties south to Baja California, Mexico (Stebbins 2003). It occurs in washes and in open areas of sage scrub and chaparral with gravelly soils, often with rocks. It prefers well drained, friable soil on slopes with a southern exposure that are barren or only sparsely covered with vegetation. Approximately 75 percent of its former range has been lost to development, and remaining populations are highly fragmented (Stebbins 2003). Suitable habitat for this species is present and the orange-throated whiptail has been reported from the Study Area (CDFW 2015a); therefore, this species has a moderate potential to occur because of the Study Area supports suitable habitat.

Southern California (Silvery) Legless Lizard (*Anniella stebbinsi [pulchra pulchra]*)

The Southern California legless lizard is a California Species of Special Concern and an SBNF Sensitive species. The taxonomy of the species was recently changed, but CDFW still uses the name silvery legless lizard (*A. pulchra pulchra*) to describe Southern California legless lizard. It is a small, secretive lizard that spends most of its life beneath the soil, under stones, logs, debris, or in leaf litter. This species occurs throughout Southern California south of the Transverse Ranges into northern Baja California, Mexico (Papenfuss and Parham 2013). It requires areas with loose sandy soil, moisture, warmth, and plant cover. This subspecies occurs in chaparral, pine-oak woodland, beach, and riparian vegetation types at elevations between sea level and approximately 5,100 feet above msl (Stebbins 2003). This species has been reported in the San Geronio River Wash less than a mile south of the Study Area (CDFW 2015a). Suitable habitat for this subspecies is present in the Study Area; therefore, the Southern California legless lizard has a moderate potential to occur because of the presence of suitable habitat and a known location less than a mile from the Study Area.

Three-Lined Boa (*Lichanura orcutti*)

The three-lined boa is an SBNF Sensitive species. The taxonomy of the species was recently changed, but CDFW still uses the name rosy boa (*Charina trivirgata*) to describe the three-lined boa. This species occurs north of the US-Mexico border in San Diego County along the coastal Peninsular Ranges, northward into the Mojave Desert and eastward in the Sonoran Desert of California and Arizona. The three-lined boa is a rather secretive snake that is found from the deserts to the coast, but it is generally uncommon throughout its Southern California range. This species typically inhabits rocky, chaparral covered slopes and canyons up to approximately 6,600 feet above msl (Ernst and Ernst 2003). The three-lined boa is now quite rare in much of its historic range. It is known to occur in Lytle Creek approximately two miles west of the Study Area and also approximately two miles east of the Study Area at the east fork of Badger Canyon (CDFW 2015a). Suitable habitat for this species is present in the Study Area; therefore, the three-lined boa has a moderate potential to occur because of the presence of suitable habitat, known occurrence in Lytle Creek, but is generally rare across its historic range.

Southern Rubber Boa (*Charina umbratica*)

The southern rubber boa is a State-listed Threatened species and an SBNF Sensitive species. This species is secretive, spending the majority of its life in burrows and under cover. It is endemic to coniferous forests in the San Bernardino and San Jacinto Mountains at elevations approximately between 5,000 to 8,200 feet above msl (Stebbins 2003). The southern rubber boa has been reported from one mile from the Study Area (CDFW 2015a). No suitable habitat is present for the species in the Study Area, and the Study Area is outside the elevation range; therefore, the southern rubber boa is not expected to occur in the Study Area.

San Bernardino Ringneck Snake (*Diadophis punctatus modestus*)

The San Bernardino ringneck snake is an SBNF Sensitive species. Its range is limited to the Southern California coast from Santa Barbara south along the coast to San Diego County and inland into the San Bernardino Mountains. The San Bernardino ringneck snake inhabits moist habitats including sycamore alder riparian woodlands, and moist areas along perennial and intermittent streams, forests, grasslands, and chaparral (CDFW 2015a, Stebbins 2003). It occurs at elevations from sea level to 7,200 feet above msl (Stebbins 2003). This species is difficult to detect due to its secretive behavior, spending the majority of its life under cover. Suitable habitat for this species is present in the Study Area; therefore, this species has a high potential to occur in riparian and moist habitats in the Study Area along streams.

San Bernardino Mountain Kingsnake (*Lampropeltis zonata parvirubra*)

The San Bernardino mountain kingsnake is a California Species of Special Concern and an SBNF Sensitive species. This California endemic occurs in the San Jacinto, Santa Rosa, San Bernardino, Santa Susana, and San Gabriel Mountains and in the Verdugo Hills. It typically occurs in coniferous forests in the interior mountains, but at lower elevations and in coastal ranges it occurs in riparian woodlands, usually in canyon bottoms (Jennings and Hayes 1994). It may be found in narrow riparian woodlands in association with chaparral and coastal sage scrub. Rocks or rocky outcrops appear to be an important feature of suitable habitat (Jennings and Hayes 1994). It is found from sea level to an elevation of 9,480 feet above msl (Ernst and Ernst 2003). The nearest reported occurrence of this species is from Icehouse Canyon, approximately seven miles west of the Study Area (CDFW 2015a). Marginally suitable habitat for this species is present in the Study Area; therefore, this species has a moderate potential to occur because of the presence of suitable habitat in the Study Area, but the nearest known occurrence is seven miles from the Study Area.

Coast Patch-Nosed Snake (*Salvadora hexalepis virgultea*)

The coast patch-nosed snake is a California Species of Special Concern and an SBNF Watch List species. This subspecies ranges along the coast of California from San Luis Obispo County south into Baja California, Mexico (Jennings and Hayes 1994). It occurs in sandy or rocky grasslands, chaparral, sagebrush plains, piñon-juniper woodlands, and desert scrub at elevations between sea level and approximately 7,000 feet above msl (Stebbins 2003). Major prey items are whiptails (*Aspidoscelis* spp.) and the snake's habitat preferences may match that of its prey (Jennings and Hayes 1994). There are no reported occurrences from San Bernardino County and only four from Riverside County (CDFW 2015a). The nearest reported occurrence of this subspecies is from Walker Canyon (vicinity of Lake Elsinore), Riverside County, approximately 18 miles southwest of the Study Area (CDFW 2015a). Although suitable habitat for this subspecies is present in the Study Area, this species is not expected to occur because the lack of recent nearby occurrences.

Mountain Garter Snake (*Thamnophis elegans elegans*)

The mountain garter snake is an SBNF Watch List species. It ranges from southwestern Oregon south to Central California (exclusive of the coastal ranges), with an isolated population in the San Bernardino Mountains of Southern California (Ernst and Ernst 2003). This snake inhabits stream-sides, springs, mountain lakes, grassland, meadows, brush, woodland, and coniferous forest. This isolated population occurs at elevations above 4,900 feet above msl (Fisher and Case 1997). The Study Area is below the minimum elevation range for this species; therefore, the mountain garter snake is not expected to occur in the Study Area.

Two-Striped Garter Snake (*Thamnophis hammondi*)

The two-striped garter snake is a California Species of Special Concern and an SBNF Sensitive species. It occurs from Monterey County south to El Rosario in Baja California, Mexico at elevations between sea level and approximately 8,000 feet above msl (Stebbins 2003). It is considered locally rare in southwestern California. This highly aquatic species occurs primarily in or near perennial or intermittent freshwater streams with rocky beds bordered by willows or other dense vegetation (Jennings and Hayes 1994; Stebbins 2003). It is estimated that development and other human impacts have reduced the historic range of this species in California by 40 percent (Stebbins 2003). The nearest reported occurrence of this species in the Study Area is approximately one mile southeast of the Cajon junction (CDFW 2015a). Suitable aquatic habitat for this species is present in the Study Area; therefore, this species has a high potential to occur in the Study Area because the presence of suitable aquatic habitats and the known reported occurrence one mile from the Study Area.

Northern Red-Diamond Rattlesnake (*Crotalus ruber ruber*)

The northern red-diamond rattlesnake is a California Species of Special Concern and an SBNF Sensitive species. This species ranges from approximately Orange County and San Bernardino Counties south to Baja California, Mexico at elevations from sea level to about 5,000 feet above msl (Stebbins 2003; Zeiner et al. 1988). It inhabits open scrub, chaparral, woodland, and grassland vegetation types. Suitable habitat for this species is present and this species has been reported from the Study Area (CDFW 2015a). The northern red-diamond rattlesnake was observed during the coastal California gnatcatcher surveys.

Southwestern Speckled Rattlesnake (*Crotalus mitchellii pyrrhus*)

The southwestern speckled rattlesnake is an SBNF Watch List species. This heavy bodied pit viper occurs in much of Southern California north to approximately the Mojave River, east into Nevada and extreme southwest Utah, south into Arizona and southern Baja California Norte, Mexico. This species usually occupies the hottest, driest, rocky microhabitats, such as canyons, foothills, buttes, and erosional gullies vegetated with thickets of chaparral, creosote bush, sagebrush, thorn scrub, and piñon-juniper woodlands (Ernst and Ernst 2003). Suitable habitat for this species occurs in the Mojave and Sonoran desert portions of the Study Area. This species has a high potential to occur in the Study Area because of the presence of suitable dry rocky habitats and erosional gullies.

Birds(Western) Least Bittern (*Ixobrychus exilis [hesperis]*) (Nesting)

The least bittern (*Ixobrychus exilis*) is a California Species of Special Concern and the western least bittern (*I. exilis hesperis*) is an SBNF Watch List species. Fairly widespread in the eastern United States, this smallest species of the heron family is distributed very locally in the west (AOU

1998; Poole et al 2009). It occurs in marshes or swamps with dense, tall growths of aquatic or semiaquatic vegetation and scattered patches of woody vegetation and open water (Poole et al. 2009). It is a common summer resident to the Salton Sea, but very uncommon there during the winter; it is rare and local elsewhere in the region (Garrett and Dunn 1981). The Study Area does not provide suitable habitat for this species (i.e. marshes or swamps with dense, tall growths of aquatic or semiaquatic vegetation); therefore, the (western) least bittern is not expected to occur in the Study Area.

Turkey Vulture (*Cathartes aura*) (Breeding)

The turkey vulture is an SBNF Watch List species. This is a widespread species from southern Canada and the United States south to Central and South America (AOU 1998; Kirk and Mossman 1998). Birds that breed in Canada and much of the northern states migrate south for the winter (Kirk and Mossman 1998). In Southern California, this species is a common migrant, but very local winter visitor that occurs primarily along the coast and at the Salton Sea and the Colorado River. It is uncommon throughout Southern California in summer (Garrett and Dunn 1981). In the western United States, they primarily nest in caves and protected rocky outcrops (Kirk and Mossman 1998). The Study Area provides suitable foraging, but a limited amount of suitable nesting habitat for this species; the turkey vulture was observed during focused winter raptor surveys but no nest was found (Exhibit 24). This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

California Condor (*Gymnogyps californianus*)

The California condor is a federally and State-listed Endangered species and a California Fully Protected species. The primary foraging areas in the late 1970s to 1987 included the foothills bordering the southern San Joaquin Valley and auxiliary valleys in San Luis Obispo, Santa Barbara, Kern, and Tulare Counties. This species requires vast expanses of open savannah, grassland, and foothill chaparral with cliffs, large trees, and snags for roosting. The California condor nests in caves, crevices, and large ledges on high sandstone cliffs. In the early 1980s, the total population for this species was estimated at fewer than 20 individuals (Ogden 1982). A captive breeding program was initiated and birds have since been reintroduced into the wild at the Sespe Reserve, Big Sur, and the Grand Canyon. By 2009, the total population was up to 322 individuals (172 in the wild); 40 of these were from Southern California, including several breeding pairs (California Condor Recovery Program 2009). Condors have recently been observed in the western San Gabriel Mountains in the vicinity of Pacoima Dam and Tujunga Wash, but not further east (eBird 2015; CDFW 2015). The Study Area may provide suitable habitat, but is outside the current known range of this species; therefore, the California condor is not expected to occur.

Osprey (*Pandion haliaetus*) (Nesting)

The osprey is a California Fully Protected and Watch List species and is an SBNF Watch List species. A former California Species of Special Concern, numbers of this raptor in California have increased in recent decades (Shuford and Gardali 2008). This species occurs near large bodies of water including rivers, lakes, reservoirs, bays, estuaries, and surf zones (Zeiner et al. 1990a). Along the coast, ospreys occur most commonly through the fall and winter, although a few birds remain throughout the summer (Garrett and Dunn 1981). This species nests on platforms of sticks at the top of large snags, dead-topped trees, cliffs, or man-made structures (Zeiner et al. 1990a). As many as seven individuals of this species were observed along Lake Perris during focused raptor surveys. Except for Lake Perris (which is within the four-mile buffer area for the Focused Raptor Survey), the 1,300-foot wide Study Area does not provide suitable habitat (i.e., large bodies of water) for this species and no osprey have been observed in any other part of the Study Area during protocol level surveys. This species has a low potential to occur, only expected to fly over the Study Area periodically.

White-Tailed Kite (*Elanus leucurus*) (Nesting)

The white-tailed kite is a California Fully Protected species and an SBNF Watch List species. This species is uncommon to locally fairly common resident in coastal Southern California, and a rare visitor and local nester on the western edge of the deserts (Garrett and Dunn 1981). This species nests primarily in oaks (*Quercus* spp.), willows, and sycamores, and forages in grassland and scrub habitats. White-tailed kites show strong site fidelity to nest groves and trees. Many populations in North America have declined in the 1980s and 1990s, including those in Southern California (Dunk 1995). This species was observed along San Timoteo Canyon Road in the South Coast Region of the Study Area during focused raptor surveys. The South Coast Region of the Study Area provides suitable foraging and nesting habitats for this species, and it was observed during the surveys.

Bald Eagle (*Haliaeetus leucocephalus*) (Nesting and Wintering)

The bald eagle is a State-listed Endangered species, a California Fully Protected species, and an SBNF Sensitive species. This species was recently delisted by the USFWS and will be monitored for the next 20 years as part of the Post-Delisting Monitoring Plan for the species. This species requires large bodies of water or free-flowing rivers with abundant fish and adjacent snags or perches, and nests in large, old-growth trees or snags in remote stands near water (Zeiner et al. 1990a). This species was not observed during focused raptor surveys; however, there are records for the bald eagle at Lake Perris and Glen Helen Regional Park (eBird 2015). The 1,300-foot Study Area does not provide suitable habitat for this species (i.e., large bodies of water or free-flowing rivers); therefore, the bald eagle is not expected to occur. This species has a low potential to occur, only expected to fly over the Study Area periodically.

Northern Harrier (*Circus cyaneus*) (Nesting)

The northern harrier is a California Species of Special Concern and an SBNF Watch List species. It is a regular winter migrant in marshes and fields throughout Southern California, but is very scarce as a local breeder (Garrett and Dunn 1981). Some breeding populations may be resident, though the species appears to be nomadic, both between years and during the breeding season. This raptor occurs year-round over open habitats, nesting on the ground within dense vegetation (Shuford and Gardali 2008). This species was observed east of Lake Perris during focused raptor surveys. The South Coast Region of the Study Area provides suitable foraging, but only a limited amount of suitable nesting habitat for this species, and it was observed during the surveys.

Sharp-Shinned Hawk (*Accipiter striatus*) (Nesting)

The sharp-shinned hawk is a California and SBNF Watch List species. This small raptor breeds in high elevation forests in the western United States and boreal forests in Canada and Alaska (Bildsein and Meyer 2000). It is a fairly common migrant and winter visitor, but very rare summer breeder in the mountains of Southern California (Garrett and Dunn 1981). Nesting records exist for higher elevations of the San Gabriel and San Bernardino Mountains (Garrett and Dunn 1981; Stephenson and Calcarone 1999). Two individuals were observed on the north slope of the San Gabriel Mountains in February during focused raptor surveys. The Study Area provides foraging opportunities for this species, but not suitable nesting habitat. It was observed during the surveys.

Cooper's hawk (*Accipiter cooperii*) (Nesting)

Cooper's hawk (*Accipiter cooperii*) is a California and SBNF Watch List species. Breeding populations of this former California Species of Special Concern have increased in recent years as they have expanded into urban areas (Shuford and Gardali 2008). Both resident and migratory populations occur in the region. Wintering Cooper's hawks are often seen in wooded urban areas

and native woodland vegetation types. Preferred nesting habitats are oak and riparian woodlands dominated by sycamores and willows. The Transverse Mountain and South Coast Regions of the Study Area provide both suitable foraging and nesting habitat for this species, and it was observed during the surveys.

Northern Goshawk (*Accipiter gentilis*) (Nesting)

The northern goshawk is a California Species of Special Concern and an SBNF Sensitive species. This is a large raptor of boreal and temperate forests with a Holarctic distribution (AOU 1998; Squires and Reynolds 1997). In Southern California, this species is a very rare resident of mountains, primarily in the San Jacinto Mountains and at Mount Pinos, and possibly the San Bernardino Mountains (Garrett and Dunn 1981). Keane (2008) states that there are only seven confirmed and one suspected nest record for the region with a historical nest in the Cuyamaca Mountains in San Diego County and recent nesting records from Mount Abel, Mount Pinos, and the Tecuya Range in Ventura County and the San Jacinto Mountains in Riverside County. The Study Area does not provide suitable habitat (boreal and temperate forests) and is outside the known range of this species; therefore, the northern goshawk is not expected to occur.

Swainson's Hawk (*Buteo swainsoni*) (Nesting)

Swainson's hawk is a State-listed Threatened species and a SBNF Watch List species. This gregarious raptor migrates and forages in flocks that sometimes number in the thousands. Swainson's hawk formerly bred along the Southern California coast, but breeding is now mostly limited to the Sacramento and San Joaquin Valleys, extreme northeast California, and Mono and Inyo Counties. It breeds over grassland-dominated habitats in North America where its prey generally consists of small rodents, birds, and reptiles. During winter and migration or for non-breeding individuals in summer, this raptor forages primarily on insects (Bechard et al. 2010). Focused surveys for nesting Swainson's hawk in the Study Area were negative. There was one observation of this species, a migrant northeast of Lake Perris on March 20, 2015. This individual was with a flock of turkey vultures, as is common for migrating individuals of this species. Therefore, Swainson's hawk is not expected to nest within the Study Area but is expected to occur as a migrant. The complete Raptor Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 10.

Zone-Tailed Hawk (*Buteo albonotatus*)

The zone-tailed hawk is an SBNF Watch List species. This is a widespread neotropical species that reaches its northern limits in the southwestern U.S. from central Texas west to Southern California (AOU 1998; Johnson, et al. 2000). Although primarily a rare fall and winter visitor to southern coastal areas, this hawk has nested at three inland locations in California: 1979 to 1982 on Santa Rosa Mountain in Riverside County; 1986 to 1992 on Hot Springs Mountain in San Diego County; and 2010 to 2015 on the Mid Hill mountains of the Mojave National Preserve in San Bernardino County (Unitt 2004; Hamilton et al. 2007; eBird 2015). This species was not detected during focused raptor surveys. The Study Area provides suitable foraging, but a limited amount of suitable nesting habitat; however, the zone-tailed hawk is not expected to occur in the Study Area due to its extremely rare status in the region.

Ferruginous Hawk (*Buteo regalis*) (Wintering)

The ferruginous hawk is a California and SBNF Watch List species. This is an open-country raptor that inhabits grasslands, shrublands, rangelands, and plowed agricultural fields. It winters exclusively in California (Bechard and Schmutz 1995). In Southern California, it is a rare to uncommon winter visitor to coastal areas, but is fairly common locally around agricultural areas and some valleys in the interior of Southern California (Garrett and Dunn 1981). One individual

was observed over the San Bernardino Airport on March 6, 2015 during focused raptor surveys. The Study Area provides a limited amount of suitable foraging (i.e., grasslands/shrublands). This species does not nest in Southern California. It was observed during the surveys as a winter visitor. This species has a low potential to occur for foraging, and no potential for nesting.

Golden Eagle (*Aquila chrysaetos*) (Nesting and Wintering)

The golden eagle is a California Fully Protected species and a California and SBNF Watch List species. Golden eagles generally inhabit open and semi-open country such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions in areas with sufficient mammalian prey base and near suitable nesting sites. Breeding occurs primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas of western U.S. (Kochert et al. 2002). During focused golden eagle aerial surveys, two adult golden eagles were observed flying just above Lone Pine Canyon Road in the Cajon Pass area. The Study Area provides suitable habitat for this species, and the observation made during the focused survey indicates that this species is expected to winter and/or nest in the Study Area. This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

Western Snowy Plover (*Charadrius alexandrinus nivosus*) (Nesting)

The western snowy plover is a federally listed Threatened species and a California Species of Special Concern. The western snowy plover breeds primarily on coastal beaches from southern Washington to Magdalena Bay, Baja California Sur, Mexico (Page et al. 2009). During breeding season, this species is found above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Less common nesting habitat includes bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars (USFWS 2007). The Study Area does not provide suitable habitat for this species (i.e., beaches); therefore, the western snowy plover is not expected to occur.

Mountain Plover (*Charadrius montanus*) (Wintering)

The mountain plover is a California Species of Special Concern. This species breeds on the high plains or “tablelands” of northern Montana and extreme southern Canada, south through Wyoming, northeast Utah, Colorado, New Mexico, Oklahoma, and Texas. Most birds winter in California, primarily in the Sacramento, San Joaquin, and Imperial valleys, but with some birds west of the Coast Ranges in coastal valleys (Knopf and Wunder 2006). Their preferred winter habitat consists of dry short-grass plains and fields, plowed fields, and sandy deserts up to approximately 8,200 feet above msl (AOU 1998). The mountain plover does not occur in Southern California as a breeder. The Study Area also does not provide suitable wintering habitat for this species (i.e., dry short-grass plains, fields, sandy deserts); therefore, the mountain plover is not expected to occur.

Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*) (Nesting)

The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is a federally listed Threatened, State-listed Endangered, and SBNF Sensitive species. Although predominantly found in the eastern U.S. and Mexico, this species occurs in California at isolated sites in the Sacramento Valley of Northern California, and along the Kern and Colorado River systems in Southern California (Gaines and Laymon 1984; Laymon and Halterman 1989; Hughes 2015). Breeding habitat is generally deciduous riparian woodland, especially dense stands of cottonwood and willow, but also including mesquite and salt-cedar (tamarisk) in some areas (Halterman 1991; Rosenberg et al. 1991; Hunter et al. 1998; Johnson et al. 2008). The western yellow-billed cuckoo

prefers patches of riparian habitat greater than 200 acres and at least 330 feet in width (Hughes 2015; USFWS 2013). Riparian habitats in the Study Area are not extensive enough to provide suitable breeding habitat for this species; therefore, the western yellow-billed cuckoo is not expected to occur in the Study Area.

Flammulated Owl (*Psiloscopus [Otus] flammeolus*) (Nesting)

The flammulated owl is an SBNF Watch List species. The breeding range of this species in California is found throughout the Cascades and Sierra Nevada; the interior Coast Ranges; and the Transverse and Peninsular Ranges. It primarily occupies open, mature to old ponderosa pine or other forest with similar features (e.g., dry montane conifer or aspen [*Populus*] forests, often with oak, dense saplings, or other brushy understory (Linkhart and McCallum 2013). The Study Area does not provide suitable habitat for this species (i.e., open, mature to old ponderosa pine or other forests); therefore, the flammulated owl is not expected to occur.

Western Screech-Owl (*Otus [Megascops] kennicottii*)

The western screech owl is an SBNF Watch List species. Although considered a resident throughout California, its distribution is often patchy; it is apparently absent from the higher regions of northern and north-central mountains, Warner Mountains, Cascade-Sierra axis, White Mountains, southern mountains, central and western Mojave Desert, Salton Sea Basin, and recently, highly urbanized areas in coastal lowlands from Ventura County south to San Diego County (Garrett and Dunn 1981; Unitt 2004). This species occupies a wide variety of woodland and forest habitats, with the highest densities in riparian deciduous woodlands at low elevations (Canning and Angell 2001). The Transverse Mountain and South Coast Regions of the Study Area provide a limited amount of suitable habitat for this species; therefore, the western screech owl has a moderate potential to occur based on the limited amount of woodland/riparian habitat within the Study Area.

Northern Pygmy-Owl (*Glaucidium gnoma*)

The northern pygmy-owl is an SBNF Watch List species. This species occupies forests or open woodlands in foothills and mountains, including adjacent meadows while foraging (AOU 1998). Specific nesting habitat is more variable and includes pure and mixed species coniferous forests, mixed coniferous-deciduous riparian forests, aspen stands in pine forests, and highland pine forests (Holt and Petersen 2000). The southern limits of the northern pygmy-owl are the San Bernardino Mountains; previous reports of observations south of San Diego County (Unitt 2004) and the San Jacinto Mountains have been recanted. During the focused raptor surveys, this species was heard calling on Lytle Creek Road in the Transverse Mountain Region of the Study Area. The Transverse Mountain Region of the Study Area provides a limited amount of suitable habitat for this species, and it was observed during the surveys.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California Species of Special Concern and an SBNF Watch List species. Burrowing owls are year-round residents of Southern and Central California. This species generally inhabits gently sloping areas, characterized by low, sparse vegetation within open, treeless areas within grassland, steppe, and desert biomes. Threats to this species include habitat loss/degradation due to agricultural cultivation (Poulin et al. 2011). The burrowing owl was targeted separately from other raptors through focused surveys which were conducted during the breeding season; no burrowing owls were observed during these surveys. Accordingly, the burrowing owl is considered absent from the Study Area during the breeding season, but may still occur as a winter resident. The complete Burrowing Owl Report for the Proposed Project, which includes detailed survey methodologies and data collected, is provided in Attachment 7.

California Spotted Owl (*Strix occidentalis occidentalis*)

The California spotted owl is a California Species of Special Concern, an SBNF Watch List species, and an SBNF Management Indicator species. This is one of three subspecies of spotted owls that occurs in the United States; —the others are the Mexican spotted owl (*S. o. lucida*) found in the southwestern states and Mexico, and the northern spotted owl (*S. o. caurina*) of western Washington, Oregon, and California (Gutiérrez 1995). The California spotted owl occurs in habitat that has a mixture of tree sizes and usually at least two canopy layers, with some very large, old trees present. These older trees provide cavities that spotted owls use for nesting (Verner et al. 1992). The Cajon Pass separates the easternmost San Gabriel Mountain California spotted owl territory from the westernmost San Bernardino Mountain territory by six miles (Stephenson and Calcarone 1999). The Study Area does not provide suitable habitat for this species (forested areas); therefore, the California spotted owl is not expected to occur.

Long-Eared Owl (*Asio otus*) (Nesting)

The long-eared owl is a California Species of Special Concern and an SBNF Watch List species. The breeding range of this species in California includes Central and coastal Southern California (AOU 1998). This species occupies coniferous, deciduous and evergreen forests, orchards, wooded parks, farm woodlots, river woods, and desert oases. Wooded areas with dense vegetation are needed for roosting and nesting, while open grasslands or shrublands are needed for hunting (Marks et al. 1994; AOU 1998). Population declines in Southern California are attributed to loss of riparian and grassland habitats to development (Marti and Marks 1989; Bloom 1994). This species was not detected during focused raptor surveys; however there are records for this species at Lake Perris and the nearby San Jacinto Wildlife Area. The Transverse Mountain and South Coast Regions of the Study Area provide a limited amount of suitable habitat for this species; therefore, the long-eared owl has a low potential to occur.

Northern Saw-Whet Owl (*Aegolius acadicus*)

The northern saw-whet owl is an SBNF Watch List species. Its breeding and non-breeding range extends across the continental U.S. This species occupies mixed forest habitats that have dense conifers for roosting and deciduous trees for nesting and foraging; they are also known to inhabit coniferous swamps, savannahs, riparian areas, and shrub-steppe habitat (Rasmussen et al. 2008). The Study Area does not provide suitable habitat for this species; therefore, the northern saw-whet owl is not expected to occur.

Common Nighthawk (*Chordeiles minor*)

The common nighthawk is an SBNF Watch List species. This neotropical migrant is a widespread breeder in North and Central America and winters in South America (Brigham et al. 2011). It breeds along the northern coastal range south to Mendocino County and the Sierra Nevada range south to Tulare County and the White Mountains, and disjunctly in the San Bernardino Mountains in Southern California (AOU 1998; Brigham et al. 2011). It occupies a wide variety of open and semi-open habitats, especially savanna, grasslands, and fields, and around human habitations (AOU 1998). The population at Baldwin Lake in the San Bernardino Mountains is the only breeding population in the Transverse Mountains Region, and while there have been sightings reported at Table Mountain in the San Gabriel Mountains since the 1980s, they are few and unreliable (Garrett and Dunn 1981; eBird 2015). The Study Area is outside the known range of this species; therefore, the common nighthawk is not expected to occur.

Mexican Whip-oor-Will (*Antrostomus [Caprimulgus] arizonae*)

The Mexican whip-poor-will is an SBNF Watch List species. In 2010, the American Ornithologists' Union formerly recognized the "western" or "arizonae" group of whip-poor-will as a full species distinct from the "eastern" or "vociferus" whip-poor-will group. The western group was assigned the name of Mexican whip-poor-will (*C. arizonae*) and includes five subspecies that breed from the southwestern United States to Honduras and El Salvador (AOU 2010). The eastern whip-poor-will (*C. vociferous*) is monotypic and breeds in southern Canada and the eastern United States (Cink 2002). The two species are migratory and best distinguished by song. In Southern California, this species is a rare and very local summer resident in the San Gabriel, San Bernardino, and San Jacinto Mountains; it is found on steep mountain slopes with a mixture of oaks and conifers (Garrett and Dunn 1981). The Study Area does not provide suitable habitat for this species (steep mountain slopes with a mixture of oaks and conifers); therefore, the Mexican whip-poor-will is not expected to occur.

Black Swift (*Cypseloides niger*) (Nesting)

The black swift is a California Species of Special Concern and a SBNF Watch List species. The breeding range in California includes the Cascade-Sierra Nevada region, from Shasta and Siskiyou Counties south to Tulare and Mono Counties; along and near the coast from Santa Cruz County south to San Luis Obispo County and in Southern California, in the San Gabriel, San Bernardino, and San Jacinto Mountains (Garrett and Dunn 1981; Foerster and Collins 1990). This species nests in dark, inaccessible sites with unobstructed flight paths on ledges or shallow caves in steep rock faces and canyons, usually behind or next to waterfalls, on sea cliffs and in sea caves, and occasionally in limestone caves (Knorr and Knorr 1990; Foerster and Collins 1990; Legg 1956; Davis 1964). Threats to this species are largely unknown (Lowther et al. 2002). The Study Area does not provide suitable habitat and is outside the known range for this species; therefore, the black swift is not expected to occur for breeding but may occur as rare migrant.

Calliope Hummingbird (*Selasphorus [Stellula] calliope*)

The calliope hummingbird is an SBNF Watch List species. This is a neotropical migrant that breeds in the mountains of southwest Canada, western United States, and northern Baja California, Mexico (Calder and Calder 1994; AOU 1998). It primarily winters in western Mexico from southern Sinaloa and Durango south to Oaxaca (Calder and Calder 1994). In Southern California, it is a fairly common but local breeder in the mountains, including the northern side of the San Gabriel Mountains, the northern and eastern slopes of the San Bernardino Mountains, and the San Jacinto Mountains. Breeding habitat in Southern California consists of mountain meadows and streamside thickets of willows within arid mixed coniferous forest (Garrett and Dunn 1981). The Study Area does not provide suitable breeding habitat for this species; therefore, the calliope hummingbird is not expected to occur for breeding but may occur as a rare migrant.

Lewis's Woodpecker (*Melanerpes lewis*) (Nesting)

Lewis's woodpecker is an SBNF Watch List species. This species occurs west of the Great Plains and breeds in open forests ranging from low-elevation riparian habitats to higher-elevation burns and pine forests. Throughout its range, it has an irregular distribution and is relatively uncommon (Vierling et al. 2013). Its movements in Southern California are very erratic, but it is generally a fairly common winter visitor to interior areas of the coastal zone, the lower slopes of the mountains, and in the northern deserts. Although rare, breeding has primarily occurred in the northern part of the region, but there are nesting records for the San Bernardino Mountains (near Big Bear Lake in 1968 and near Pioneertown in 1979) and at Big Pine, Inyo County (Garrett and Dunn 1981). The Transverse Mountain and South Coast regions of the Study Area provide a limited amount of suitable wintering habitat; therefore, Lewis's woodpecker has a moderate

potential to occasionally winter in the Transverse Mountain and South Coast Regions of the Study Area.

Williamson's Sapsucker (*Sphyrapicus thyroideus*)

Williamson's sapsucker is an SBNF Watch List species. This species inhabits open coniferous and mixed coniferous-deciduous forests in western North America (Gyug et al. 2012). It is a latitudinal and altitudinal migrant, largely withdrawing from northern parts of its breeding range and wintering as far south as northern Michoacan, Mexico (AOU 1998; Gyug et al. 2012). In Southern California, this species is a year-round breeding resident at high elevations in coniferous forests dominated by lodgepole pines and firs. It is present in the San Gabriel, San Bernardino, and San Jacinto Mountains, with the highest density of birds in the San Bernardino Mountains near Big Bear Lake and Mount San Gorgonio. It is very rare away from areas of regular occurrence (Garrett and Dunn 1981). The Study Area does not provide suitable habitat for this species (i.e., coniferous forests); therefore, Williamson's sapsucker is not expected to occur.

Red-Breasted Sapsucker (*Sphyrapicus ruber*) (Nesting)

The red-breasted sapsucker is an SBNF Watch List species. This species breeds in woodlands and forests of coastal lowlands and mountain ranges from southeast Alaska to northwest Baja California, Mexico extending inland to the Sierra Nevada and extreme western Nevada (Lake Tahoe); locally in southern Nevada; and possibly in western Arizona (Mohave County). It winters throughout much of the breeding range, but expands southward to include most of California (west of deserts) and northwest Baja California, Mexico (AOU 1998, Walters et al. 2014). In Southern California, this is a fairly common breeder in mountains west of the deserts, and it breeds in coniferous forests that have a mixture of deciduous trees (Garrett and Dunn 1981). The Transverse Mountain and South Coast regions of the Study Area provide suitable wintering habitat (i.e., lowland mixed woodlands), but no suitable breeding habitat (higher elevation conifer forests); therefore, the red-breasted sapsucker has a moderate potential to occur in the Study Area in winter, but not in summer.

Nuttall's Woodpecker (*Picoides nuttallii*) (Nesting)

Nuttall's woodpecker is an SBNF Watch List species. Nuttall's woodpecker is a resident from Northern California south to Baja California, Mexico and is generally found west of the Sierra divide and deserts. This species primarily occupies oak woodlands, but is also found in riparian woodlands and, rarely, in conifer forests. It tends to be found in greater numbers in riparian habitats in Southern California as oaks decrease in abundance. Human activities such as urban, suburban, or agricultural development that result in reducing extent or quality of oak woodlands and riparian habitats impact total numbers (Lowther 2000). The Transverse Mountain and South Coast regions of the Study Area provide suitable habitat for Nuttall's woodpecker, and it was observed in both regions during the surveys.

White-Headed Woodpecker (*Picoides albolarvatus*) (Nesting)

The white-headed woodpecker is a California Species of Special Concern and an SBNF Watch List species. This species is restricted to mixed conifer forests in far western North America from south-central British Columbia to Southern California (Kimbal et al. 1996). In Southern California they are generally found in the highest mountain ranges (Garret and Dunn 1981). Breeding occurs in the Mt. Pinos region west to the mountains of east-central Santa Barbara County and eastern Ventura County. It also breeds in the Transverse Ranges in the San Gabriel and San Bernardino Mountains, in the San Jacinto Mountains, Santa Rosa Mountains, and high mountains of San Diego County (Lentz 1993; Lehman 1994; Unitt 1984). The Study Area does not provide suitable habitat for this species; therefore, the white-headed woodpecker is not expected to occur.

Merlin (*Falco columbarius*) (Wintering)

The merlin is a California and SBNF Watch List species. This small falcon is widespread in North America and prefers vast open space areas such as estuaries, grasslands, and deserts where it hunts small flocking birds such as sandpipers, larks, sparrows, and pipits (Warkentin et al. 2005). This species is generally a rare to uncommon migrant and winter visitor to California (Garrett and Dunn 1981). The Study Area provides suitable foraging, but no suitable nesting habitat for this species; therefore, the merlin is expected to occur throughout the Study Area as a migrant, but only in the South Coast Region during the winter season. This species has a moderate potential to occur during the winter within the Study Area.

American Peregrine Falcon (*Falco peregrinus anatum*) (Nesting)

The American peregrine falcon is a California Fully Protected species and an SBNF Watch List species. Due to recent population gains, this species was delisted from the federal list of Endangered species by the USFWS (1999a), and the California Fish and Wildlife Commission voted for its removal on December 12, 2008, from the California list of Endangered species by the CDFW. As a delisted species, the peregrine falcon will continue to be periodically monitored until 2015 (USFWS 2006a). Peregrine falcons prey almost exclusively on birds and use a variety of habitats, particularly wetlands and coastal areas. While this falcon is a rare summer resident in Southern California, it is more common during migration and the winter season. For nesting, this falcon prefers inaccessible areas such as those provided by cliffs, high building ledges, bridges, and other such structures. A single peregrine falcon was observed in the Study Area during focused raptor surveys, perched in a tree. The Transverse Mountain and South Coast regions of the Study Area provide suitable foraging and a limited amount of suitable nesting habitat for this species, but no nests or nesting sites were identified. This species has a high potential to occur for foraging and low potential to occur for nesting within the Study Area.

Prairie Falcon (*Falco mexicanus*) (Nesting)

The prairie falcon is a California and SBNF Watch List species. Preferred foraging habitats include grassland and scrub vegetation types. It is an uncommon year-round resident in the interior of Southern California (Garrett and Dunn 1981). Prairie falcons nest almost exclusively on cliffs (Clark and Wheeler 2001). The prairie falcon is an increasingly scarce winter resident and very rare summer resident along the Southern California coast (Unitt 1984; Lehman 1994; Hamilton and Willick 1996). All four Study Area regions provide suitable foraging and a limited amount of potentially suitable nesting habitat for this species. One prairie falcon was observed near Lake Perris during focused raptor surveys, but no nests or nesting sites were identified.

Olive-Sided Flycatcher (*Contopus cooperi*) (Nesting)

The olive-sided flycatcher is a California Species of Special Concern. This species is a long-distance migrant between its North American breeding grounds and Central and South American wintering grounds (Murphy 1989). Olive-sided flycatcher breeds throughout Alaska, Canada, and down into western and northeastern North America, and Mexico (AOU 1998). Within the forest habitats that this species breeds in, it is most often associated with openings, edges, or human-made openings (Altman and Sallabanks 2012). The Transverse Mountain Region of the Study Area provides a limited amount of suitable nesting habitat for this species; however, only migrant olive-sided flycatchers were observed during the surveys. This species has a low potential to occur for nesting within the Study Area.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*) (Nesting)

The southwestern willow flycatcher is a federally and State-listed Endangered species. The breeding range of southwestern willow flycatcher includes Southern California, Arizona, New Mexico, western Texas, and the extreme southern parts of Nevada and Utah (USFWS 1993). It breeds in willow-dominated riparian habitats that are similar to least Bell's vireo nesting habitats, but this species appears to show a stronger preference for sites with surface water in the vicinity, such as along streams, on the margins of a pond or lake, and at wet mountain meadows (Grinnell and Miller 1986; Flett and Sanders 1987; Harris et al. 1987). In Arizona, the southwestern willow flycatcher invariably nests near surface water (Phillips et al. 1964). Recently, the southwestern willow flycatcher has adapted to introduced vegetation present in riparian communities, such as tamarix (*Tamarix* sp.) and Russian olive (*Elaeagnus angustifolia*) (USFWS 1993).

On January 3, 2013, the USFWS published a final rule designating critical habitat for the southwestern willow flycatcher (USFWS 2013). A portion of the Study Area in the Santa Ana River is located within the Critical Habitat designation.

The Transverse Mountain and South Coast regions of the Study Area provides suitable habitat for this species; however, the focused surveys for southwestern willow flycatcher were negative and it is not expected to occur due to the negative survey findings. The complete Least Bell's Vireo and Southwestern Willow Flycatcher Report for the Proposed Project, which includes detailed survey methodologies and data collected, is provided in Attachment 9.

Gray Flycatcher (*Empidonax wrightii*)

The gray flycatcher is an SBNF Watch List species. This species breeds in pinyon/juniper woodlands and scrub habitats of the interior western United States, and it winters in Mexico and southeastern Arizona (Schlossberg and Sterling 2013). In Southern California, it is a common summer resident of the desert mountain ranges and locally on the arid slopes of the Transverse Ranges including the San Gabriel and San Bernardino Mountains (Garrett and Dunn 1981). Breeding locations include Sheep Creek near Wrightwood in the San Gabriel Mountains and areas east of Baldwin Lake in the San Bernardino Mountains (Stephenson and Calcarone 1999). Possible threats to this species include nest parasitism by brown-headed cowbird (*Molothrus ater*) and stand replacement due to increased fires (Stephenson and Calcarone 1999). The Study Area does not provide suitable nesting habitat for this species; therefore, the gray flycatcher is not expected to occur for breeding, but may occur as a rare migrant.

Loggerhead Shrike (*Lanius ludovicianus*) (Nesting)

The loggerhead shrike is a California Species of Special Concern and an SBNF Watch List species. This species has a wide distribution across the United States, including south-central Canada and much of Mexico, but it has declined throughout much of this range in recent decades. The loggerhead shrike was considered to be a fairly common year-round resident in Southern California (Garrett and Dunn 1981). It still occupies much of its former California range, but has been extirpated locally or shown reduction in overall numbers at many locations (Humble 2008). Shrikes inhabit open habitats with short vegetation such as pastures, agricultural fields, riparian areas, and open woodlands (Yosef 1996). They can often be seen perched on fences and posts from which they hang prey items (e.g., large insects, small mammals, and lizards). The Study Area provides suitable habitat for this species and it was observed primarily in the Mojave Desert Region during the surveys.

Least Bell's Vireo (*Vireo bellii pusillus*) (Nesting)

The least Bell's vireo is a federally and State-listed Endangered species. The vireo is now a rare and local summer resident of Southern California's lowland riparian woodlands. While destruction of lowland riparian habitats has played a large role in driving this species to its present situation, brood parasitism by brown-headed cowbirds is the most important factor in its decline (Garrett and Dunn 1981). The least Bell's vireo breeds primarily in riparian habitats dominated by willows with dense understory vegetation (USFWS 1986). A dense shrub layer two to ten feet above ground is the most important habitat characteristic for this species (Goldwasser 1981). The Transverse Mountain and South Coast Regions of the Study Area provide suitable nesting and foraging habitat for this species.

A total of 15 least Bell's vireo territories were established in the riparian bird Study Area during these focused surveys (Exhibits 25). A territory is defined as a singing male observed or heard consistently in the same location on multiple surveys. Many of these males were likely paired and had nests, but this wasn't documented during these surveys due to the visibility limitations of the dense vegetation, the secretive behavior of females, and the difficulties of finding nests. Fledglings were observed and heard later in the season at a few locations that confirmed these territories were suitable for breeding.

The majority of these territories (at least 13) were present in the Santa Ana River upstream and downstream of South Waterman Avenue. The other two least Bell's vireo territories were upstream in the Santa Ana River at Orange Show Road and Tippecanoe Avenue. The only other least Bell's vireo sighting in the riparian bird Study Area during these surveys was of a singing male, which was detected along Cajon Creek on June 27, 2015. At this late date in the spring, and since it was not observed again, this male least Bell's vireo is considered to be an unpaired male that was wandering and not in an established territory.

The complete Least Bell's Vireo and Southwestern Willow Flycatcher Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 9.

Gray Vireo (*Vireo vicinior*) (Nesting)

The gray vireo is a California Species of Special Concern and a SBNF Sensitive species. This species is endemic to the southwestern United States and northwestern Mexico (AOU 1998). The species breeds in the mountains of Southern California, southern Nevada, southern Utah, Arizona, New Mexico, extreme northwestern Oklahoma, west Texas, northwestern Coahuila in Mexico, and possibly southwestern Wyoming (Unitt 2008). It occupies arid habitats such as dry oak-juniper and pinyon-juniper woodlands, dry chaparral, and thorn scrub (AOU 1998). This is a short-distance migrant that departs most of its breeding range by early autumn to winter in southern Arizona, southwest Texas, and Baja California Sur and Sonora, Mexico (Barlow et al. 1999). In California, this species breeds in several Mojave mountain ranges (Panamint, Grapevine, Kingston, Clark, New York, Mid Hills, and Providence), the northeastern slopes of the San Bernardino Mountains, the desert slopes of the San Jacinto and Santa Rosa mountains, and patchily in the mountains of San Diego County (Unitt 2008). A wintering population associated with elephant trees (*Bursera microphylla*) concentrated at one small area of the Anza-Borrego Desert in San Diego County was more recently discovered (Unitt 2000). The Transverse Mountain Region of the Study Area provides a limited amount of potentially suitable nesting habitat for this species, but is outside its currently known range; therefore, the gray vireo is not expected to occur.

Plumbeous Vireo (*Vireo plumbeus*)

The plumbeous vireo is an SBNF Watch List species. This species is found primarily in montane coniferous and mixed forests in Transition Zone at an elevation range of approximately 3,800 feet to 8,200 feet above msl, but also found in Upper Sonoran Zone, and locally in deciduous riparian woodland in arid intermontane basins above 3,000 feet above msl that are typically dominated by ponderosa pine (*Pinus ponderosa*) (Barlow 1977). This species breeds predominantly in the interior, mostly montane regions of western U.S., south through Mexico to Honduras and El Salvador. In California, it breeds along the eastern slope of the southern Sierra Nevada (central and eastern Mono and Inyo Counties), irregularly at Clark Mountain and in the San Bernardino Mountains in San Bernardino County, and possibly elsewhere in the central and eastern portions of the state (Goguen and Curson 2012). It winters in small numbers in coastal Southern California (Lehman 1994). The Transverse Mountain and South Coast Regions of the Study Area do not provide suitable habitat for this species; therefore, the plumbeous vireo is not expected to occur for breeding, but is expected to occur as a migrant or winter visitor.

Cassin's Vireo (*Vireo cassinii*)

Cassin's vireo is an SBNF Watch List species. This species breeds in the extreme western, mostly montane, regions of North America from British Columbia to Baja California, Mexico (AOU 1998). This species occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills at elevations from approximately 400 feet to 7,770 feet above msl in the southern part of its range and from sea level to 3,900 feet above msl in the north; however, it is found mostly in deciduous-dominated habitats, particularly oak in coastal regions and coniferous habitats of the Transition Zone, particularly ponderosa pine and Douglas fir (*Pseudotsuga menziesii*), in the interior (Small 1994; Campbell et al. 1997; AOU 1998). In Southern California, it breeds in the San Jacinto Mountains, Santa Rosa Mountains, and on the coastal slope of mountains in San Diego County (Garrett and Dunn 1981; Unitt 2004). It winters in small numbers in San Diego County, and casually in interior Southern California (Garrett and Dunn 1981). The primary threat to this species includes breeding habitat degradation due to land-use practices (Goguen and Curson 2002). The Transverse Mountain and South Coast Regions of the Study Area provide suitable nesting habitat for this species; therefore, Cassin's vireo is expected to occur either as a breeder or migrant. This species has a low potential to occur for nesting within the Study Area.

Warbling Vireo (*Vireo gilvus*)

The warbling vireo is an SBNF Watch List species. This species breeds in the extreme western, mostly montane, regions of North America from British Columbia to Baja California, Mexico; it is widespread in Northern California in the Klamath Mountains, the Coast Ranges, the Cascades and Warner Mountains, south through Sierra Nevada (mostly confined to west slope) and Tehachapi Mountains; and from San Francisco south through the Diablo Range and coastal ranges to San Gabriel Mountains and southern and western parts of San Bernardino Mountains (Gardali and Ballard 2000). In extreme southwestern California, it breeds in the San Jacinto Mountains, the Santa Rosa Mountains, and on the coastal slope of mountains in San Diego County (Garrett and Dunn 1981). This species occupies coniferous, mixed-coniferous/deciduous, and deciduous forests in mountains and foothills at elevations from approximately 400 feet to 7,900 feet above msl in the southern part of its range, and from sea level to 4,000 feet above msl in the north; however, it is found mostly in deciduous-dominated habitats, particularly oak in coastal regions and in coniferous habitats of the Transition Zone, particularly ponderosa pine and Douglas fir, in the interior (Campbell et al. 1997; AOU 1998; Gardali and Ballard 2000). The Transverse Mountain Region of the Study Area provides suitable breeding habitat for this species; therefore, the warbling vireo has a low potential to occur for nesting within the Study Area. This species was observed as a migrant.

California Horned Lark (*Eremophila alpestris actial*)

The California horned lark is a California and SBNF Watch List species. The California horned lark is a year-round resident in California (Zeiner et al. 1990a), and it breeds in Canada and Alaska (Beason 1995). This species occupies open, generally barren country, avoids forests, and prefers bare ground to grasses taller than a few centimeters (Wiens et al. 1987). The Study Area provides suitable habitat for this species and it was observed in the Mojave Desert and South Coast Regions of the Study Area during surveys.

Purple Martin (*Progne subis*) (Nesting)

The purple martin is a California Species of Special Concern and an SBNF Watch List species. This species is an uncommon to rare local summer resident in a variety of woodland and low-elevation habitats in the state, where it is a rare migrant in spring and fall. This species feeds on flying insects as it forages over riparian areas, forests, and woodland; it is found in a variety of habitats during migration (Zeiner et al. 1990a). Purple martins are secondary cavity nesters, usually selecting a nest site in a conifer or sycamore (Gallagher 1997). The Transverse Mountain Region of the Study Area provides a limited amount of suitable habitat, but it is outside known areas of breeding for this species; therefore, the purple martin is not expected to occur for breeding but may occur as rare migrant.

Tree Swallow (*Tachycineta bicolor*)

The tree swallow (*Tachycineta bicolor*) is an SBNF Watch List species. This species occupies open areas near bodies of water that include fields, marshes, shorelines, and wooded swamps with standing dead trees. Although found throughout the North American continent, in California this species winters in Southern California and breeds from the extreme southwest north through Central and Northern California. The Study Area provides suitable habitat for this species; therefore, the tree swallow is expected to occur. This species has a high potential to occur for nesting within the Study Area.

San Diego Cactus Wren (*Campylorhynchus bruneicapillus sandiegense*) (San Diego and Orange Counties only)

The San Diego cactus wren is a California Species of Special Concern and an SBNF Sensitive species. Coastal populations of the cactus wren are found in Southern California from San Diego County north to Ventura County (Garrett and Dunn 1981). On the coastal slope of Southern California, cactus wrens inhabit coastal sage scrub and alluvial sage scrub habitats that have sufficient amounts of prickly pear cactus and/or cholla (*Opuntia* spp.). The San Diego cactus wren is not expected to occur because the Study Area is outside the known range for this subspecies. Observations of cactus wrens reported during surveys are members of a difference subspecies.

Coastal California Gnatcatcher (*Polioptila californica californica*)

The coastal California gnatcatcher is a federally listed Threatened species and a California Species of Special Concern. This subspecies occurs in most of Baja California and Mexico's arid regions, but it is extremely localized in the U.S. where it predominantly occurs in coastal regions of highly urbanized Los Angeles, Orange, Riverside, and San Diego Counties (Atwood 1992). In California, this subspecies is an obligate resident of coastal sage scrub vegetation types. Coastal California gnatcatchers also use chaparral, grassland, and riparian habitats that are in close proximity to sage scrub. These non-sage scrub habitats are used for dispersal and foraging (Atwood et al. 1998; Campbell et al. 1998; USFWS 2003). Availability of these non-sage scrub areas is essential during certain times of the year, particularly during drought conditions or for dispersal, foraging, or nesting (USFWS 2003). Brood parasitism by brown-headed cowbirds and

loss of habitat to urban development have been cited as causes of population declines for the coastal California gnatcatcher (Unitt 1984; Atwood 1990).

The USFWS published a Revised Final Rule designating critical habitat for the coastal California gnatcatcher in 2007 (USFWS 2007). This revised rule designates 197,303 acres of critical habitat in San Diego, Orange, Riverside, San Bernardino, Los Angeles, and Ventura Counties, California. A total of six Study Area Units within the Proposed Project alignment are located entirely and/or partially within critical habitat for the gnatcatcher. These Units are located south of I-10 and east of I-215 on either side of Reche Canyon Road.

The Transverse Mountain and South Coast Regions of the Study Area provide suitable habitat for this species; however, focused protocol level surveys for coastal California gnatcatcher were negative and it is not expected to occur in the Study Area. The complete Coastal California Gnatcatcher Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 8.

American Dipper (*Cinclus mexicanus*)

The American dipper is an SBNF Watch List species. This species occurs in the Aleutian Islands and western Alaska south through the Cascade Range, Rocky Mountains, Sierra Nevada, and Coast Ranges of the western United States, and the Sierra Madre ranges of Mexico to western Panama (Kingery 1996). It is a non-migratory species. American dippers occur year-round along fast-flowing, clear streams in mountain canyons. They often nest near bridges, small waterfalls and small diversion dams, and cliffs or boulders with overhanging ledges (Garrett and Dunn 1981; Kingery 1996). The Transverse Mountain Region of the Study Area may provide suitable habitat, but it is outside known occurrences for the species, and it is not expected to occur.

Swainson's Thrush (*Catharus ustulatus*)

Swainson's thrush is an SBNF Watch List species. This species occupies dense vegetation in coniferous forests, mixed hardwood-conifer forests, e.g., across Canada and northern New England, predominantly hardwood forests, e.g., in Northeast, riparian woodland and thickets of willow or alder, e.g., California and other western states at south end of range, aspen forests, e.g., southwest part of range, and sometimes coastal scrub. Depending on the location, this species may be associated with young, mature, or old-growth forests (Mack and Wong 2000). In California, this species breeds from the Oregon border south through coast range to Sonoma County (except higher elevations in northwest and eastern portions and grasslands in southeast); throughout the lower elevations of Marin County, along the central California coast to northern Santa Barbara County, locally along the South Coast (including San Gabriel and western San Bernardino Mountains) through San Diego County, and intermittently on Santa Catalina Island (Garrett and Dunn 1981). The Transverse Mountain and South Coast Regions of the Study Area provide suitable breeding habitat for this species; therefore, Swainson's thrush has a low potential to occur as a breeder and a high potential to occur as a migrant.

Hermit Thrush (*Catharus guttatus*) (Breeding)

The hermit thrush is an SBNF Watch List species. This species breeds in the boreal zone of Canada and locally in the high mountains of the western United States. It is a neotropical migrant that winters in the southern United States and Mexico south to Guatemala and east to Bermuda, but also along the Pacific Coast north to southwest British Columbia and north in the east to New England; it is the only *Catharus* thrush to winter in North America (AOU 1998; Dellinger et al. 2012). In Southern California, this species is a common migrant and winter visitor along the coast, uncommon in the interior, and an uncommon and local summer resident in mountain forests where it is most numerous at higher elevations of the San Bernardino Mountains (Garrett and

Dunn 1981). The Study Area provides suitable winter habitat for this species and it is expected to occur during migration and winter; no suitable nesting habitat is present and the hermit thrush is not expected to occur in the Study Area in the summer.

Bendire's Thrasher (*Toxostoma bendirei*)

Bendire's thrasher is a California Species of Special Concern and an SBNF Watch List species. It is endemic to the southwestern United States and northwestern Mexico (England and Laudenslayer 1993; AOU 1998). The northern breeding limits are the eastern Mojave in Inyo County, California; southern Nevada; southern Utah; and southwest Colorado (England and Laudenslayer 1993; AOU 1998; Sterling 2008). It occupies desert habitats, primarily in areas with tall open vegetation such as cholla, Joshua trees, yucca, and adjacent juniper woodland, but is also present locally in agricultural areas with adjacent grassland with scattered shrubs and yuccas (AOU 1998). It is partially migratory with northern birds vacating their summer breeding range to join year-round residents in southern parts of the range (England and Laudenslayer 1993). Its current California breeding range consists of isolated areas in the Mojave and northern Colorado Deserts that include Kern, Inyo, Riverside, and San Bernardino Counties (Sterling 2008). The Study Area is outside known areas of occurrence for this species; therefore, Bendire's thrasher is not expected to occur.

Le Conte's Thrasher (*Toxostoma lecontei*)

Le Conte's thrasher is a California Species of Special Concern and an SBNF Watch List species. This species is endemic to the southwestern United States and northwestern Mexico (AOU 1998; Sheppard 1996). The northern breeding limits are central California from the Carrizo Plain of eastern San Luis Obispo County; the San Joaquin Valley of Fresno and Kern Counties, and east of the Sierra Nevada north to Mono County; and southern Nevada and southwestern Utah (Sheppard 1996; AOU 1998). It occupies open desert scrub habitats, particularly saltbush and creosote in association with sandy washes (AOU 1998). A single Le Conte's thrasher was located atop a California juniper just east of Baldy Mesa Road, south of the California Aqueduct, on February 4, 2015, during the raptor surveys. The Study Area provides suitable habitat in the Mojave Desert region, at the Shaver Summit Pressure Limiting Station, and at the Desert Center Compressor Station; therefore, Le Conte's thrasher has a low potential to occur.

American Pipit (Water Pipit) (*Anthus rubescens*) (Breeding)

The American pipit (water pipit) is an SBNF Watch List species. This species breeds largely in arctic meadows and alpine tundra throughout the range. In California, this species frequents alpine meadows of sedges (*Carex* spp.), dwarf *Salix*, and *Deschampsia*, and fell fields associated with cushion plants (*Silene*, *Trifolium*, *Phlox*, and *Arenaria*) (Hendricks and Verbeek 2012). It breeds above the tree line in the Sierra Nevada and on San Geronimo Mountain, California. The Study Area does not provide suitable breeding habitat, and it is outside the known range for this species; therefore, the American pipit is not expected to occur for breeding but is expected to occur as a migrant and winter visitor.

Virginia's Warbler (*Oreothlypis [Vermivora] virginiae*) (Nesting)

Virginia's warbler (*Oreothlypis [Vermivora] virginiae*) is a California and SBNF Watch List species. Although it primarily breeds in the Rocky Mountain states, in California Virginia's warbler breeds locally in Eastern California in Clark, Kingston, New York, and White Mountains and on the eastern slopes of central Sierra Nevada in Mono and Inyo Counties; other local populations also occur in the San Bernardino Mountains, the San Gabriel Mountains, and occasionally elsewhere in Southern California (Johnson 1976). This species breeds in arid montane woodlands, oak thickets, pinyon-juniper, coniferous scrub, chaparral, and in brushy steep mountain slopes within

or near dry coniferous woodlands (AOU 1998; Dunn and Garrett 1997). The Transverse Mountain Region of the Study Area provides suitable habitat for this species, however, it is considered rare in this portion of its range; therefore, Virginia's warbler is not expected to occur in the Study Area.

MacGillivray's Warbler (*Oporornis tolmiei*)

MacGillivray's warbler (*Oporornis tolmiei*) is an SBNF Watch List species. This species breeds in dense shrubby areas, such as coniferous forest undergrowth and edge, brushy hillsides, riparian thickets, and chaparral, often in cut-over or burned areas (AOU 1998). Although it primarily breeds in the Pacific Northwest, in California MacGillivray's warbler breeds in Southern California north to the Yukon and increasingly in the San Gabriel and San Bernardino Mountains. It may also breed in appropriate habitat in the eastern Mojave Desert near the Kingston Mountains and has increased in mountain habitats along the northern coast of California in response to regeneration after logging (Pitocchelli 2013; Shuford 1993). The Transverse Mountain Region of the Study Area does not provide suitable breeding habitat for this species; therefore, MacGillivray's warbler is not expected to occur as a breeder but is expected to occur as a migrant.

Common Yellowthroat (*Geothlypis trichas*)

The common yellowthroat is an SBNF Watch List species. Although it primarily breeds in Canada, northern and eastern U.S., common yellowthroat breeds and winters throughout western California (west of Cascade-Sierra axis and eastern deserts) north to the San Francisco Bay area and northern Central Valley (Guzy and Ritchison 1999). This species breeds in marshes (especially cattail), thickets near water, bogs, brushy pastures, old fields, and, locally, undergrowth of humid forest, while migration and winter habitats include brushy and shrubby areas in both moist and arid regions (AOU 1983). The Study Area provides suitable habitat for this species, and the common yellowthroat was observed throughout the Study Area during surveys.

Yellow Warbler (*Setophaga petechial*) (Nesting)

The yellow warbler is a California Species of Special Concern and an SBNF Watch List species. Although found largely in Canada and the northern U.S., the breeding range in California includes northern parts of the state, the coastal regions, and extends into Baja California Norte, Mexico; it is largely absent from the Central Valley and southern and eastern desert areas (Lowther et al. 1999). This species breeds most commonly in wet, deciduous thickets, especially those dominated by willows, and in disturbed and early successional habitats (Dunn and Garrett 1997). The Transverse Mountain and South Coast Regions of the Study Area provide suitable habitat for this species, and it was observed during surveys.

Wilson's Warbler (*Wilsonia pusilla*)

Wilson's warbler is an SBNF Watch List species. This species' habitat is restricted to mesic shrub thickets of riparian habitats, edges of beaver ponds, lakes, bogs, and overgrown clear-cuts of montane and boreal zone; it may reach into alpine zone for western montane, northern, and northeastern populations (Finch 1989). Pacific coast populations use a variety of mesic shrub habitats in humid coastal forests, such as clear-cuts, rhododendron thickets, and stands of young conifers, alders, and maples. They also breed in dryer scrub habitats consisting of coyote bush and blackberry mixed with Douglas fir and in shrub understory of forests, including riparian woodlands, broadleaf evergreen, mixed coastal forests, and California bay (Dunn and Garrett 1997; Morrison 1981; Morrison and Meslow 1983). Its distribution roughly matches that of boreal and humid coastal forests in North America (Ammon and Gilbert 1999). Pacific coast populations of Wilson's warbler range from southwestern British Columbia south to coastal Santa Barbara County in California, and through the Sierra Nevada into mountains bordering the Los Angeles

basin (Dunn and Garrett 1997). The Transverse Mountain and South Coast Regions of the Study Area provide suitable habitat for this species; however, it has been extirpated as a breeder from this portion of its range and not expected to nest in the Study Area (Dunn and Garrett 1997). It does occur as migrant in region and was observed during the surveys.

Yellow-Breasted Chat (*Icteria virens*) (Nesting)

The yellow-breasted chat is a California Species of Special Concern and an SBNF Watch List species. During the breeding season, this species occupies second growth, shrubby old pastures, thickets, bushy areas, scrub, woodland undergrowth, and fence rows, including low wet places near streams, pond edges, or swamps; thickets with few tall trees; early successional stages of forest regeneration; and commonly occurs in sites close to human habitation (AOU 1983). In California, the yellow-breasted chat breeds in varied numbers and habitats. They are most numerous in the northwest, but are uncommon from Klamath Mountains region west to the inner Northern Coast Range and south to the San Francisco Bay area. They are very locally distributed throughout the Southern Coast Range and Peninsular Range from Santa Clara County south to San Diego County likely breeding in the local in the mountains of Mono and Inyo Counties in eastern California (Small 1994). The South Coast Region of the Study Area provides suitable breeding habitat for this species and it was observed during the surveys.

Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)

The Southern California rufous-crowned sparrow is a California and SBNF Watch List species. This species occupies moderate to steep slopes vegetated with low scattered scrub cover interspersed with patches of grasses, forbs or rock outcrops, and shows a preference for coastal sage scrub dominated by California sagebrush, but also may occur in coastal bluff scrub and chaparral (Cogswell 1968; Garrett and Dunn 1981; Collins 1999). This species is a resident of Southwestern California on the coastal slopes of the Transverse and Peninsular Ranges from northwestern Los Angeles County south to northwestern Baja California, Mexico. This species' range has been restricted due to loss, degradation, and fragmentation of suitable open scrub habitats on moderate to steep slopes as result of urban and agricultural development (Collins 1999). The Study Area provides suitable habitat for the Southern California rufous-crowned sparrow and it was observed in the Transverse Mountain and South Coast Regions of the Study Area during surveys.

Black-Chinned Sparrow (*Spizella atrogularis*) (Nesting)

The black-chinned sparrow is an SBNF Watch List species. This sparrow is endemic to the southwestern United States and Baja California and northwest to central Mexico where it breeds in chaparral, sagebrush, arid scrub, and brushy hillsides (AOU 1998). The northern limits of its breeding range are the western slopes of the Sierra Nevada in Mariposa County, California, southern Nevada, and southernmost Utah west of the Colorado River (Tenney 1997). It winters primarily in southern Arizona and New Mexico into north and central Mexico, and in southern Baja California, Mexico (AOU 1998; Tenney 1997). In Southern California, it breeds in open chaparral on arid rocky slopes of coastal and desert mountain ranges (Garrett and Dunn 1981). The Transverse Mountain Region of the Study Area provides suitable breeding habitat for the black-chinned sparrow, and it was observed during surveys.

Bell's (Sage) Sparrow (*Artemisiospiza belli*)

Bell's (sage) sparrow is a California and SBNF Watch List species. This coastal subspecies is an uncommon to fairly common local resident in the interior foothills of coastal Southern California. Bell's sparrow breeds in low, dense chamise chaparral and in dry scrub vegetation types, often with stands of cactus (Garrett and Dunn 1981). The Transverse Mountain Region of the Study

Area provides suitable breeding habitat for this Bell's sparrow, and it was observed during surveys.

Grasshopper Sparrow (*Ammodramus savannarum*) (Nesting)

The grasshopper sparrow is a California Species of Special Concern. This sparrow is an uncommon and very local summer resident along the coastal slope of Southern California (Garrett and Dunn 1981). In the southwestern part of its breeding range, this sparrow prefers more lush areas with some shrub cover in arid grasslands (Vickery 1996). The South Coast Region of the Study Area provides suitable habitat for this species; therefore, the grasshopper sparrow has a low potential to occur for nesting within the Study Area.

Song Sparrow (*Melospiza melodia*)

The song sparrow is an SBNF Management Indicator species. This common sparrow occurs throughout much of the United States and the southern half of Canada (AOU 1998). It is a polymorphic species for which 52 subspecies have been named (Arcese et al 2002). In California, it is a common year-round resident of riparian and other wet, scrub habitats along the coast, as well as locally into the mountains and deserts (Garrett and Dunn 1981). Although many populations in North America are migratory, there appears to be limited movement of migrant song sparrows into Southern California during the fall and winter seasons (Unitt 2004; eBird 2015). The Study Area provides suitable habitat for this species, and it was observed during surveys.

Lincoln's Sparrow (*Melospiza lincolni*)

Lincoln's sparrow is an SBNF Watch List species. This sparrow breeds in the boreal zone of Canada and locally in the high mountains of the western United States (Ammon 1995). This is a neotropical migrant that winters in the southern United States and Mexico south to El Salvador and Honduras, and also along the Pacific Coast north to southwest British Columbia (AOU 1998). In Southern California, this species is a fairly common migrant and winter visitor throughout the region and an uncommon and local summer resident in mountain meadows (Garrett and Dunn 1981). Southern California nesting localities in the vicinity of the Study Area include Big Bear Lake, Green Valley, and South Fork of the Santa Ana River in the San Bernardino Mountains and Tahquitz and Round Valleys in the San Jacinto Mountains (Stephenson and Calcarone 1999). The Study Area provides suitable wintering but no breeding habitat for this species; therefore, only migrants or wintering birds are expected and were observed during the surveys.

Summer Tanager (*Piranga rubra*) (Nesting)

The summer tanager is a California Species of Special Concern and an SBNF Watch List species. This neotropical migrant breeds across the southern United States from California to Florida (Robinson 2012). It is an uncommon breeder along the Colorado River and locally elsewhere in desert riparian habitats of Southern California (Garrett and Dunn 1981). It is primarily a rare migrant and winter visitor to the coast of Southern California (Garrett and Dunn 1981; Unitt 2004). Breeding habitat for the summer tanager in the west consists of low elevation riparian woodlands dominated by willows and cottonwoods (Robinson 2012). In particular, older, dense stands provide suitable nesting habitat (Zeiner et al. 1990). The Transverse Mountain Region of the Study Area provides suitable habitat for this species, but it is considered rare in this portion of its range; therefore, the summer tanager is not expected to occur in the Study Area.

Tricolored Blackbird (*Agelaius tricolor*) (Nesting Colony)

The tricolored blackbird is a California Species of Special Concern and an SBNF Watch List species. In response to a petition received on October 21, 2014, to list the tricolored blackbird as an Endangered species, the California Fish and Game Commission voted on December 3, 2014, to approve an Emergency Listing of this species as Endangered or Threatened with effective dates of regulation being December 29, 2014, to June 30, 2015. On June 11, 2015, the California Fish and Game Commission voted to reject the CDFW's recommendation to proceed with the listing; thus, the tricolored blackbird will no longer have protections of CESA after June 30, 2015. This species is essentially a California endemic as an estimated 99 percent of the population occurs in the state (Meese et al. 2014). These colonially nesting birds prefer to breed in marsh vegetation of bulrushes and cattails and have also been recorded nesting in willows, blackberries, and mustard (Beedy et al. 1991). Tricolored blackbirds are a nomadic, wandering species during the non-breeding season and occupy colony sites intermittently (Unitt 1984). Preferred foraging habitats include agricultural fields, such as rice, alfalfa, irrigated pastures, and ripening or cut grain fields, e.g., oats, wheat, silage, as well as annual grasslands, cattle feedlots, and dairies (Beedy and Hamilton 1999). They also forage in remnant native habitats, including wet and dry vernal pools and other seasonal wetlands, riparian scrub habitats, and open marsh borders. The Study Area provides no suitable nesting habitat for this species, but Study Area provides a limited amount of suitable foraging habitat. Therefore, the tricolored blackbird is not expected to occur in the Study Area for nesting, but has a low potential to occur for foraging.

Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*) (Nesting)

The yellow-headed blackbird is a California Species of Special Concern. Depending on availability of food resources, these blackbirds are either territorial or form loose colonies. Male yellow-headed blackbirds are typically polygynous, generally mating with two to six females (Twedt and Crawford 1995). These blackbirds typically nest in marshes with tall emergent vegetation such as tules (*Scirpus* spp.) and cattails adjacent to open water (Jaramillo 2008). A common summer resident at the Salton Sea and in the Colorado River Valley, this species is an uncommon to fairly common migrant that breeds irregularly at just a few locations elsewhere in Southern California (Garrett and Dunn 1981). This species breeds in the Antelope Valley including the Lancaster area (Jaramillo 2008). The Study Area does not provide suitable nesting habitat and is outside the known breeding range for this species; therefore, the yellow-headed blackbird is not expected to occur.

Lawrence's Goldfinch (*Spinus [Carduelis] lawrencei*) (Nesting)

Lawrence's goldfinch is an SBNF Watch List species. This species breeds only in California and northern Baja California, Mexico, but winters to the east in Arizona, New Mexico, and Sonora, Mexico (Davis 1999). Garrett and Dunn (1981) considered this species a primarily summer resident that is occasionally common. It is a nomadic breeder that shows little loyalty to former breeding sites. Breeding habitat typically consists of arid and open woodlands near three features: chaparral or other brushy areas; tall annual weedy fields; and, a water source provided by either a stream, small lake, or farm pond (Davis 1999). The Study Area provides suitable breeding habitat, and it was observed during the surveys.

MammalsMohave Ground Squirrel (*Xerospermophilus mohavensis*)

The Mohave ground squirrel is a State-listed Threatened species. It is a small ground squirrel that is morphologically distinguished from the more common antelope ground squirrel (*Ammodramus leucurus*) by the absence of stripes or spots (Best 1995). It occurs in the

Mojave Desert and in parts of Inyo, Kern, Los Angeles, and San Bernardino Counties. It is most commonly found in creosote scrub, but also in Joshua tree woodland, desert saltbush scrub, desert sink scrub, desert greasewood scrub, and shadscale scrub (Leitner 2008; Zeiner et al. 1990). Mohave ground squirrels dig burrows in sandy and gravelly soils on flat to moderately sloping terrain. The burrows are used to avoid predators and high temperatures, and for aestivating during the winter months. Mohave ground squirrels are active only during spring and summer and spend most of the year (approximately seven months) below ground (Best 1995; Leitner 2008). The Study Area provides suitable habitat for this species; however, this species was determined to be absent following focused protocol level trapping surveys. Therefore, the Mohave ground squirrel is not expected to occur in the Study Area. The complete Mohave Ground Squirrel Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 11.

San Bernardino Golden-Mantled Ground Squirrel (*Callospermophilus lateralis bernardinus*)

The San Bernardino golden-mantled ground squirrel is an SBNF Watch List species. This subspecies represents a relictual population of the golden-mantle ground squirrel (*Callospermophilus lateralis*) and is distributed from about 6,500 to 11,500 feet above msl in the San Bernardino Mountains (Grinnell 1933; Southern California Camping 2015). It occurs in open pine and mixed conifer forests and in pinyon-juniper woodlands on the northern desert slopes of the mountains (Bartels and Thompson 1993; Reid 2006). This species is diurnal and hibernates during the winter months (Zeiner et al. 1990). The Study Area does not provide suitable habitat for this species; therefore, the San Bernardino golden-mantled ground squirrel is not expected to occur in the Study Area because of a lack of suitable habitat and the Study Area is below this species' elevational range.

Lodgepole Chipmunk (*Tamias [Neotamias] speciosus speciosus*)

The lodgepole chipmunk is an SBNF Watch List species. It is abundant in open-canopy lodgepole pine habitat in the Sierra Nevada from Lassen to Tulare County (Reid 2006; Zeiner et al 1990). It is less common in closed-canopy forest with sparse undercover. In isolated populations in the Southern California mountains, it occurs in open-canopy forests of mixed conifer, Jeffrey pine, lodgepole and limber pine, and occasionally in chaparral from 6,400 to 10,900 feet above msl (Reid 2006; Zeiner et al. 1990). The Study Area does not provide suitable habitat for this species; therefore, the lodgepole chipmunk is not expected to occur in the Study Area because of a lack of suitable habitat and the Study Area is below this species elevational range.

San Bernardino Flying Squirrel (*Glaucomys sabrinus californicus*)

The San Bernardino flying squirrel is a California Species of Special Concern and an SBNF Sensitive species. The San Bernardino flying squirrel historically occurred as three isolated populations at the southern edge of the range of *G. sabrinus* in the forests of the San Gabriel, San Bernardino, and San Jacinto Mountains (Bolster 1998). San Bernardino flying squirrels are known to occur in Jeffrey pine/white fir mixed conifer forests with some oak components. They are nocturnal and most likely hibernate during the winter months. In the San Bernardino Mountains, the San Bernardino flying squirrel occurs at elevations between 4,000 and 8,400 feet above msl (Bolster 1998; Zeiner et al. 1990). The Study Area does not provide suitable Jeffrey pine/white fir habitat for this species; therefore, the San Bernardino flying squirrel is not expected to occur in the Study Area.

Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)

The northwestern San Diego pocket mouse is a California Species of Special Concern (CDFW 2015) and an SBNF Watch List species (USFS 2014). The northwestern San Diego pocket mouse

is one of six subspecies of the San Diego pocket mouse. This species occupies southwestern California including the eastern Mojave desert and the coastal basin between of the San Gabriel and San Bernardino Mountains from Cajon Pass, south through San Diego County. This nocturnal mouse utilizes sandy herbaceous areas, usually in association with rocks or coarse gravel. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, pinyon-juniper, and annual grassland from sea level to 6,000 feet above msl (Zeiner et al. 1990). The Study Area provides suitable habitat for this species; therefore, the northwestern San Diego pocket mouse is expected to occur in the Study Area. This species was observed during 2015 San Bernardino kangaroo rat focused trapping surveys.

Pallid San Diego Pocket Mouse (*Perognathus fallax pallidus*)

The pallid San Diego pocket mouse is a California Species of Special Concern and an SBNF Watch List species. The pallid San Diego pocket mouse is one of six subspecies of San Diego pocket mouse. This subspecies occupies the Mojave Desert areas to the east of the coastal mountains. This nocturnal subspecies utilizes sandy herbaceous areas, usually in association with rocks or coarse gravel in southwestern California. Habitats include sagebrush, coastal scrub, chamise-redshank, chaparral, mixed chaparral, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland from sea level to 6000 feet above msl (Zeiner et al. 1990). The Study Area provides suitable desert and sandy habitats in the Mojave and Sonoran desert portions of the Study Area for this species. Therefore, this species has high potential to occur in the Study Area.

San Bernardino Kangaroo Rat (*Dipodomys merriami parvus*)

The San Bernardino kangaroo rat is federally Endangered and a California Species of Special Concern. Current known localities include Lytle Creek Wash, Cajon Wash near Devore, Santa Ana River Wash near Redlands, and Etiwanda Wash (all San Bernardino County) and Laborde Canyon in the Badlands, San Timoteo Canyon, Murrieta Hot Springs, Rimrock Reserve, and near Hemet (all Riverside County) (Bolster 1998; Zeiner et al. 1990). This species is active year-round and prefers sparse alluvial scrub/coastal sage scrub habitats on gravelly and sandy soils adjoining river and stream terraces and on alluvial fans; they rarely occur in dense vegetation or rocky washes (Jameson and Peters 1988).

The USFWS designated critical habitat for the San Bernardino kangaroo rat in 2002. Critical habitat for this species includes four Units, two of which (Lytle Creek/Cajon Wash Unit [Unit 2] and Santa Ana River and Wash Unit [Unit 1]) are located within the Study Area.

Trapping results confirmed that the San Bernardino kangaroo rat is present in the Cajon Wash in close proximity to the I-15/I-215 interchange, immediately adjacent to the SBNF (Exhibit 26). Habitat conditions in these areas consist of alluvial fan sage scrub vegetation amidst fine sandy soils with a rock-boulder component varying in location, density, and diameter. Based on these results, it is estimated that the San Bernardino kangaroo rat occupies a minimum of 28.13 acres in Cajon Wash within the Study Area. Additionally, 132.17 acres of suitable but unoccupied habitat is considered present in Cajon Wash within the Study Area.

Trapping surveys also confirmed the presence of the San Bernardino kangaroo rat at all trapping locations within the Santa Ana River floodplain. Based on these results, it is estimated that the San Bernardino kangaroo rat occupies a minimum of 55.99 acres in the Santa Ana River within the Study Area. It is assumed that the San Bernardino kangaroo rat also occupies available habitat between the trapping areas. The San Bernardino kangaroo rat was not found along Cajon Boulevard south of the I-15/I-215 Interchange, in central Reche Canyon, or in north Moreno Valley. The complete San Bernardino Kangaroo Rat Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 12.

Stephens' Kangaroo Rat (*Dipodomys stephensi*)

Stephens' kangaroo rat is a federally Endangered and State-listed Threatened species. This nocturnal rodent has a small geographic range as it is endemic to Riverside County and adjacent north-central San Diego County, California. Stephens' kangaroo rat is active year-round and typically occupies disturbed annual grassland habitat characterized by a relatively sparse cover of both shrubs and herbaceous vegetation (Zeiner et al. 1990). Burrows may be excavated in firm soil (USWFS 1997).

Stephens' kangaroo rats were captured in the eastern portion of Reche Canyon during focused trapping protocol level surveys. Approximately 41.98 acres of suitable habitat within this area is considered to be occupied. Also based on these results, it is estimated that 6.42 acres of suitable but unoccupied habitat is present in Reche Canyon and north Moreno Valley within the Study Area. No Stephens' kangaroo rat were captured in other trapping areas within the Study Area.

Separately from the trapping survey, Stephens' kangaroo rat was reported as occurring at the elevational high point of Reche Canyon Road, comprising an additional 47.5 acres (O'Farrell and Uptain 1989). While this area was not trapped during the focused survey, it was determined to be suitable for Stephens' kangaroo rat during the habitat assessment conducted in spring 2015 in preparation for the trapping survey. Sign typical of Stephens' kangaroo rat was observed during the assessment. The observation of unique sign, combined with the presence of suitable habitat and known historic occurrence at the location of interest (O'Farrell and Uptain 1989), suggests that Stephens' kangaroo rat occupies this area. Based on the results of the focused trapping survey and the habitat assessment, it is estimated that Stephens' kangaroo rat occupies a total of 89.48 acres within the Study Area, specifically Reche Canyon and north Moreno Valley. The complete San Bernardino Kangaroo Rat Report, which includes data collected for Stephens' kangaroo rat, is provided in Attachment 12.

White-Eared Pocket Mouse (*Perognathus alticolus alticolus*)

The white-eared pocket mouse is a California Species of Special Concern and is an SBNF Sensitive species. The white-eared pocket mouse historically has been found in isolated, montane areas in the Tehachapi Mountains and in the San Bernardino Mountains in the vicinity of Strawberry Peak, although the San Bernardino population may be extinct (Reid 2006; Zeiner et al. 1990). The white-eared pocket mouse is poorly known, but appears to inhabit open grassy, weedy, dry bracken areas among sage scrub understory in ponderosa-Jeffrey pine, pinyon-juniper, or montane hardwood-conifer associations between 3,500 and 5,900 feet above msl (Reid 2006; Zeiner et al. 1990). The Study Area does not provide suitable forested habitat for this species; and the Study Area is outside this species' range; therefore, the white-eared pocket mouse is not expected to occur in the Study Area.

Los Angeles Pocket Mouse (*Perognathus longimembris brevipennis*)

The Los Angeles pocket mouse is a California Species of Special Concern and an SBNF Watch List species. It occurs from the Los Angeles Basin, from approximately Burbank and San Fernando in the northwest to San Bernardino on the northeast and Cabazon, Hemet, and Aguanga on the east and southeast. Its southwest range is not clear, but probably lies somewhere near the Hollywood Hills. Its preferred habitat is generally thought to be associated with alluvial systems containing fine, loose, and deep sandy soils or in areas immediately adjacent to such habitats (Bolster 1998). This species is nocturnal and active seasonally, hibernating to avoid colder temperatures in the fall and winter (Bolster 1998; Zeiner et al. 1990).

Focused trapping surveys confirmed that the Los Angeles pocket mouse is common in sandy habitats throughout most of the Study Area in Cajon Pass. Based on the trapping results, it is

estimated that Los Angeles pocket mouse occupies 115.78 acres within Cajon Wash. This area is situated east of the I-15/I-215 interchange, north to Keenbrook Road. It is also estimated that 44.52 acres of suitable but unoccupied habitat is present in Cajon Wash within the Study Area. The species was not detected in the trapped areas within and immediately outside of the Santa Ana River floodplain; however, Los Angeles pocket mouse are known from nearby locations upstream (Stephen Montgomery, personal trapping records), and the species could feasibly colonize these areas over time. The habitat is considered currently unoccupied based on the results of the focused trapping survey.

Trapping results confirmed the presence of Los Angeles pocket mouse in Reche Canyon and north Moreno Valley. Based on the trapping results, it is estimated that Los Angeles pocket mouse occupies 43.17 acres within Reche Canyon. It is also estimated that 53.92 acres of suitable but unoccupied habitat is present in Reche Canyon and north Moreno Valley within the Study Area. The complete San Bernardino Kangaroo Rat Report, which includes data collected for Los Angeles pocket mouse, is provided in Attachment 12.

Bryant's Woodrat (*Neotoma bryanti*)

Bryant's woodrat is a California Species of Special Concern and an SBNF Watch List species. It is found throughout Southern California living in a variety of habitats including Mojave Desert scrub, pinyon-juniper woodlands, mixed and chamise-redshank chaparral, sagebrush, and coastal sage scrub. It occurs from sea level to 8,500 feet above msl (Patton et al 2014; Reid 2006; Zeiner et al. 1990). Woodrat houses are constructed with twigs, sticks, cactus parts, rocks, and are usually built against a rock crevice at the base of creosote or cactus or in the lower branches of trees (Ingles 1965; Zeiner et al. 1990). Desert woodrats are particularly abundant in rock outcrops, rocky cliffs, and slopes and are although primarily nocturnal (Zeiner et al. 1990). In 2014, the *Neotoma lepida* species complex was split into *Neotoma lepida*, which occupies habitats in the Mojave Desert, and *Neotoma bryanti*, which occupies habitats in all of Los Angeles County and the coastal slopes of the coastal mountains and coastal plain scrub habitats (Patton et al. 2014). The Study Area provides suitable habitat for this species; therefore, Bryant's woodrat was observed during the 2015 San Bernardino kangaroo rat focused trapping surveys.

Southern Grasshopper Mouse (*Onychomys torridus ramona*)

The southern grasshopper mouse is a California Species of Special Concern and an SBNF Watch List. This nocturnal species is active year-round in arid desert habitats of the Mojave Desert and other habitats, including succulent shrub, wash, and riparian areas, but also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats (Bolster 1998; Reid 2006). The Study Area provides suitable habitat for this species; therefore, the southern grasshopper mouse is expected to occur in the Study Area, and this species was observed during 2015 focused trapping surveys for Mohave ground squirrel.

Porcupine (*Erethizon dorsatum*)

The porcupine is an SBNF Watch List species. It is the second largest rodent in North America and is found throughout the Sierra Nevada Mountains and in the Coast Ranges with scattered populations occurring in forested areas of Los Angeles and San Bernardino Counties (Zeiner et al. 1990). The species is common in montane conifer, Douglas-fir, alpine dwarf-shrub, and wet meadow habitats. Porcupines prefer open stands of conifers (Reid 2006; Zeiner et al. 1990). The species uses caves, large rock crevices, hollow logs, and trees for cover. Porcupines are primarily nocturnal, but they are often active in daylight (Reid 2006; Zeiner et al. 1990). The Study Area provides not suitable coniferous and montane habitat for this species; therefore, the porcupine is not expected to occur in the Study Area.

San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)

The San Diego black-tailed jackrabbit is a California Species of Special Concern and an SBNF Watch List species. This diurnal species is found year-round throughout California except at the highest elevations over 12,000 feet above msl (Ingles 1965; Zeiner et al. 1990). They are abundant at lower elevations in herbaceous and desert-shrub areas and open, early stages of forest and chaparral habitats. The San Diego black-tailed jackrabbit is a habitat generalist occurring in open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub. The Study Area provides suitable habitat for this species; therefore, the San Diego black-tailed jackrabbit is expected to occur in the Study Area, and this species was observed during 2015 focused surveys for coastal California gnatcatcher.

California Leaf-Nosed Bat (*Macrotus californicus*)

The California leaf-nosed bat is a California Species of Special Concern and an SBNF Watch List species. It occurs in the Lower Sonoran life zone in the deserts of California, southern Nevada, Arizona, and south into Baja California and Sonora, Mexico. This species has been extirpated from most of California except along the Colorado River and adjacent Sonoran desert region due to habitat destruction and intolerance of human activity (Zeiner et al. 1990c). Its preferred habitats include desert scrub and woodlands. To remain active yearlong in the temperate deserts of California, Arizona and Southern Nevada, the California leaf-nosed bat uses warm diurnal roosts in caves, and it neither hibernates nor migrates. It prefers to roost in caves, mines, and buildings. Shallow caves and short mine prospects are used by both sexes as night roosts between foraging bouts at all seasons, except for the coldest winter months (Brown 2015). This species is insectivorous and forages in desert riparian, desert scrub, desert succulent scrub and similar habitats (Zeiner et al. 1990c). The California leaf-nosed bat is not expected to occur in the Study Area because the Study area is outside the known range of this species.

Western Small-Footed Myotis (*Myotis ciliolabrum*)

The western small-footed myotis is an SBNF Watch List species. It is a common bat of arid uplands in California. In coastal California, it occurs from Contra Costa County south to the Mexican border. It also occurs on the west and east sides of the Sierra Nevada, and in the Great Basin and desert habitats from Modoc to Kern and San Bernardino Counties. It occurs in a wide variety of habitats, primarily in relatively arid wooded and brushy uplands near water. This species forages over water in riparian areas and ponds, and it also forages in and around trees in forests and over open rocky terrain and brush (Wilson and Ruff 1999). The species is found from sea level to 8,900 feet above msl (CDFW 2015). Individuals are known to roost singly or in small groups in cliffs and rock crevices, buildings, concrete overpasses, caves, and mines (Bogden 2015). The Study Area provides suitable roosting and foraging habitat for this species, and it was observed in the Study Area during 2015 acoustic bat surveys. The complete Bat Report for the Proposed Project, which includes detailed survey methodologies and collected data, is provided in Attachment 13.

Yuma Myotis (*Myotis yumanensis*)

The Yuma myotis is an SBNF Watch List species. It occurs across the western third of North America from British Columbia, Canada to Baja California and southern Mexico. In the United States, it occurs in all the Pacific coastal states, as far east as western Montana in the north and western Oklahoma in the south. It occurs in a variety of habitats including riparian, arid scrublands and deserts, and forests. This species is closely associated with water and wooded canyon bottoms throughout its range. The Yuma Myotis forages over riparian areas and adjacent habitats where water is present (Wilson and Ruff 1999). The species roosts in bridges, buildings, cliff crevices, caves, mines, and trees (Navo 2015). The Study Area provides suitable roosting and

foraging habitat for this species, and it was observed during 2015 acoustic bat surveys within the Study Area.

Long-Legged Myotis (*Myotis volans*)

The long-legged myotis is an SBNF Watch List species. It occurs across western North America from southeastern Alaska, British Columbia, and Alberta in Canada to Baja California and central Mexico. It occurs throughout the western United States from the Pacific coast to the Great Plains and central Texas. It is a bat primarily of coniferous forests, but also occurs seasonally in riparian and desert habitats. The long-legged myotis uses abandoned buildings, cracks in the ground, cliff crevices, exfoliating tree bark, and hollows within snags as summer day roosts, and it uses caves and mine tunnels as hibernacula. It is active throughout the night, but peak activity is three to four hours after sunset. It is a rapid, direct flier, often traveling some distance while foraging (Navo 2015). This species forages in open forest and riparian habitats in and among the trees, and adjacent edge habitats (Wilson and Ruff 1999). The Study Area provides suitable roosting and foraging habitat for this species, but the Study Area is at a lower elevation limit for this species (Stephenson and Calcarone 1999). Therefore, this species has a low potential to occur in the Study Area.

Little Brown Myotis (*Myotis lucifugus*) (San Bernardino Mountains Population)

The little brown myotis is an SBNF Watch List species. It is among the most widespread and common bats in mesic, typically forested, areas of temperate North America. Overall distribution extends from near the tree line in Canada and Alaska to the southern tier of the United States. There is a distributional gap extending south from the largely treeless Great Plains through Texas. In the western U.S., this species is typically absent from hot, arid lowlands, but extends south (at increasing elevation) along forested mountain ranges into Southern California, Nevada, Utah, and Colorado. This species is a generalist, exploiting a wide variety of natural and man-made roost sites. It is often found in forested lands near water (Rainey 2015). This species forages in a wide variety of habitats including forests, riparian, scrub lands, and over standing or flowing water (Wilson and Ruff 1999). The Study Area provides suitable foraging and roosting habitat for this species, and it was observed in the Study Area during 2015 acoustic bat surveys.

Long-Eared Myotis (*Myotis evotis*)

The long-eared myotis is an SBNF Watch List species. It is widespread in California, but generally believed to be uncommon in most of its range. It avoids the arid Central Valley and hot deserts, occurring along the entire coast and in the Sierra Nevada, Cascades, and Great Basin from the Oregon border south through the Tehachapi Mountains to the Coast Ranges. This species has been found in nearly all brush, woodland, and forest habitats, from sea level to 9,000 feet above msl, but it seems to prefer coniferous woodlands and forests (Weber 2004). Individuals roost under exfoliating tree bark and in hollow trees, caves, mines, cliff crevices, sink holes, and rocky outcrops on the ground. It also sometimes roosts in buildings and under bridges (Bogden 2015). This species forages in and around forested and riparian habitats and adjacent habitats. Foraging is not limited by the presence of water (Wilson and Ruff 1999). The Study Area provides suitable roosting and foraging habitat for this species, and this species was observed in the Study Area during 2015 acoustic bat surveys.

Fringed Myotis (*Myotis thysanodes*)

The fringed myotis is an SBNF Sensitive species. It occurs throughout much of western North America from southern British Columbia, Canada, south to Chiapas, Mexico and from Santa Cruz Island in California, east to the Black Hills of South Dakota. It occurs from sea level to 9,350 feet above msl, but is most common at middle elevations around 6,889 feet above msl. Distribution is

patchy and it appears to be most common in drier woodlands (oak, pinyon-juniper, ponderosa pine), but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. It roosts in crevices in buildings, underground mines, rocks, cliff faces, and bridges. Roosting in decadent trees and snags, particularly large ones, is common throughout its range in the western U.S. and Canada (Bradley and Ports 2015). This species forages in a variety of habitats, including forests, riparian, water bodies, and adjacent areas (Bolster 1998, Wilson and Ruff 1999). Known from elevations above 4,600 feet in montane coniferous forest (Stephenson and Calcarone 1999). The species was not detected during 2015 acoustic bat surveys; however, the Study Area provides foraging and roosting habitat for this species near Cajon Summit and other higher elevation portions of the Study Area. This species has a low potential to occur in the Study Area because the Study Area is below the elevational limit of this species.

Silver-Haired Bat (*Lasionycteris noctivagans*)

The silver-haired bat is an SBNF Watch List species. The distribution of the silver-haired bat includes coastal and montane forests from the Oregon border, south along the coast to San Francisco Bay and along the Sierra Nevada and Great Basin region to Inyo County. During spring and fall migrations, the silver-haired bat may be found anywhere in California. It appears to be particularly fond of old growth forest, willow, maple, and ash trees (most likely due to the deeply fissured bark). Hollow snags and bird nests also provide daytime roosting areas for silver-haired bats. Summer habitats include coastal and montane coniferous forests, valley foothill woodlands, pinyon-juniper woodlands, and valley foothill and montane riparian habitats. Most of its activity is crepuscular (Arroyo-Cabrales et al. 2008). This species forages in open forest and riparian habitats in and among the trees, and adjacent edge habitats (Zeiner 1990c). This species may pass through the Study Area during migration to northern California from northern Mexico. The Study Area provides foraging habitat during migration. The Study Area does not provide suitable roosting habitat for this species; therefore, this species has a low potential to occur in the Study Area only during migration.

Western Yellow Bat (*Lasiurus xanthius*)

The western yellow bat is a California Species of Special Concern and an SBNF Watch List species. It is uncommon in California, known only in Los Angeles and San Bernardino Counties south to the Mexican border. This species has been recorded between sea level and 2,000 feet above msl in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. It also inhabits savannas, secluded woodlands, regions dominated by pasture or croplands, and even tolerates residential areas. This species forages over water and among trees (CDFW 2015). Yellow bats are suspected to be non-colonial; individuals usually roost in trees, hanging from the underside of a leaf. It is commonly found roosting in the skirt of dead fronds in both native and non-native palm trees and has been documented roosting in cottonwood trees. This species occurs year-round in California. This species forages in open forest and riparian habitats in and among the trees, and adjacent open habitats. Can forage near the ground or above stands of trees at canopy level (Bolster 1998, Zeiner 1990c). The Study Area provides suitable roosting and foraging habitat for this species; therefore, this species has a low potential to occur because of its rare occurrence in California and the Study Area is in this species' northern most range.

Western Red Bat (*Lasiurus blossevillii*)

The western red bat is a California Species of Special Concern and an SBNF Watch List species. It has a broad distribution reaching from southern British Columbia in Canada, through much of the western United States, through Mexico and Central America, to Argentina and Chile in South America. It roosts primarily in the foliage of trees or shrubs and day roosts in edge habitats adjacent to streams or open fields and sometimes urban areas. Western red bats generally begin

to forage one to two hours after sunset. Although some may forage all night, most typically have an initial foraging period corresponding to the early period of nocturnal insect activity and a minor secondary activity period corresponding to insects that become active several hours before sunrise (Bolster 2015). This species forages in open forest and riparian habitats in and among the trees, and adjacent open habitats, near the ground or above stands of trees at canopy level (Bolster 1998, Zeiner 1990c). The Study Area provides suitable foraging and roosting habitat for this species, and it was observed within the Study Area during 2015 acoustic bat surveys.

Hoary Bat (*Lasiurus cinereus*)

The hoary bat is an SBNF Watch List species. It may be found at any location in California, although distribution is patchy in southeastern deserts. This species winters along the coast and in Southern California, and it breeds inland and north of the winter range. Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage. Hoary bats have been recorded from sea level to 13,200 feet above msl. During migration in Southern California, males are found in foothills, deserts and mountains; females in lowlands and coastal valleys. It generally roosts in dense foliage of medium to large trees. Preferred sites are hidden from above, with few branches below, and have ground cover of low reflectivity. Females and young tend to roost at higher sites in trees (Anderson 2002). Hoary bats forage in open areas in forests and riparian areas, meadows, streams and rivers, near the ground or above stands of trees at canopy level (Zeiner 1990c). The Study Area provides suitable habitat for this species and was observed within the Study Area during 2015 acoustic bat surveys.

Spotted Bat (*Euderma maculatum*)

The spotted bat is a California Species of Special Concern and an SBNF Watch List species. It occurs throughout western North America, from British Columbia as far south as Jalisco, Mexico. In the United States, it is known from all the states west of and including Montana, Wyoming, Colorado, New Mexico, and Texas. Although broadly distributed, this species is rarely common, but may be locally abundant in southern British Columbia, northern Arizona, the Arizona/Utah border, and west Texas. Spotted bats have been found from below sea level to 8,858 feet above msl, occurring from arid, low desert habitats to high elevation conifer forests. Prominent rock features appear to be a necessary feature for roosting. Roost sites are cracks, crevices, and caves, usually high in fractured rock cliffs. This species has been found in vegetation types that range from desert to sub-alpine meadows, including desert-scrub, pinyon-juniper woodland, ponderosa pine, mixed conifer forest, canyon bottoms, rims of cliffs, riparian areas, fields, and open pasture (Luce 2015). This species forages over a wide variety of habitats for sage scrub to forests and riparian areas to sub alpine meadows (Bolser 1988). The Study Area provides limited suitable roosting and provides foraging habitat for this species. Therefore, this species has a low potential to occur in the Study area because of the limited availability of roosting habitat.

Townsend's Big-Eared Bat (*Corynorhinus townsendii*)

Townsend's big-eared bat is a State Candidate for listing as Threatened, a California Species of Special Concern, and an SBNF Sensitive species. It occurs throughout the west and is distributed from the southern portion of British Columbia, south along the Pacific coast to central Mexico and east into the Great Plains, with isolated populations occurring in the central and eastern United States. It has been reported in a wide variety of habitat types ranging from sea level to 10,827 feet above msl. Habitat associations include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Distribution is strongly correlated with the availability of caves and cave-like roosting habitat, including abandoned mines. Population centers occur in areas dominated by exposed, cavity, or caverniculous forming rock and/or historic mining districts. Its habit of roosting pendant-like on open surfaces makes it readily detectable, and it can be the species most readily observed, when

present (commonly in low numbers) in caves and abandoned mines throughout its range (Sherwin 2015). This species forages over many habitats including forests, riparian, and adjacent areas (Bolster 1998, Wilson and Ruff 1999).

The Study Area provides suitable foraging habitat, but the Study Area does not have suitable cave and cave-like roosting habitat. Although this species was not observed during 2015 acoustic bat surveys it has a low potential to occur in the Study Area because of a lack of suitable cave and cave-like roost site.

Pallid Bat (*Antrozous pallidus*)

The pallid bat is a California Species of Special Concern and an SBNF Sensitive species. It occurs throughout western North America, from British Columbia's southern interior, south to Queretaro and Jalisco, and east to Texas. It inhabits from sea level to elevation of 6,000 feet above msl in rocky arid deserts and canyon lands, shrub-steppe grasslands, karst formations, and higher elevation (at least 7,000 feet above msl) coniferous forests. It is most abundant in xeric ecosystems, including the Great Basin, Mojave, and Sonoran Deserts. Pallid bats forage over open shrub-steppe grasslands, oak savannah grasslands, open Ponderosa pine forests, talus slopes, gravel roads, lava flows, fruit orchards, and vineyards. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards) and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied and vacant buildings (Sherwin 2015). This species forages over open areas including desert, scrub, chaparral, and open forest and riparian areas (Bolster 1998). The Study Area provides suitable roosting and foraging habitat for this species, and this species was observed within the Study Area during 2015 acoustic bat surveys.

Western Mastiff Bat (*Eumops perotis californicus*)

The western mastiff bat is a California Species of Special Concern and an SBNF Watch List species. It is an uncommon resident in southeastern San Joaquin Valley and Coastal Ranges from Monterey southward through Southern California, from the coast eastward to the Colorado Desert. It occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas (CDFW 2015). The western mastiff bat requires roosts with a vertical drop of at least nine feet above ground to achieve flight speeds when emerging. This species forages over open habitat that includes dry desert washes, flood plains, chaparral, coastal sage scrub, oak woodland, open pine forest, grasslands, and agricultural areas (Bolster 1998). The Study Area provides suitable roosting and foraging habitat for this species and it was observed within the Study Area during 2015 acoustic bat surveys.

Pocketed Free-Tailed Bat (*Nyctinomops femerosaccus*)

The pocketed free-tail bat is an SBNF Watch List species. It occurs in western North America, from Southern California, central Arizona, southern New Mexico and western Texas, south into Mexico including Baja California. The species is thought to be non-migratory. The known altitudinal distribution is from near sea level to about 7,300 feet above msl. The pocketed free-tail bat has been found in a variety of plant associations, including desert shrub and pine-oak forests. They are colonial and roost primarily in crevices of rugged cliffs, high rocky outcrops, and slopes and may also roost in buildings, caves, and under roof tiles (Navo, 2015). This species forages over open habitat that includes dry desert washes, desert riparian, desert scrub, desert succulent scrub and similar habitats (Zeiner et al. 1990c). The Study Area provides suitable roosting and foraging habitat for this species. The pocketed free-tail bat was not observed during the 2015

acoustic bat surveys. This species has a low potential to occur in the Mojave and Sonoran desert portions of the Study Area because this area is just within this species' northern-most range.

Mountain Lion (*Felis concolor*)

The mountain lion is an SBNF Watch List species and an SBNF Management Indicator species. It is a widespread species that occurs throughout California. The mountain lion is found in a wide variety of habitats, but especially areas of riparian vegetation and brushy stages of various habitats, with interspersions of irregular terrain, rocky outcrops, and tree/brush edges. It does not occupy the driest desert regions. Mountain lions are active year-round, are nocturnal, and have very large home ranges (Zeiner et al. 1990). Mountain lion is known to occur in the San Bernardino National Forest (Stephenson and Calcarone 1999). The Study Area provides suitable foraging and denning habitat for this species. This species has a high potential to occur in the Study Area because of the presence of suitable habitat and known occurrence in the SBNF.

Ringtail (*Bassariscus astutus*)

The ringtail is an SBNF Watch List species. This nocturnal, carnivorous member of the raccoon family occurs throughout California, except portions of the Sacramento and San Joaquin Valleys, the Modoc Plateau, the eastern Sierra Nevada, and the Mojave Desert (James and Peters 1988; Zeiner et al. 1990). Ringtails are widely distributed in California and occupy riparian habitats and brush stands of most forest, oak woodlands, pinyon juniper, chaparral, desert, and shrub habitats at elevations from sea level to 8,800 feet above msl. Ringtails are active year-round and use hollow trees, logs, snags, cavities in talus and other rocky areas, and other recesses for cover, and are usually found close to permanent water (Zeiner et al. 1990). The Study Area provides suitable habitat for this species. This species has a moderate potential to occur in the Study Area in areas of suitable habitat near permanent water and known occurrence near Lytle Creek (Stephenson and Calcarone 1999).

Western Spotted Skunk (*Spilogale gracilis*)

The western spotted skunk is a SBNF Watch List species. It is a common permanent resident in most habitats, except high mountains and the very dry areas of the Mojave and Colorado Deserts (Zeiner et al. 1990). Western spotted skunks occur in shrub and brush habitats with moderate canopy-closure; in open forest and woodland with scattered openings; and in riparian habitats. They are mostly nocturnal but may be active during the day, and they are active year-round (Reid 2006; Zeiner et al. 1990). The Study Area provides suitable habitat for this species. Although there is suitable habitat in the Study Area, the western spotted skunk is considered to have a low potential to occur because of a lack of known occurrences in the Study Area.

American Badger (*Taxidea taxus*)

The American badger is a California Species of Special Concern and an SBNF Watch List species. This species occurs throughout most of Southern California and is most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Badgers dig burrows in friable soil for cover and often reuse old burrows. They are active year long and are both diurnal and nocturnal (Reid 2006; Zeiner et al. 1990). American badger has been found in Cajon Wash (Sephensn and Calcarone 1999). The Study Area provides suitable habitat for this species; therefore, the American badger has a moderate potential to occur because of the presence of suitable habitat and a known presence in Cajon Creek.

Mule Deer (*Odocoileus hemionus*)

The mule deer is an SBNF Management Indicator species. It is a common yearlong resident or elevational migrant throughout most of California except the Central Valley and the Mojave Desert. It occurs throughout the Los Padres, Angeles, San Bernardino, and Cleveland National Forests in early to intermediate successional stages of most forest, woodland, and brush habitats. The mule deer browse and graze and prefer tender new growth of various shrubs, forbs, and a few grasses (Zeiner et al 1990). The Study Area provides suitable habitat for this species; therefore, this species has a high potential to occur in the Study Area because of the presence of suitable habitat and this is a common species in the Study Area.

Nelson's Bighorn Sheep (*Ovis canadensis nelsoni*)

Nelson's bighorn sheep is an SBNF Watch List species. Three subspecies of bighorn sheep are found in California ranging from the Sierra Nevada Mountains to the Mexican Border. The populations of Nelson's bighorn sheep in the San Bernardino Mountains are considered to constitute two separate populations: the larger population (San Gorgonio Herd) occurs in the vicinity of Mount San Gorgonio, and the smaller population (Cushenbury Herd) occurs along the northern edge of the range in desert-facing canyons (Ingles 1965; Southern California Camping 2015). Nelson's bighorn sheep occur between from 3,000 to 10,000 feet above msl and graze and browse in areas of low growing vegetation close to steep terrain for escape from predators. They occur on steep slopes and cliffs, rough and rocky topography, sparse vegetation, canyons, washes, and alluvial fans. Water is a critical factor in the distribution of Nelson's bighorn sheep (Ingles 1965; Zeiner et al. 1990). The Study Area provide marginally suitable habitat for this species at the higher elevation areas within the Study Area; therefore, Nelson's bighorn sheep have a low potential to occur in the Study Area because of limited amount of high elevation habitat in the Study Area.