

5. Environmental Analysis

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The analysis in this section is based in part on the following technical report(s):

- *Final Environmental Impact Report and Statement for the West Mojave Plan*. Bureau of Land Management, January 2005.
- *California Natural Diversity Database (available by subscription) and Rarefind*, California Department of Fish and Wildlife, Natural Diversity Database (CNDDB), July 2014. (<http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>)
- *Inventory of Rare and Endangered Plants of California*, California Native Plant Society, February 2014.
- *Los Angeles County Significant Ecological Area Update Study 2000*, PCR Services Corporation, November 2000.
- *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*, South Coast Wildlands, 2008.

Complete copies of these studies are included in the Appendix H to this Draft EIR.

5.4.1 Environmental Setting

5.4.1.1 REGULATORY SETTING

A number of local plans and ordinances regulate biological resources within the Project Area and are summarized below. Federal and state regulations are described after the Local Plans and Ordinances section.

Local Plans and Ordinances

Significant Ecological Areas

The County of Los Angeles's (County) Significant Ecological Area (SEA) Program began in 1980 with the adoption of SEAs as Special Management Areas in the Los Angeles County General Plan (Existing General Plan). The objective of the SEA Program is to preserve the genetic and physical ecological diversity of Los Angeles County by designing biological resource areas capable of sustaining themselves into the future. The SEA designation is given to land that contains irreplaceable biological resources, and includes undisturbed or lightly disturbed habitats that support valuable and threatened species and linkages and corridors to promote species movement.

SEAs are not wilderness preserves, and while some portion of the SEAs include federal, state, or locally owned and managed open space, the land within SEAs is often privately held land. The SEA Program is intended to ensure that privately held lands within the SEAs retain the right of reasonable use while avoiding activities and developments that are incompatible with the long-term survival of the SEAs. The County has regulated development within the SEAs under existing provisions in Title 22 of the County Code for development within an SEA.

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Oak Tree Ordinance

The County Oak Tree Ordinance applies to all unincorporated areas. The Oak Tree Ordinance requires that a person shall not cut, destroy, remove, relocate, inflict damage, or encroach into the protected zone of any tree of the oak tree genus that is 25 inches or more in circumference (8 inches in diameter) as measured 4.5 feet above mean natural grade, or in the case of an oak with more than one trunk, whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured 4.5 feet above mean natural grade (i.e., diameter at breast height [DBH]), or (b) any tree that has been provided as a replacement tree, without first obtaining an oak tree permit.

Oak Woodlands Conservation Management Plan

To further the County's compliance with Public Resources Code Section 21083.4, which provides for the conservation of oak woodlands, the County adopted the Los Angeles County Oak Woodlands Conservation Management Plan (OWCMP) in 2012. The OWCMP develops a consistent policy for the management of oak woodlands by providing a voluntary conservation strategy in order to meet the requirements of the California Oak Woodlands Conservation Act (AB242). The OWCMP extends CEQA consideration of impacts to oak woodlands composed of oaks greater than 5 inches at DBH and recognizes that conservation of oak woodland habitat extends beyond the protection of individual trees.

Hillside Management Areas

The County regulates development in hillside management areas (HMAs) through provisions in Title 22 of the County Code (Zoning Code) that applies to all unincorporated areas of the County that contain terrain with a natural slope of 25 percent or greater. The goal of the provisions is to protect resources contained in hillside management areas from incompatible development, which may result in or have the potential for environmental degradation and/or destruction of life and property. The purpose of the ordinance is not to preclude development, but ensure to the extent possible that the natural topography, resources and amenities of hillside management areas are maintained and where possible, enhanced.

Federal Regulations

Federal regulations applicable to biological resources within the unincorporated areas are summarized below.

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (FESA) defines an "endangered" species as "any species which is in danger of extinction throughout all or a significant portion of its range." A "threatened" species is defined as "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range". Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA as to: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The U.S. Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case

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where a property owner seeks permission from a federal agency for an action that could affect a federally listed plant or animal species, the property owner and agency are required to consult with USFWS pursuant to Section 7 of the FESA if there is a federal nexus, or pursuant to Section 10 of the FESA. Section 9(a)(2)(b) of the FESA addresses protections afforded to listed plants. “Critical habitat” is defined in Section 3(5A) of the FESA as the specific areas within the geographic area, occupied by the species at the time it was listed, which contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection. Critical habitat may also include areas that were not occupied by the species at the time of listing but are essential to its conservation. Critical habitat designations affect only federal agency actions or federally funded or permitted activities. Critical habitat designations do not affect activities by private landowners if there is no federal “nexus”—that is, no federal funding or authorization.

The status of federally listed species is assigned by USFWS, and herein abbreviated, as one of the following:

- Federally Endangered (FE)
- Federally Threatened (FT)
- Federally Proposed as Endangered (FPE)
- Federally Proposed as Threatened (FPT)
- Federally Proposed for Delisting (FPD)
- Federal Candidate for a Proposed Species (FC)

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) protects individual birds as well as any parts, nests, or eggs of any bird listed as migratory. In practice, federal permits issued for activities that potentially impact migratory birds typically have conditions that require predisturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.), and is based on the professional judgment of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.¹

Federal Clean Water Act, Section 404

Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into Waters of the U.S. and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Implementing regulations for the CWA define Waters of the U.S. as “rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands.” Wetlands are defined as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.” The permit review process entails an

¹ USFWS. 2012. Birds Protected By The Migratory Bird Treaty Act, List of Migratory Birds. Online at: <http://www.fws.gov/migratorybirds/RegulationsPolicies/mbta/mbtandx.html#p>. Site last accessed February 2014.

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assessment of potentially adverse impacts to U.S. Army Corps of Engineers (USACE) jurisdictional Waters of the U.S.

Over the years, the USACE has modified its regulations, typically due to evolving policy or judicial decisions, through the issuance of Regulatory Guidance Letters, memoranda, or more expansive instruction guidebooks. These guidance documents help to update and define how jurisdiction is claimed, and how these Waters of the U.S. will be regulated. The most recent, significant modification occurred on June 5, 2007, subsequently updated in December 2008, when the USACE and the U.S. Environmental Protection Agency (EPA) issued a series of guidance documents outlining the requirements and procedures, effective immediately, to establish jurisdiction under Section 404 of the CWA and the Section 10 of the Rivers and Harbors Act of 1899. These documents are intended to be used for all jurisdictional delineations and provide specific guidance for the jurisdictional determination of potentially jurisdictional features affected by the U.S. Supreme Court rulings in *Rapanos v. the United States* and *Carabell v. the United States* 547 U.S. 715 (2006) (jointly referred to as *Rapanos*).

The *Rapanos* case outlines the conditions and criteria used by the USACE to assess and claim jurisdiction over non-isolated, non-navigable, ephemeral tributaries. Under a plurality ruling, the Court noted that certain “not relatively permanent” (i.e., ephemeral), non-navigable tributaries must have a “significant nexus” to downstream traditional navigable waters to be jurisdictional. An ephemeral tributary has a significant nexus to downstream navigable “waters” when it has “more than a speculative or an insubstantial effect on the chemical, physical, and/or biological integrity of a Traditional Navigable Water (TNW).” A significant nexus is established through the consideration of a variety of hydrologic, geologic, and ecological factors specific to the particular drainage feature in question. For drainage features that do not meet the significant nexus criteria, a significant nexus determination is provided by the USACE to the EPA for the final determination of federal jurisdiction. Drainage features that do not meet the significant nexus criteria based on completion of an Approved Jurisdictional Delineation, and/or are determined to be isolated pursuant to the SWANCC ruling (see below), may still be regulated by California Department of Fish and Wildlife (CDFW) under Fish and Game Code Section 1600 or the Regional Water Quality Control Board (RWQCB) under the Porter-Cologne Water Quality Act.

On January 15, 2003, the USACE and EPA issued a Joint Memorandum to provide clarifying guidance regarding the United States Supreme Court ruling in the Solid Waste Agency of *Northern Cook County v. United States Army Corps of Engineers*, No. 99-1178 (January 9, 2001) (“the SWANCC ruling”), (Federal Register: Vol. 68, No. 10.). This ruling held that the CWA does not give the federal government regulatory authority over non-navigable, isolated, intra-state waters. As a result of this decision, some previously regulated depressional areas such as mudflats, sandflats, wetlands, prairie potholes, wet meadows, playa lakes, natural ponds, and vernal pools, which are not hydrologically connected to other intra- or inter-state “waters of the U.S.,” are no longer regulated by the USACE.

Federal Clean Water Act, Section 401

The mission of the RWQCBs is to develop and enforce water quality objectives and implement plans that will best protect the beneficial uses of the state’s waters, recognizing local differences in climate, topography, geology, and hydrology. The California RWQCBs are also responsible for implementing compliance not only

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with state codes such as the California Water Code, but also some federal acts such as Section 401 of the CWA. Section 401 of the CWA requires that any applicant for a federal permit for activities that involve a discharge to waters of the state shall provide the federal permitting agency with a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA. As such, before the USACE will issue a CWA Section 404 permit, applicants must apply for and receive a Section 401 water quality certification (WQC) from the RWQCB. The RWQCB regulates “discharging waste, or proposing to discharge waste, within any region that could affect “waters of the state” (Water Code § 13260 (a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act, which defines RWQCB jurisdictional “waters of the state” as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code § 13050 (e)).

With the exception of isolated waters and wetlands, most discharges of fill to waters of the state are also subject to a CWA Section 404 permit. If a CWA Section 404 permit is not required for the project, the RWQCB may still require issuance of Waste Discharge Requirements (WDR) under the Porter-Cologne Water Quality Control Act. The RWQCB may regulate isolated waters that are not under jurisdiction of the USACE through issuance of WDRs. However, projects that obtain a Section 401 WQC are simultaneously enrolled in a statewide general WDR. Processing of Section 401 WQCs generally requires submittal of 1) a construction storm water pollution prevention plan (SWPPP), 2) a final water quality technical report that demonstrates that post-construction storm water best management practices (BMPs) comply with the local design standards for municipal storm drain permits (MS4 permits) implemented by the State Water Resources Control Board effective January 1, 2011, and 3) a conceptual Habitat Mitigation and Monitoring Plan (HMMP) to compensate for permanent impacts to RWQCB waters, if any. In addition to submittal of a draft CEQA document, a WQC application typically requires a discussion of avoidance and minimization of impacts to RWQCB jurisdictional resources and efforts to protect beneficial uses as defined by the local RWQCB basin plan for the project. The RWQCB cannot issue a Section 401 WQC until the project CEQA document is certified by the lead agency.

West Mojave Plan

The Project Area is within the West Mojave Coordinated Management Plan (West Mojave Plan, WEMO). The WEMO is a habitat conservation plan adopted by the Bureau of Land Management (BLM) in 2006 that encompasses most of California’s western Mojave Desert, including parts of San Bernardino, Los Angeles, Kern, and Inyo counties. Although the WEMO planning area covers 9.3 million acres, the plan applies to only the 3.2 million acres of public lands within the planning area, as non-federal agencies did not formally adopt the habitat conservation plan proposed in the West Mojave Plan to cover their jurisdictions (i.e., therefore the adopted plan only applies to federal public lands). The Project Area does not contain any established or proposed Areas of Critical Environmental Concern (ACEC), or any of the four Desert Wildlife Management Areas that have been proposed as areas important to the recovery of the threatened desert tortoise. The nearest designated critical habitat for the desert tortoise is located in the northeastern part of the Project Area within Edwards Air Force Base.

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Draft Desert Renewable Energy Conservation Plan

Portions of the Plan Area are located within the Draft Desert Renewable Energy Conservation Plan (DRECP). California Executive Order S-14-08 requires the development of the DRECP by the California Energy Commission for the Mojave and Colorado deserts in order to provide binding, long-term endangered species permit assurances and to facilitate the review and approval of compatible renewable energy projects. The DRECP is a major component of California's renewable energy planning efforts and is intended to provide effective protection and conservation for desert ecosystems and to allow for the development of compatible renewable energy projects. The DRECP is a proposed Natural Community Conservation Plan (NCCP) (to comply with the California NCCP Act and the California Endangered Species Act [CESA]), Habitat Conservation Plan (HCP) (to comply with FESA), and Land Use Plan Amendment (LUPA) (in accordance with the Federal Land Policy and Management Act [FLPMA]). The DRECP will include implementation of a scientifically based adaptive management and monitoring program as a part of its overall conservation strategy.

State Regulations

State regulations applicable to biological resources within Los Angeles County are summarized below.

California Endangered Species Act

CESA 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 State 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 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 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 commission has published a notice of proposed regulation to add the species to either list.

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Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

...no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.

Under the CESA, “take” is defined as, “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.”

Additionally, some sensitive mammals and birds are protected by the state as Fully Protected Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively.

California Species of Special Concern are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. Informally listed species are not protected *per se*, but warrant consideration in the preparation of biological assessments. For some species, the California Natural Diversity Database (CNDDB), a resource maintained by CDFW of recorded locations where sensitive species have been documented, is only concerned with specific portions of the life history, such as roosts, rookeries, or nest areas.

For the purposes of this EIR, the following abbreviations are used for state-listed and special-status species, as applicable:

- State Endangered (SE)
- State Threatened (ST)
- State Rare (SR)
- State Candidate for Endangered (SCE)
- State Candidate for Threatened (SCT)
- State Fully Protected (SFP)
- California Species of Special Concern (SSC)

State of California Fish and Game Code, Section 3503/3503.5/3513

Section 3503 of the California Fish and Game Code states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted

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pursuant thereto.” Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Game Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Game Code, Section 3513 states that it is unlawful to take any non-game migratory bird protected under the MBTA.

State of California Fish and Game Code, Section 4150

Section 4150 of the California Fish and Game Code states that “All mammals occurring naturally in California which are not game mammals, fully protected mammals, or fur-bearing mammals, are nongame mammals. Nongame mammals or parts thereof may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission.”

State of California Code of Regulations, Sections 250 and 251.1

Section 250 of the California Fish and Game Code states that “Except as otherwise authorized in these regulations or in the Fish and Game Code, resident game birds, game mammals and furbearing mammals may not be taken at any time.” Section 251.1 of the California Fish and Game Code states that “Except as otherwise authorized in these regulations or in the Fish and Game Code, no person shall harass, herd or drive any game or nongame bird or mammal or furbearing mammal. For the purposes of this section, harass is defined as an intentional act which disrupts an animal's normal behavior patterns, which includes, but is not limited to, breeding, feeding or sheltering. This section does not apply to a landowner or tenant who drives or herds birds or mammals for the purpose of preventing damage to private or public property, including aquaculture and agriculture crops.” Activities that result in the take or harassment of a nongame mammal may also be considered in violation of this code.

California Native Plant Society

The California Native Plant Society (CNPS) is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of rare, threatened, and endangered vascular plant species of California.² The list has served as a potential candidate list for listing as Threatened and Endangered by CDFW. CNPS has developed five categories of rarity, referred to as California Rare Plant Ranks (CRPRs), of which CRPRs 1A, 1B, 2A, and 2B are considered particularly sensitive:

- CRPR 1A Presumed Extirpated in California and either Rare or Extinct elsewhere.
- CRPR 1B Plants Rare, Threatened, or Endangered in California and elsewhere.
- CRPR 2A Presumed Extirpated in California, but more common elsewhere.
- CRPR 2B Plants Rare, Threatened, or Endangered in California, but more common elsewhere.
- CRPR 3 Plants about which we need more information – a review list.
- CRPR 4 Plants of limited distribution – a watch list.

² CNPS (California Native Plant Society). 2014. Inventory of Rare and Endangered Plants of California. California Native Plant Society: available online (<http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>).

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The CNPS appends CRPR categorizations with “threat ranks” that parallel the ranks used by the CNDDDB, and are added as a decimal code after the CRPR (e.g., CRPR 1B.1). The threat codes are as follows:

- **1 – Seriously endangered in California** (>80 percent of occurrences threatened/high degree and immediacy of threat);
- **2 – Fairly endangered in California** (20 to 80 percent occurrences threatened);
- **3 – Not very endangered in California** (<20 percent of occurrences threatened or no current threats known).

State of California Fish and Game Code, Section 1602

Streambeds and other drainages that occur within the unincorporated areas are subject to regulation by the CDFW. Section 1602 of the California Fish and Game Code requires any entity (e.g., person, state or local government agency, or public utility) who proposes a project that will substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake to notify the CDFW of the proposed project. In the course of this notification process, the CDFW will review the proposed project as it affects streambed habitats within the project area. The CDFW may then place conditions in the Section 1602 Streambed Alteration Agreement to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFW jurisdictional limits.

State of California Porter-Cologne Water Quality Control Act

If a CWA Section 404 permit is not required for the project, the RWQCB may still require the issuance of WDRs under the Porter-Cologne Water Quality Control Act, which regulates State water rights and water quality. The RWQCB may regulate isolated waters that are not under jurisdiction of the USACE through issuance of WDRs.

5.4.1.2 EXISTING CONDITIONS

Figure 5.4-1, *Plant Communities of the Antelope Valley*, shows the distribution of plant communities on the valley floor part of the Project Area. Figure 5.4-2, *Plant Communities of National Forest Lands*, shows the distribution of plant communities in the mountainous areas within the Project Area that are under the jurisdiction of Angeles National Forest and Los Padres National Forest.

Antelope Valley Plant Communities

The Antelope Valley region contains a unique assemblage of plant communities different from other areas in the Mojave Desert. This region includes the foothills of the Liebre Mountains in the Gorman area along the Valley floor of the Antelope Valley below the Tehachapi Mountains, the Palmdale and Lancaster areas (the center of the valley), the dry lake beds found at Edwards AFB, the foothills of the Liebre (Ritter Ridge, Sierra Pelona areas), and areas within the northern San Gabriel Mountains (Kentucky Springs Canyon, Emma Ridge). In the eastern area of the region, the valley is heavily influenced by desert wash areas that extend from Little Rock Creek and Big Rock Creek and other canyons draining out of the San Gabriel Mountains.

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The northeastern boundary is near Rodgers Lake on Edwards AFB. This area extends southward along the desert valley floor to the San Gabriel Mountain foothill areas, including Devil's Punchbowl and Pinyon Ridge.

The western area of the Antelope Valley is characterized by large areas of annual grassland, native annual grassland (wildflower fields), perennial grasslands (often comprised of Indian rice grass (*Stipa hymenoides*); desert needle grass (*Stipa speciosa*); purple, nodding, or foothill needlegrass (*Stipa pulchra*, *S. cernua*, or *S. lepida*); squirreltail (*Elymus elymoides*); or other wild rye species (*Elymus* spp.), Joshua tree woodland, saltbush scrub, and large agricultural areas. This area is especially noted for the large spring wildflower displays, especially of California poppy (*Eschscholzia californica*). Other communities in this area include rabbitbrush scrub, mixed oak woodland, desert sage brush scrub, and juniper woodland.

The ridgeline (San Andreas rift zone) above the valley floor contains large areas of annual grassland, native annual grassland (wildflower fields), and perennial grasslands. The foothills contain large areas of desert sage scrub, Great Basin sage scrub, and rabbitbrush scrub. Chaparrals in this area include chamise chaparral, manzanita chaparral, ceanothus chaparral, mixed chaparral, scrub oak chaparrals, gooseberry chaparral, and other chaparral types. Other communities include annual and perennial grasslands, juniper woodland, and gray pine woodland. However, it is the mixed oak woodlands, composed of valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), and interior live oak (*Quercus wislizeni*) that characterize this segment of the Plan Area. The lakes found in this area, such as Elizabeth Lake, Quail Lake, Lake Hughes, and Munz Lakes, provide important areas of freshwater marsh and cottonwood-willow riparian forest habitats. Other riparian areas are found along the larger drainages and contain important stands of cottonwood-willow forest, willow forest, or desert wash scrub habitats.

The central part of the Project Area, adjacent to the cities of Palmdale and Lancaster, is generally characterized by large areas of saltbush scrub, along with rabbitbrush scrub to the north of the urbanized areas. Edwards AFB also contains areas of alkali sink and alkali playa. Other characteristic habitats include native annual grasslands (wildflower fields) and annual grasslands to the west of the developed areas. Other communities include rabbitbrush scrub, desert sage scrub, creosote bush scrub, juniper woodland, and Joshua tree woodland. The foothill regions to the south are characterized by juniper woodland, desert sage scrub, Great Basin sagebrush scrub, rubber rabbitbrush scrub, mixed chaparrals, semi-desert chaparral, and scrub oak chaparral.

The eastern part of the Project Area contains large areas of creosote bush scrub, along with a mixed desert scrub, rabbitbrush scrub, Joshua tree woodland, and some smaller areas of saltbush scrub. This area also contains scattered annual and perennial grasslands. There are large alluvial fans in this region that contain alluvial fan or desert wash scrub, semi-desert chaparral, and saltbush scrub.

The foothill areas often contain desert sage scrub, mixed desert scrub, and rubber rabbitbrush scrub, along with Tucker's oak chaparral, or semi-desert chaparral. This region also contains a number of woodland communities including Joshua tree woodland, juniper woodland, pinyon-juniper woodland, and interior live oak woodland. The larger drainages may contain a cottonwood-willow or white alder riparian forest, which grades into an alluvial fan or desert wash scrub at the base of the foothills.

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Table 5.4-1, *Plant Communities in the Antelope Valley*, lists the plant communities in the valley floor and foothills of the Project Area and their acreages.

Table 5.4-1 Plant Communities in the Antelope Valley

Plant Community	Acres	Plant Community	Acres
Desert sage scrub	10,555	Freshwater marsh	79
Great Basin sagebrush scrub	783	Alkali marsh	238
Creosote bush scrub	141,088	Mulefat scrub	8
Desert mixed scrub	5,790	Willow riparian scrub	218
Rabbitbrush scrub	44,633	Tamarisk riparian scrub	93
Saltbush scrub	100,112	Desert olive scrub	106
Alluvial fan sage scrub	2,988	White alder riparian forest	3
Desert wash scrub	2,614	Cottonwood-willow riparian forest	613
Chaparral- <i>Ceanothus</i>	156	Sycamore riparian woodland	85
Chaparral- chamise	1,190	Gray pine woodland	212
Chaparral- gooseberry	1	Mixed oak woodland	1,497
Chaparral- manzanita	59	Buckeye woodland	14
Semi-desert chaparral	3,988	Joshua tree woodland	44,319
Oak chaparral	7,226	Juniper woodland	26,468
Annual grassland & perennial grasslands	104,456	Pinyon-juniper woodland	823
<i>Achnatherum</i> perennial grassland	617	Big-cone Douglas fir-canyon live oak forest	12
Native annual grassland	4,675	Cliff and rock	63
Disturbed grasslands	19	Agricultural	38,372
Vernal pools	5	Open water	4,287
Meadows	279	Developed	77,380
Alkali sink scrub	4,734		
Alkali playa	5,846		

Angeles National Forest Vegetation

The San Gabriel Mountains are located in the Transverse Mountain Range, mostly within Angeles National Forest. The area to the west of Soledad Canyon is considered the Liebre Mountains while the remaining areas are considered the San Gabriel Mountain Range. The elevation in these mountains ranges from 800 ft. to 10,000 ft. above mean sea level, providing a wide range of habitats for plant communities.

The lower cismontane slopes are characterized by coastal sage scrub, often characterized by California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*), and other shrub species. Chaparral types are especially common on these slopes, including chamise chaparral, ceanothus chaparrals, manzanita chaparrals, mixed chaparral, and scrub oak chaparrals. Woodlands mostly consist of oak woodlands characterized by coast live oak (*Quercus agrifolia*) or canyon live oak (*Quercus chrysolepis*). Big-cone Douglas fir (*Pseudotsuga macrocarpa*) forest may also be found in the canyons at lower

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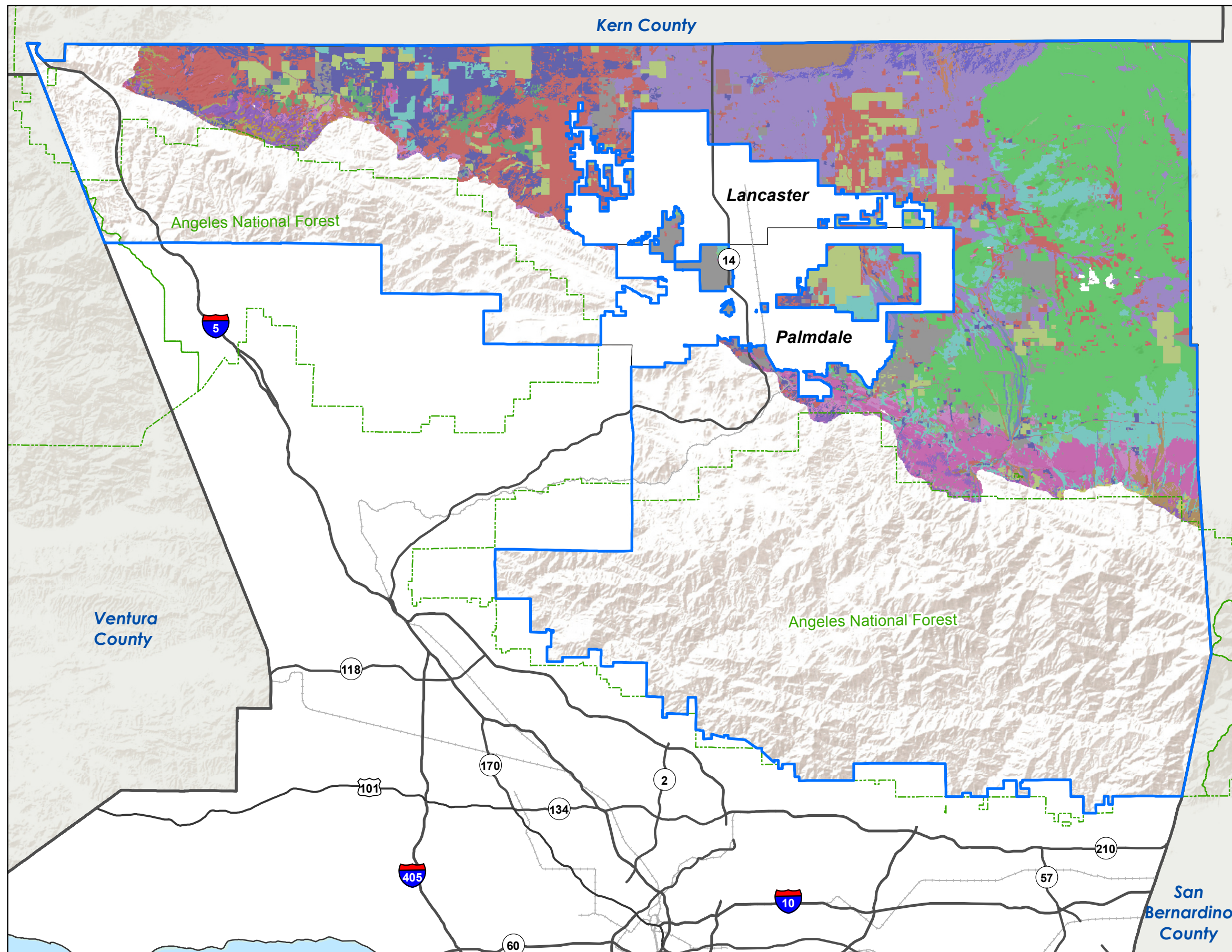
elevations. The larger drainages may contain riparian woodlands or forests comprised of coast live oak, western sycamore (*Platanus racemosa*), or riparian forests dominated by various species of willows (*Salix* spp.), and mulefat (*Baccharis salicifolia*), along with some Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). White alder (*Alnus rhombifolia*) riparian forest is also common along these drainages. Alluvial fan sage scrub and sycamore alluvial woodland are found in the larger drainages of the forest. Grasslands are also occasionally found on mesas and other areas, and consist of both annual and perennial grassland communities.

The mid-elevational ranges contain large areas of various chaparrals, but also yellow pine forest. In the lower elevations this forest is generally composed of Coulter pine (*Pinus coulteri*), along with ponderosa and Jeffrey pine (*Pinus ponderosa* and *P. jeffreyi*). Higher elevations contain a forest with sugar pine (*Pinus lambertiana*), white fir (*Abies concolor*), incense cedar (*Calocedrus decurrens*), and Kellogg oak (*Quercus kelloggii*). Chaparrals include interior live oak chaparral, manzanita chaparrals, and ceanothus chaparrals. The drainages may also contain canyon live oak forests, along with stands of big-cone Douglas fir forests. The riparian area are generally comprised of white alder and willow riparian forests, along with big-leaf maple (*Acer macrophyllum*), black cottonwood (*Populus trichocarpa*), and California bay (*Umbellularia californica*). Important wetland areas include mountain meadows, which contain California corn lily (*Veratrum californicum*), rushes (*Juncus* spp.), sedges (*Carex* spp.), willows, scented shooting star (*Dodecatheon redolens*), western columbine (*Aquilegia formosa*), cinquefoils (*Potentilla* spp.), willowherbs (*Epilobium* spp.), annual monkeyflowers (*Mimulus* spp.), sneeze weed (*Helenium bigelovii*), and other wetland species.

Subalpine areas are comprised of forests of lodgepole pine (*Pinus muricata*) and limber pine (*Pinus flexilis*), along with some sugar pine and white fir. The chaparral is generally composed of chinquapin (*Chrysolepis sempervirens*), snow bush (*Ceanothus cordulatus*), manzanitas (especially greenleaf manzanita (*Arctostaphylos patula*)), rock spirea (*Holodiscus discolor*), rubber rabbitbrush (*Ericameria nauseosa*), and curl-leaf mountain mahogany (*Cercocarpus ledifolius*).

Alpine areas are found above the tree line and are composed of a variety of cushion-forming plants, such as hoary buckwheat (*Eriogonum saxatile*), Wright's buckwheat (*Eriogonum wrightii*), and Kennedy buckwheat (*Eriogonum kennedyi*).

The drier transmontane slopes generally contain yellow pine forest, oak woodlands, and various chaparral communities in the upper elevations. Below this area the communities are generally characterized by semi-desert chaparral, Tucker's oak chaparral, desert sage scrub, and juniper woodland. Annual and perennial grasslands are also occasionally found in these areas.



5. ENVIRONMENTAL ANALYSIS

FIGURE 5.4-1

PLANT COMMUNITIES OF THE ANTELOPE VALLEY

- Antelope Valley Project Area
- Agricultural
- Alkali marsh
- Alkali sink scrub
- Alkali playa
- Alluvial fan sage scrub
- Alnus rhombifolia riparian forest
- Annual grassland & Perennial grasslands
- Big-cone douglas fir-Canyon live oak forest
- Buckeye Woodland
- Chaparral - Ceanothus
- Chaparral - Chamisal
- Chaparral - Gooseberry
- Chaparral - Manzanita
- Cottonwood willow riparian forest
- Creosote bush scrub
- Desert Wash scrub
- Desert mixed scrub
- Desert olive scrub
- Desert sage scrub
- Developed
- Disturbed grasslands
- Freshwater marsh
- Gray pine woodland
- Great Basin sagebrush scrub
- Joshua tree woodland
- Juniper woodland
- Meadows
- Mixed oak woodland
- Mulefat Scrub
- Native annual grassland (wildflower fields)
- Oak chaparral
- Open Water
- Pinyon juniper woodland
- Rabbitbush scrub
- Saltbush scrub
- Semi-desert chaparral
- Sycamore Riparian Woodland
- Tamarisk riparian scrub
- Vernal pools
- Willow riparian scrub

ANTELOPE VALLEY
AREA PLAN UPDATE
DRAFT EIR

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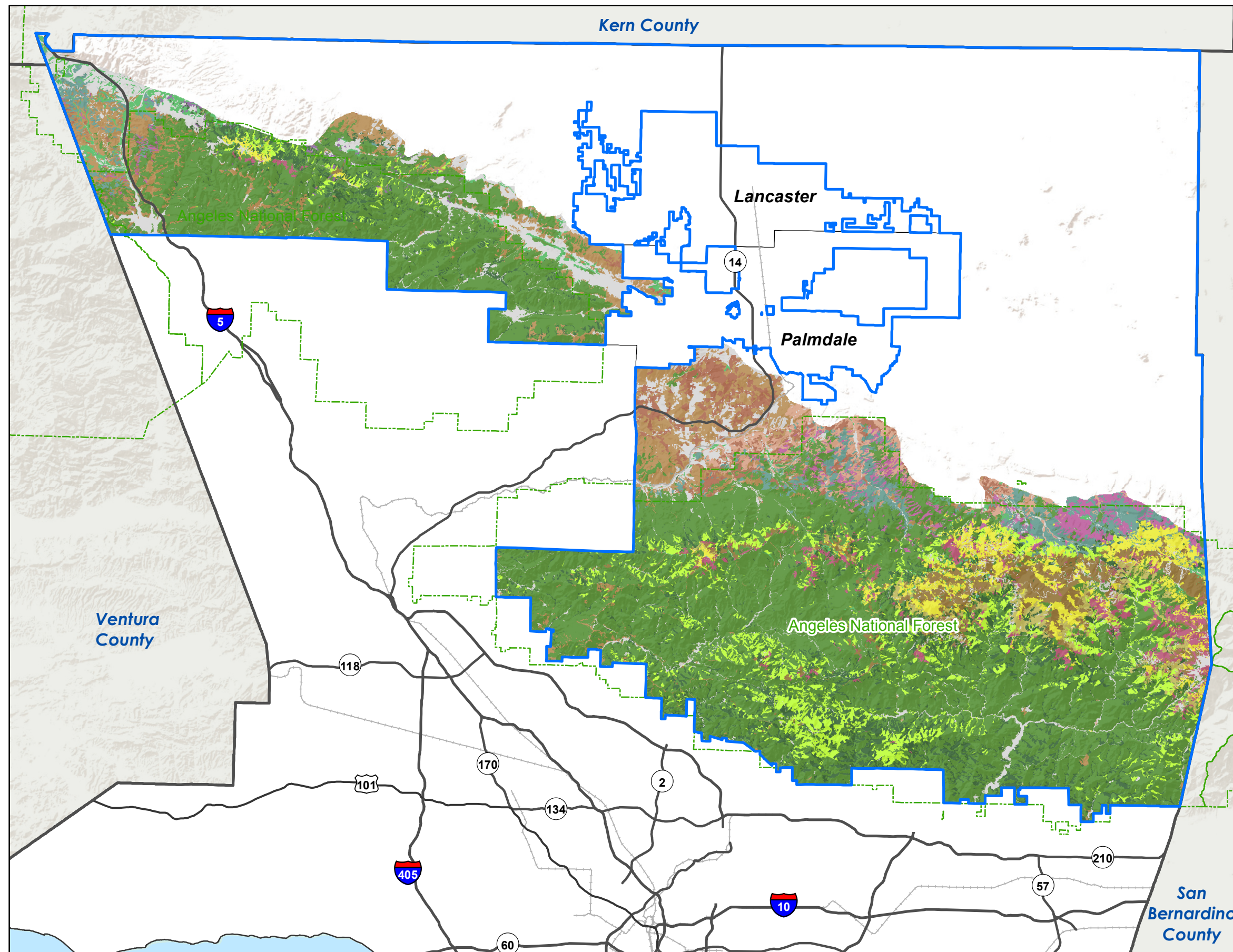
BIOLOGICAL RESOURCES

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5. ENVIRONMENTAL ANALYSIS

FIGURE 5.4-2

PLANT COMMUNITIES OF NATIONAL FOREST LANDS



- Antelope Valley Project Area
- Big sagebrush
- Bigcone Douglas-fir
- Chaparral and serotinous conifers
- Dry mixed conifer
- Moist mixed conifer
- Mixed evergreen
- California juniper
- Coastal sage scrub
- Curl-leaf mountain mahogany
- Desert mixed shrub
- Montane chaparral
- Oak woodland
- Pinyon juniper
- Semi-desert chaparral
- Subalpine forest
- Yellow pine
- none

ANTELOPE VALLEY
AREA PLAN UPDATE
DRAFT EIR

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 PLACEWORKS

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The eastern part of the range contains areas of a pinyon-juniper woodland, comprised of single-leaf pinyon pine (*Pinus monophylla*) and California juniper (*Juniperus californica*), in association with California flannel bush (*Fremontodendron californicum*), antelope bush (*Purshia tridentata*), and curl-leaf mountain mahogany. Juniper woodland and some Joshua tree woodland is also found on the lower slopes of this range. Canyon live oak woodlands are found along mesic slopes of the steeper canyons. Chaparral composed of chamise chaparral, Tucker's oak chaparral, ceanothus chaparral, interior live oak chaparral, and manzanita chaparral, along with semidesert chaparral are also commonly found on these slopes. Riparian communities generally consist of white alder riparian forests, cottonwood-willow riparian forests, canyon live oak riparian forest, willow riparian scrub, and mulefat scrub. Other areas contain desert wash scrub or alluvial fan sage scrub.

Plant Community Descriptions

Scrubs and Chaparral

Coastal sage scrub community is characterized by California buckwheat, California sagebrush, black sage, encelia (*Encelia* spp.), orange bush monkeyflower (*Mimulus aurantiacus*), white sage (*Salvia apiana*), deerweed (*Acmispon glaber*), thicket yerba santa (*Eriodictyon crassifolium*), common sand aster (*Corethrogyne filaginifolia*), and chaparral yucca (*Hesperoyucca whipplei*). Brittlebush (*Encelia farinosa*) is often found along the northern base of the San Gabriel Mountains, while purple sage (*Salvia leucophylla*) is found in the Liebre Mountains.

Desert sage scrub is a community characterized by rosemary buckwheat (*Eriogonum fasciculatum* ssp. *polifolium*), Cooper's goldenbush (*Ericameria cooperii* var. *cooperi*), and narrowleaf goldenbush (*Ericameria linearifolia*), bladderpod (*Peritoma arborea*), chaparral yucca, long-stemmed buckwheat (*Eriogonum elongatum* var. *elongatum*), rubber rabbitbrush, burrobush (*Ambrosia dumosa*), beavertail cactus (*Opuntia basilaris*), bush lupine (*Lupinus excubitus* ssp. *austromantanus*), and cheesebush (*Ambrosia salsola*).

Creosote bush scrub is dominated by open stands of creosote bush (*Larrea tridentata*). Commonly associated shrubs and subshrubs consist of burrobush, Nevada tea (*Ephedra nevadensis*), winterfat (*Krascheninnikovia lanata*), cheesebush, paperbag bush (*Scutellaria mexicana*), Anderson's boxthorn (*Lycium andersonii*), desert sage (*Salvia dorrii*), Cooper's boxthorn (*Lycium cooperi*), sticky snakeweed (*Gutierrezia microcephala*), silver cholla (*Cylindropuntia echinocarpa*), and hopsage (*Grayia spinosa*).

Saltbush scrub (Chenopod scrub) is characterized by a variety of saltbush species, especially shadscale (*Atriplex confertifolia*), spinescale (*Atriplex spinifera*), allscale (*Atriplex polycarpa*), and four-wing saltbush (*Atriplex canescens*). Associated shrubs include alkali goldenbush (*Isocoma acradenia*), rubber rabbitbrush, goldenhead (*Acamptopappus sphaerocephalus*), budsage (*Artemisia spinescens*), cheesebush, hopsage, winterfat, and long-spine horsebrush (*Tetradymia axillaris*).

Mixed desert scrub contains a mix of characteristic species, especially Acton encelia (*Encelia actoni*), rosemary buckwheat, hairy yerba santa (*Eriodictyon trichocalyx*), desert sage, Mojave aster (*Xylorhiza tortifolia* var. *tortifolia*), goldenhead, Cooper's goldenbush, longspine horsebrush, Cooper's boxthorn, winterfat, cheesebush, and narrowleaf goldenbush. Larger shrubs included desert almond (*Prunus fasciculata*), antelope bush, and, occasionally, California juniper.

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Sagebrush scrub is dominated by Great Basin sagebrush (*Artemisia tridentata*). Other commonly found shrubs in this community consist of rubber rabbitbrush, rosemary buckwheat, Nevada tea, Cooper's goldenbush, four-wing saltbush, hopsage, winterfat, and Cooper's boxthorn.

Rabbitbrush scrub is characterized by stands of rubber rabbitbrush, cheese weed, fourwing saltbush, and winterfat.

Subshrub scrub is characterized by a variety of subshrubs or perennial herbs. Characteristic species may include common sand aster, long-stemmed buckwheat, brush lupine, wright's buckwheat (*Eriogonum wrightii*), cheese bush, and broom snakeweed (*Gutierrezia sarothrae*).

Narrowleaf goldenbush-badderpod or bladderpod dominated scrub has been mapped in some localities.

Yerba santa scrub comprised of scrubs dominated by hairy yerba santa have been mapping in some areas. This mapping unit is usually found in alluvial washes.

Chaparral is a complex community of evergreen shrubs that is characterized by the dominant species. Chaparral communities include:

- **Chamise chaparral**, characterized by chamise (*Adenostoma fasciculatum*) in monotypic stands or mixed with various species of *Ceanothus* along with black sage, rosemary buckwheat, birch-leaf mountain-mahogany (*Cercocarpus betuloides*), California scrub oak (*Quercus berberidifolia*), chaparral yucca, and hairy yerba santa;
- **Ceanothus chaparral**, dominated by various species of *Ceanothus*, such as buck brush (*Ceanothus cuneatus*), or Mojave ceanothus (*Ceanothus vestitus*), chaparral whitethorn (*Ceanothus leucodermis*), southern deer brush (*Ceanothus integerrimus*), hoary-leaved ceanothus (*Ceanothus crassifolius*), and other *Ceanothus* species;
- **Manzanita chaparral**, dominated by various species of manzanita, such as big berry manzanita (*Arctostaphylos glauca*) or Eastwood manzanita (*Arctostaphylos glandulosa*);
- **Scrub oak chaparrals**, dominated by various species of scrub oak, such as California scrub oak, interior live oak, Tucker's oak (*Quercus john-tuckeri*) or brewer's oak (*Quercus garryana* var. *breweri*) and at times co-dominant with holly-leaved redberry (*Rhamnus ilicifolia*) or birch-leaf mountain-mahogany;
- **Mountain mahogany chaparral**, dominated by birch-leaf mountain-mahogany, or curl-leaf mountain mahogany in more xeric, higher elevations.

A more xeric chaparral (**semi-desert chaparral**) found on the desert slopes contains Tucker's oak, Mojave ceanothus, desert almond, antelope brush, California flannel bush, ashy silktassel (*Garrya flavescens*), bush poppy (*Dendromecon rigida*), and Fremont bushmallow (*Malacothamnus fremontii*). Other xeric chaparrals identified in the region include:

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- **Desert almond chaparral**, characterized by desert almond, rosemary buckwheat, narrowleaf goldenbush, hairy yerba santa, Acton encelia, cheesebush, antelope bush, longspine horsebrush, Nevada tea, and Cooper's boxthorn;
- **Antelope bush chaparral**, characterized by antelope bush, desert almond, and California juniper, with other shrubs including rosemary buckwheat, Acton encelia, paperbag bush, chaparral yucca, green ephedra (*Ephedra viridis*), goldenhead, Cooper's boxthorn, desert sage, and narrowleaf goldenbush;
- **Flannel bush chaparral**, characterized by California flannel bush; other characteristic shrub species include Great Basin sagebrush, Tucker's oak, birch-leaf mountain-mahogany, Mojave ceanothus, hairy yerba santa, Acton encelia, canyon live oak, ashy silktassel, holly-leaved redberry, and Fremont bushmallow.

Mid-montane and **montane chaparral** is found in the higher elevations of the San Gabriel and Liebre mountains. In the mid-elevational areas the chaparral is composed of chaparral whitethorn and deer brush, Eastwood manzanita, California flannel bush, and birch-leaf mountain-mahogany. Montane chaparral consists of chinquapin, mountain whitethorn, green leaf manzanita, and curl-leaf mountain mahogany.

Other chaparral types include coffeeberry scrub/gooseberry scrub, a shrub community characterized by stands of hoary coffeeberry (*Frangula californica* ssp. *tomentella*) and oak gooseberry (*Ribes quercetorum*), birch-leaf mountain-mahogany, holly-leaved cherry (*Prunus ilicifolia*), rubber rabbitbrush, sand wash butterweed (*Senecio flaccidus*), Oregon cherry (*Prunus emarginata*), and blue elderberry (*Sambucus nigra* ssp. *caerulea*).

Scrub oak chaparrals are generally composed of interior live oak, scrub oak, Tucker's oak, or interior live oak. A chaparral dominated by Tucker's oak is an abundant community on the transmontane slopes of the San Gabriel/Liebre Mountains. Other shrubs may include chamise, manzanitas, birch-leaf mountain-mahogany, ceanothus, California flannel bush, interior goldenbush, Great Basin sagebrush, toyon, California juniper, rosemary buckwheat, blue elderberry, and holly-leaved redberry.

Grasslands

Annual grassland is characterized by naturalized annual grasses, especially cheat grass (*Bromus tectorum*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeaceus*), foxtail barley (*Hordeum murinum* ssp. *leporinum*), wild oats (*Avena barbata*, *A. fatua*), rat tail fescue (*Vulpia myuros*), and schismus (*Schismus barbatus*). Typical forbs include filarees (*Erodium cicutarium*, *E. botrys*), fiddlenecks (*Amsinckia menziesii*, *A. tessellata*), dove weed (*Croton setigerus*), summer mustard (*Hirschfeldia incana*), and tumble mustards (*Sisymbrium* spp.).

Native annual grassland (wildflower field) is often dominated by forbs, including California poppy, common sand aster (*Corethrogyne filaginifolia*), California goldfields (*Lasthenia gracilis*), fiddlenecks, cryptantha (*Cryptantha* spp.), miniature lupine (*Lupinus bicolor*), popcorn flowers (*Plagiobothrys* spp.), Fremont's pincushion (*Chaenactis fremontii*), Bigelow's tickseed (*Leptosyne bigelovii*), dobie pod (*Tropidocarpum gracile*), annual buckwheats (*Eriogonum* spp.), and many other forb species. Grasses include small fescue (*Vulpia microstachys*) and other naturalized annual grasses, such as cheat grass, red brome, ripgut brome, and schismus.

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Perennial grassland may be dominated by needlegrass (*Stipa cernua* or *S. pulchra*), one-sided blue grass (*Poa secunda*), big squirreltail (*Elymus multisetus*), giant wild rye (*Elymus condensatus*), beardless wild rye (*Elymus triticoides*), Indian rice grass, or desert needle grass.

Disturbed grassland (Mustard stands, Ruderal) is comprised of an early successional grassland, characterized by early successional forbs and grasses found on disturbed sites. Species commonly found in these disturbed grasslands include Russian thistle (*Salsola tragus*), tumble mustard (*Sisymbrium altissimum*), filarees, Sahara mustard (*Brassica tournefortii*), schismus, brome grasses (*Bromus spp.*), and summer mustard.

Woodlands

Joshua tree woodland is characterized by an overstory of Joshua trees (*Yucca brevifolia*) and may be associated with California juniper, while the shrub understory is generally a creosote bush scrub or a mixed desert scrub community. Common associates include creosote bush, rosemary buckwheat, Nevada tea, Great Basin sagebrush, Acton encelia, Cooper's boxthorn, rubber rabbitbrush, paperbag bush, and narrowleaf goldenbush.

Pinyon-Juniper woodland is characterized by open stands of single-leaf pinyon pine and California juniper. Shrubs consist of Great Basin sagebrush, Tucker's oak, antelope bush, California flannel bush, desert almond, rosemary buckwheat, birch-leaf mountain-mahogany, rubber rabbitbrush, big-berry manzanita, Mojave ceanothus, narrowleaf goldenbush, and chaparral yucca.

Juniper woodland is an open woodland with an overstory of California juniper. Shrubs in this woodland include Great Basin sagebrush, rosemary buckwheat, narrowleaf goldenbush, cheesebush, goldenhead, Cooper's boxthorn, Acton encelia, silver cholla, and Cooper's goldenbush.

Willow riparian scrub is characterized by narrowleaf willow (*Salix exigua*), mulefat, arroyo willow (*Salix lasiolepis*), red willow (*Salix laevigata*), and black willow (*Salix gooddingii*). The understory may be composed of deergrass (*Muhlenbergia rigens*), saltgrass (*Distichlis spicata*), and wild grape (*Vitis giardiana*).

Montane riparian is a riparian community with white alder, cottonwoods, California bay, big-leaf maple, willows, red osier dogwood (*Cornus sericea*), and chokecherry (*Prunus virginiana*).

Woodlands and Forests

A variety of oak woodlands are found in the region, and in the xeric regions these principally consist of:

- **Canyon live oak woodland/forest** is characterized by canyon live oak, and may be associated with interior live oak, Tucker's oak, Brewer's oak, and black oak. Shrubs consist of hoary coffeeberry, blue elderberry, California buckeye (*Aesculus californica*), birch-leaf mountain-mahogany, chamise, Great Basin sagebrush, and rubber rabbitbrush. In higher elevations, canyon live oak is associated with big-cone Douglas fir.
- **Blue oak woodland** is characterized by blue oak along with gray pine, interior live oak, and California juniper. Commonly associated shrubs include Great Basin sagebrush, California buckeye, Tucker's oak, and rubber rabbitbrush.

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- **Interior live oak woodland/forest** is characterized by tree form interior live oaks with canyon live oak, Tucker's oak, California buckeye, blue elderberry, holly-leaved redberry, birch-leaf mountain-mahogany, and linear-leaved goldenbush.
- **Valley oak woodland** is usually valley oak mixed with gray pine (*Pinus sabiniana*) and blue oak and is relatively uncommon in the region. Shrub species include chamise, rosemary buckwheat, and rubber rabbitbrush.
- **Kellogg oak or black oak woodland** is generally found along the crest of the Liebre Mountains and comprises open stands of black oak along with interior live oak, gray pine, and big-cone Douglas fir. Shrubs consist of California buckeye, hoary coffeeberry, blue elderberry, birch-leaf mountain-mahogany, and chaparral whitethorn.
- **Coast live oak woodland/forest** is a woodland to forest of coast live oak along with blue elderberry, birch-leaf mountain-mahogany, canyon live oak, interior live oak, holly-leaved redberry, black sage, rosemary buckwheat, and occasionally with western sycamore. Woodlands in the Liebre Mountains contain California buckeye, narrowleaf goldenbush, and canyon or interior live oak.

Buckeye woodland is an open woodland comprising stands of California buckeye.

Walnut woodland is an open woodland of southern California black walnut (*Juglans californica*) that is often found in open savannah area or associated with coast live oak. Common shrubs consist of toyon (*Heteromeles arbutifolia*), lemonade berry (*Rhus integrifolia*), blue elderberry, and holly-leaved redberry.

Holly-leaved cherry woodland is a woodland of large holly-leaved cherry shrubs that are found in alluvial washes. It is often associated with toyon, blue elderberry, or holly-leaved redberry. In more xeric areas it may occur with California juniper or antelope brush.

Mixed oak woodland is a mapping category used for a mix of oak species, such as blue oak, canyon live oak, or Tucker's oak, with gray pine and California juniper.

Gray pine woodland is a woodland characterized by an overstory of gray pine. Associated trees may include blue oak, Tucker's oak, and interior live oak. Shrubs often consist of rosemary buckwheat, big berry manzanita, birch-leaf mountain-mahogany, and hairy yerba santa.

Big-cone Douglas fir-canyon live oak forests comprise stands of big-cone Douglas fir associated with canyon live oak. Associated shrubs include interior live oak, manzanitas, California coffeeberry, ashy silktassel, and California bay. At higher elevations this forest may also be associated with yellow pine.

Yellow pine forest/woodland (lower montane coniferous forest, dry mixed conifer forest) is found in the higher elevations of the study area, and generally consists of Coulter pine, along with Jeffrey pine and ponderosa pine. Pinyon pine may be found at the lower elevation of this community on the north side of the San Gabriel Mountains. Other commonly associated species include canyon live oak, blue elderberry, interior live oak, black oak, and big-cone Douglas fir. Shrubs are a variety of manzanita and *Ceanothus* species. Higher elevation forests (**yellow pine forest**) are composed of sugar pine, white fir, Jeffrey pine, black oak, and

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incense cedar. Shrubs are comprised of chinquapin, snow bush, rabbitbrush, and Greenleaf manzanita. The more mesic slopes of these forests have been mapped as a moist mixed-conifer forest.

Canyon live oak forest (mixed evergreen) is characterized by stands of canyon live oak and interior live oak, mixed with some yellow pine in mesic canyons.

Upper elevation coniferous forest is characterized by sugar pine, white fir, incense cedar, along with some ponderosa pine.

Subalpine forests are composed of forests of lodgepole pine and limber pine, along with some sugar pine and white fir. The chaparral is generally composed of chinquapin, snow bush, manzanitas (especially Greenleaf manzanita), rock spirea, rubber rabbitbrush, and curl-leaf mountain mahogany.

Riparian

Desert wash scrub is characterized by Great Basin sagebrush, desert almond, scalebroom (*Lepidospartum squamatum*), rubber rabbitbrush, cheeseweed, desert olive, Cooper's goldenbush and wash butterweed, narrowleaf goldenbush, Acton encelia, creosote bush, paperbag bush, hopsage, rosemary buckwheat, hairy yerba santa, green ephedra, winterfat, desert sage, and sandpaper plant (*Petaloxynx thurberi*).

Alluvial fan sage scrub is characterized by scalebroom along with rubber rabbitbrush, Great Basin sagebrush, rosemary buckwheat, hairy yerba santa, sand wash butterweed, California coffeeberry (*Frangula californica*), chaparral yucca, narrowleaf goldenbush, Acton encelia, skunk bush (*Rhus aromatica*), white sage, Nevada tea, poison oak (*Toxicodendron diversilobum*), blue elderberry, holly-leaved cherry, California buckeye, Tucker's oak, paperbag bush, hairy yerba santa, black sage, and beavertail cactus. Some wash areas are dominated by stands of chaparral yucca.

Riparian herb is composed of rabbit's foot grass (*Polypogon monspeliensis*), monkey flowers such as the sheep monkey flower (*Mimulus guttatus*), curly dock (*Rumex crispus*), water cress (*Rorippa nasturtium-aquaticum*), toad rush (*Juncus bufonius*), mugwort (*Artemisia douglasiana*), willow smart weed (*Persicaria lapathifolia*), tarragon (*Artemisia dracunculus*), sedges, annual sunflower (*Helianthus annuus*), and bulrushes (*Bolboschoenus* or *Schoenoplectus* spp.).

Desert olive scrub is a patchy scrub of desert olive (*Forestiera pubescens*) found in ephemeral washes. Often found with mulefat, deergrass, and narrowleaf willow.

Mulefat riparian scrub is dominated by mulefat; sometimes arroyo willow, narrowleaf willow, or blue elderberry may also be present.

Willow riparian scrub is characterized by narrowleaf willow, arroyo willow, mulefat, red willow, and black willow. Other shrubs include blue elderberry, poison oak, skunk bush, toyon, shrubby dogwoods (*Cornus* spp.), and holly-leaved redberry. The understory may be composed of giant wild rye, deergrass, saltgrass, wild grape, wild rose (*Rosa californica*), and California blackberry (*Rubus ursinus*). Higher elevation riparian scrubs contain red osier dogwood, chokecherry, dusky willow (*Salix melanopsis*), and scouler's willow (*Salix scouleriana*).

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Tamarisk riparian scrub is characterized by dense stands of Mediterranean tamarisk (*Tamarix ramosissima*). These stands are often mixed with willows, canyon live oak, mulefat, scalebroom, and other riparian shrubs.

Willow riparian forest comprises tree-forming willows, usually black willow or red willow, but also yellow willow (*Salix lasiandra* var. *lasiandra*). The shrub layer consists of arroyo willow, blue elderberry, mulefat, and narrowleaf willow. The understory is composed of poison oak, wild grape, Durango root (*Datisca glomerata*), blackberry, and mugwort.

Cottonwood/willow riparian forest has an overstory of Fremont cottonwood or uncommonly black cottonwood, along with tree-forming willows, including red willow, yellow willow, or black willow. Below this canopy is a shrub layer composed of arroyo willow, narrowleaf willow, or mulefat. Wild grape, blackberry, and poison oak may be common in the understory.

White alder riparian forest is characterized by stands of white alder, willows, cottonwoods, mulefat, California bay, and big-leaf maple. The understory may consist of shrubby willows, mulefat, wild blackberry, and poison oak.

Sycamore riparian woodland is an open woodland of western sycamore, coast live oak, and blue elderberry. Shrubs often consist of mulefat, holly-leaved red berry, holly-leaved cherry, scalebroom, giant wild rye, and poison oak.

Coast live oak riparian forest is a riparian forest with an overstory of coast live oak. Other species include western sycamore, blue elderberry, or species of willows. Other shrubs often include toyon, holly-leaved redberry, giant wild rye, coffeeberry, and poison oak. A valley oak riparian forest is found at a few localities in the northwest corner of the Project Area.

Valley oak riparian woodland is a riparian community with an overstory of valley oak along with red willow, black willow, arroyo willow, and narrowleaf willow.

Canyon live oak riparian forest comprises stands of canyon live oak with white alder, willows, big-leaf maple, toyon, skunk bush, and holly-leaved redberry.

Seasonal Wetlands and Marshes

Freshwater marshes are often characterized by cattails (*Typha* spp.), bulrushes (*Schoenoplectus* spp.), rushes, sedges, spikerush (*Eleocharis* spp.), beardless wild rye, marsh evening primrose (*Oenothera elata*), Baltic rush (*Juncus balticus* ssp. *ater*), alkali bulrush (*Bolboschoenus maritimus*), sturdy sedge (*Carex alma*), and common reed (*Phragmites australis*). The invasive broad-leaved peppergrass (*Lepidium latifolium*) is found in some marsh areas.

Alkali meadow is a community characterized by saltgrass, alkali heath, docks (*Rumex* spp.), spikerush, alkali sacaton (*Sporobolus airoides*), alkali weed (*Cressa truxillensis*), scratch grass (*Muhlenbergia asperifolia*), and lizard tail (*Anemopsis californica*).

Alkali marsh is composed of narrowleaf cattail (*Typha domingensis*), common bulrush (*Schoenoplectus acutus* var. *occidentalis*), alkali bulrush (*Bolboschoenus maritimus* ssp. *paludosus*), along with arrow weed (*Pluchea sericea*), smartweeds (*Persicaria* and *Polygonum* spp.), sedges, and curly dock.

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Alkali sink scrub is composed of iodine bush (*Allenrolfea occidentalis*), boraxweed (*Nitrophila occidentalis*), Mojave sea-blite (*Suaeda nigra*), alkali heath (*Frankenia salina*), alkali sacaton, sparscale (*Atriplex covillei*), basin wild rye (*Elymus cinereus*), wire stemmed popcorn flower (*Plagiobothrys leptocladus*), big squirreltail, and rusty molly (*Kochia californica*).

Alkali playas are often bare, dry, open areas that are seasonally flooded or saturated and may have open cover of wire-stemmed popcorn flower, alkali pepper grass (*Lepidium dictyotum*), sparscale, alkali barley (*Hordeum depressum*), boraxweed, or sparscale.

Freshwater seeps are formed from springs and often contain a riparian herb community, including such species as seep monkey flower, sedges, rushes, ferns, sticky eupatorium (*Ageratina adenophora*), and other species.

Vernal pools are typically composed of wire-stemmed popcorn flower, annual hairgrass (*Deschampsia danthonioides*), alkali peppergrass, and valley pineapple weed (*Matricaria occidentalis*).

Ephemeral ponds (swales) are seasonal wetlands that may not meet the criteria of a vernal pool. Typical species include wire-stemmed popcorn flower, knotweed (*Polygonum* spp.), docks, five-hook bassia (*Bassia hyssopifolia*), or other mesic species.

Montane meadows are characterized by California corn lily, rushes, sedges, willows, scented shooting star, western columbine, cinquefoils, willowherbs, annual monkeyflowers, and sneeze weed.

Alpine

Alpine areas are found above the tree line and are composed of a variety of cushion-forming plants, such as hoary buckwheat, Wright's buckwheat, and Kennedy buckwheat.

Cliff and Rock

Cliff and rock habitats consist of steep cliff faces or rock outcrops may be barren or contain an assortment of vascular plants, lichens, and mosses. These can include xeric and mesic cliff faces as well as rock outcrops or buttes.

Lakes, Reservoirs, and Desert Dry Lakes

Open water (lakes, reservoirs, and basins) consist of open bodies of water found in the natural lakes and reservoirs in the region. This also includes the open water of the Los Angeles Aqueduct.

Desert dry lakes/playas are large desert playas, found at Rosmand and Rogers dry lakes. These areas may be dry for decades before they fill as ephemeral, shallow lakes.

Watercourses

Watercourses consist of ephemeral washes, intermittent and perennial streams, and flood control channels that are generally unvegetated. Some maps have noted these washes as a barren mapping unit.

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Ephemeral washes are generally unvegetated sandy washes found within ephemeral channels. Some scattered vegetative cover consists of rubber rabbitbrush, cheesebush, Cooper's boxthorn, sand wash butterweed, narrowleaf goldenbush, desert sage, and hairy yerba santa. Herbaceous species may include Mojave sand verbena (*Abronia pogonantha*), Mojave sand plant (*Nicoletta occidentalis*), western tansy mustard (*Descurania pinnta*), desert pincushion (*Chaenactis fremonti*), and other common desert annuals. Shrubs often include toyon, holly-leaved redberry, coffeeberry, or poison oak.

Other Habitats

Agricultural consists of dryland and irrigated crops, along with orchards and vineyards that are found in the region.

Ornamental includes various ornamental tree and shrub plantings.

Developed habitats consist of developed sites in rural and urban areas.

Wildlife

The habitats and wildlife in the Project Area are among the most diverse in the State. The valley portion of the Project Area, where development under the Proposed Project would be concentrated, supports a range of arid communities, mainly annual and perennial grasslands, saltbush and creosote scrubs, chaparrals, alluvial fan scrub, alkali sink, alkali playa, and Joshua tree woodland.

These habitats support diverse sedentary and migratory bird species. Typical species include the mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), western kingbird (*Tyrannus verticalis*), common raven (*Corvus corax*), horned lark (*Eremophila alpestris*), rock wren (*Salpinctes obsoletus*), Le Conte's thrasher (*Toxostoma lecontei*), and sage sparrow (*Artemisiospiza belli*). The region supports a diverse resident and seasonal list of raptorial species, some of which are increasingly rare, such as the burrowing owl (*Athene cunicularia*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), and rough-legged hawk (*Buteo lagopus*).

Amphibian populations are generally restricted to moister areas where water is readily available, such as riparian areas along canyon bottoms and ponding features. Representative amphibian species found in the Project Area include northern Pacific tree frog (*Pseudacris regilla*), California toad (*Anaxyrus boreas halophilus*), and the non-native American bullfrog (*Lithobates catesbeianus*).

The rich reptile fauna of the Project Area include California side-blotched lizard (*Uta stansburiana elegans*), Great Basin collared lizard (*Crotaphytus bicinctores*), long-nosed leopard lizard (*Gambelia wislizenii*), northern desert iguana (*Dipsosaurus dorsalis dorsalis*), western zebra-tailed lizard (*Callisaurus draconoides rhodostictus*), northern desert horned lizard (*Phrynosoma platyrhinos platyrhinos*), desert night lizard (*Xantusia vigilis*), red racer (*Coluber flagellum piceus*), northern Mohave rattlesnake (*Crotalus scutulatus scutulatus*), and long-nosed snake (*Rhinocheilus lecontei*).

The Project Area also supports a wide variety of mammal species. Representative mammal species commonly found within the Project Area are the desert woodrat (*Neotoma lepida*), Antelope ground squirrel (*Ammospermophilus leucurus*), Merriam's kangaroo rat (*Dipodomys merriami*), little pocket mouse (*Perognathus l.*

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longimembris), desert cottontail (*Sylvilagus auduboni*), black-tailed jackrabbit (*Lepus californicus*), desert kit fox (*Vulpes macrotis arsipus*), coyote (*Canis latrans*), and badger (*Taxidea taxus*).

Sensitive Resources

Figure 5.4-3, *Designated Critical Habitat*, shows the locations of critical habitat for federally listed wildlife species occurrences in the Project Area. The proposed San Gabriel Canyon SEA contains critical habitat for Braunton's milk-vetch.

Sensitive Plant Communities

The CNDDB identifies 16 sensitive plant communities in the Project Area³: canyon live oak ravine forest, Mojave riparian forest, Riversidean alluvial fan sage scrub, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern mixed riparian forest, southern riparian forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, valley needlegrass grassland, valley oak woodland, wildflower field, vernal pool, Southern California arroyo chub/Santa Ana sucker stream, and Southern California threespine stickleback stream.

Sensitive Plants

The Project Area potentially supports approximately 130 special-status plant species that are federal and/or state listed (e.g., endangered or threatened) and/or considered rare by the CNPS. Special-status plant species in the Project Area are summarized in Table 5.4-2, *Special-Status Plant Species*. Among these are federal- and/or state-listed species, including San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*), spreading navarretia (*Navarretia fossalis*), Bakersfield cactus (*Opuntia basilaris* var. *treleasei*), and California Orcutt grass (*Orcuttia californica*).

Sensitive Wildlife

The Project Area supports more than 70 special-status wildlife species that are federal and/or state listed (e.g., endangered or threatened) and/or considered a Species of Special Concern by the CDFW. Special-status animal species in the Project Area with known, recorded occurrences are summarized in Table 5.4-3, *Special-Status Wildlife Species*. Among these are 15 federal- and/or state-listed species, including the California condor (*Gymnogyps californianus*), desert tortoise (*Gopherus agassizii*), arroyo toad (*Anaxyrus californicus*), least Bell's vireo (*Vireo belli pusillus*), southern mountain yellow-legged frog (*Rana muscosa*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), Mohave ground squirrel (*Xerospermophilus mohavensis*), Swainson's hawk (*Buteo swainsoni*), California red-legged frog (*Rana draytonii*), desert tortoise, Santa Ana sucker (*Catostomus santaanae*), and western snowy plover (*Charadrius alexandrinus nivosus*).

The Project Area contains designated critical habitat for the arroyo toad, desert tortoise, southern mountain yellow-legged frog, and Santa Ana sucker, which are shown in Figure 5.4-3, *Designated Critical Habitat*.

³ The CDFW (2010) is currently using a new, more detailed vegetation classification system that renders the classification used in its CNDDB obsolete. The new classification system is based on dominant plant species rather than "community types", and will result in a more lengthy list of sensitive communities. It is recommended that the new classification system be used for project-level reviews.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Bryophytes						
Slender silver moss <i>Anomobryum julaceum</i>	—	—	2B.2	Damp rock and soil substrates on outcrops and road cuts in broad-leaved upland forest, lower montane coniferous forest, and North Coast coniferous forest communities between 100 and 1,000 m asl.	Moss N/A	San Gabriel Mountains: Waterman Mountain
Ferns and allies						
Western spleenwort <i>Asplenium vespertinum</i>	—	—	4.2	Rocky habitats in chaparral, cismontane woodland, and coastal scrub communities between 800 and 1,000 m asl.	Rhizomatous herb February – June	San Gabriel Mountains: San Gabriel River Canyon, Eaton Canyon, Santa Anita Canyon, Millard Canyon.
Scalloped moonwort <i>Botrychium crenulatum</i>	—	—	2B.2	Bogs and fens, lower montane coniferous forest, meadows and seeps, freshwater marshes and swamps and upper montane coniferous forest communities between 1,268 and 3,280 m asl.	Rhizomatous herb June – September	San Gabriel Mountains: northeast slope Mt. San Antonio, Lytle Creek (San Bernardino County)
bluish spike-moss <i>Selaginella asprella</i>			4.3	Granitic, rocky. Cismontane woodland, Lower montane coniferous forest, pinyon-juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest 1600-2700 m	Perennial rhizomatous herb July	San Gabriel Mountains: Little Rock Creek, Devil's Punchbowl, San Antonio Canyon, Mt. Waterman, Mescal Creek, San Gabriel River Canyon, Mt. Islip, Kratka Ridge, Devil's Canyon, etc.
Sonoran maiden fern <i>Thelypteris puberula</i> var. <i>sonorensis</i>	—	—	2B.2	Meadows, seeps and streams between 50 and 610 m asl.	Rhizomatous herb January – September	San Gabriel Mountains: Roberts Canyon, Fern Canyon, Van Tassel Canyon, Santa Anita Canyon, Eaton Canyon etc.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Dicots						
Heart-leaved thorn-mint <i>Acanthomintha obovata</i> ssp. <i>cordata</i>	—	—	4.2	Clay soils in openings in chaparral, cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland communities between 785 and 1,540 m asl.	Annual herb April – July	Liebre Mountains: Ridge Route, Oso Canyon.
Parish's oxytheca <i>Acanthoscyphus parishii</i> var. <i>parishii</i> ⁴	—	—	4.2	Sandy or gravelly soils in chaparral and lower montane coniferous forest communities between 1,220 and 2,600 m asl.	Annual herb June – September	San Gabriel Mountains: Mescal Canyon, Pacifico Mountain, Mt. Gleason, Table Mountain, Big Rock Creek, Mt. Waterman, Mt. Williamson, Dawson Saddle, Mt. Wilson, Mt. Hawkins, Twin Peaks, etc.
California androsace <i>Androsace elongata</i> ssp. <i>acuta</i>	—	—	4.2	Chaparral, cismontane woodland, coastal scrub, meadow, seep, pinyon-juniper woodland, and valley and foothill grassland communities between 150 and 1,200 m asl.	Annual herb March – June	Liebre Mountains: Leona Valley, west and north of Quail Lake, Sierra Pelona, Santiago Canyon (Little Rock Creek, San Gabriel Mountains)
San Gabriel manzanita <i>Arctostaphylos glandulosa</i> ssp. <i>gabrielensis</i>	—	—	1B.2	Chaparral (rocky) 595 - 1500 m	perennial evergreen shrub March	West San Gabriel Mountains: Mt. Gleason area, Mill Creek Summit, Aliso Canyon, East Pacifico Mountain, east of Mill Creek, Glendora Ridge Road, Chilao Flat, Charlton Flats, Pinyon Flats.
Interior manzanita <i>Arctostaphylos parryana</i> ssp. <i>tumescens</i>	—	—	4.3	Montane chaparral and cismontane woodland communities between 2,100 and 2,310 m asl.	Evergreen shrub February – April	West San Gabriel Mountains: Road to Mt. Gleason, Mill Creek Summit, Chilao Flat, Pacifico Mountain, Sulfur Springs Campground.
Crested milk-vetch <i>Astragalus bicristatus</i>	—	—	4.3	Sandy or rocky, carbonate soils in lower and upper montane coniferous forest communities between 1,700 and 2,745 m asl.	Perennial herb May – August	East San Gabriel Mountains: Table Mountain, Swarthout Valley.

⁴ See *Oxytheca parishii* var *parishii* in the 1993 edition of *The Jepson Manual*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Braunton's milk-vetch <i>Astragalus brauntonii</i>	FE	—	1B.1	Limited to carbonate soils (limestone outcrops), usually on recent burns or disturbed areas in chaparral, coastal sage scrub, closed-cone forest, and grassland communities between 4 and 640 m asl.	Perennial herb January – August	San Gabriel Mountains: Monrovia
San Antonio milk-vetch <i>Astragalus lentiginosus</i> var. <i>antoniui</i>	—	—	1B.3	Dry slopes in lower montane coniferous forest and upper montane coniferous forest communities between 1,500 and 2,600 m asl.	Perennial herb April – June	East San Gabriel Mountains: Swarthout Canyon, East Blue Ridge, Pinyon Ridge, Prairie Fork, etc.
Big Bear Valley woollypod <i>Astragalus leucolobus</i>	—	—	1B.2	Rocky habitats in lower and upper montane coniferous forest, pebble plain, and pinyon-juniper woodland communities between 1,750 and 2,665 m asl.	Perennial herb May – July	San Gabriel Mountains: Swarthout Canyon, northwest of Big Pines, Table Mountain, etc.
Lancaster milk-vetch <i>Astragalus preussi</i> var. <i>laxiflorus</i>	—	—	1B.1	Chenopod scrub habitats around 700 m asl.	Perennial herb March – May	Antelope Valley, Edwards AFB, Lancaster.
Nevin's barberry <i>Berberis nevinii</i>	FE	SE	1B.1	Sandy or gravelly habitats on steep north-facing slopes and in low-grade washes in chaparral, cismontane woodland, and coastal and riparian scrub communities between 274 and 825 m asl.	Perennial evergreen shrub March-June	San Gabriel Mountains, Arroyo Seco, Claremont, Cobal Canyon, Wildwood Canyon Liebre Mountains: San Francisquito Canyon (which are thought to be introduced).
Lincoln rockcress <i>Boechera lincolnensis</i>	—	—	2B.3	Chenopod scrub and Mojavean desert scrub communities between 1100 and 1205 m asl.	Perennial herb March – May	Ripley Desert Woodland State Park, needs verification.
Brewer's calandrinia <i>Calandrinia breweri</i>	—	—	4.2	Sandy or loamy soils in disturbed or burned sites within chaparral and coastal scrub communities between 10 and 1,220 m asl.	Annual herb March – June	San Gabriel Mountains, West Fork San Gabriel River, Santa Anita Canyon, Arroyo Seco.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Round-leaved filaree <i>California macrophylla</i> ⁵	—	—	1B.1	Clay soils in cismontane woodland, valley and foothill grassland communities between 15 and 1200 m asl.	Annual herb March – May	Liebre Mountains: Elizabeth Lake, Castaic Lake, north of Quail Lake, Newhall
Peirson's morning-glory <i>Calystegia peirsonii</i>	—	—	4.2	Chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland communities between 30 and 1500 m asl.	Rhizomatous herb April – June	Liebre Mountains: Leona-Anaverde Valley, Bouquet Canyon, Lake Hughes, Elizabeth Lake area, Texas Canyon, Sierra Pelona Valley & Ridge, Portal-Ritter Ridge, San Francisquito Canyon, Red Fox Canyon, Plum Canyon, Mint Canyon, Newhall Ranch, Castaic lake area, Fish Canyon, Soledad Canyon. San Gabriel Mountains: Big Rock Creek, Devil's Punch Bowl.
Lewis' evening-primrose <i>Camissoniopsis lewisii</i>	—	—	3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland communities between 0 and 300 m asl.	Annual herb March – May (June)	Liebre Mountains, Soledad Canyon.
White pygmy-poppy <i>Canbya candida</i>	—	—	4.2	Gravelly and sandy soils in Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland communities between 600 and 1,460 m asl.	Annual herb March – June	Palmdale, Lancaster; San Gabriel Mountains: Black Butte Rd., Pinyon Hills, Little Rock Creek.
Mount Gleason Indian paintbrush <i>Castilleja gleasoni</i> ⁶	—	Rare	1B.2	Granitic habitats in open flats or slopes in granitic soil in chaparral, lower montane coniferous forest, pinyon-juniper woodland communities between 1,160 and 2,170 m asl; restricted to the San Gabriel Mountains	Perennial herb (hemiparasitic) May – June	West San Gabriel Mountains: Mt. Gleason area, Messenger Peak, Bare Mountain Canyon, Pacoima Canyon, Mill Creek Summit, Horse Flat, Chilao Flat, Little Rock Creek, Pacifico Mountain, Mendenhall Ridge Liebre Mountains—Knapp Ranch, west end Liebre Mountain.

⁵ Treated as *Erodium macrophyllum* in the 1993 edition of *The Jepson Manual*.

⁶ See *Castilleja pruinosa* in the 1993 edition of *The Jepson Manual*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Mojave paintbrush <i>Castilleja plagiotoma</i>	—	—	4.3	Alluvial Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, and pinyon-juniper woodland communities between 300 and 2,500 m asl.	Perennial herb (hemiparasitic) April – June	Lancaster San Gabriel Mountains: Pinyon Hills, Holcomb Ridge, Big Rock Creek, Kentucky Springs. Hunt Canyon, Little Rock Creek.
San Fernando Valley spineflower <i>Chorizanthe parryi</i> var. <i>fernandina</i>	FC	SE	1B.1	Sandy soils in coastal scrub and valley and foothill grassland communities between 150 and 1220 m asl.	Annual herb April – July	Liebre Mountains: Elizabeth Lake (historic), Newhall Ranch
Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>	—	—	1B.1	Sandy or rocky habitats and openings in chaparral, cismontane woodland, coastal scrub, valley and foothill grassland communities between 275 and 1220 m asl.	Annual herb April – June	Lancaster (historic) Liebre Mountains: Texas Canyon Cismontane base of the San Gabriel Mountains.
Mojave spineflower <i>Chorizanthe spinosa</i>	—	—	4.2	Chenopod scrub, Joshua tree woodland, and Mojavean desert scrub communities between 6 and 1,300 m asl.	Annual herb March – July	Liebre Mountains, west and north of Quail Lake, Lancaster, Rosamond, Muroc Lake,
White-bracted spineflower <i>Chorizanthe xanti</i> var. <i>leucotheca</i>	—	—	1B.2	Sandy or gravelly substrates (washes) in Mojave Desert scrub and pinyon-juniper woodland communities between 300 and 1,200 m asl.	Annual herb April – June	San Gabriel Mountains: Lytle Creek, Lone Pine Canyon, southwest Mormon Rocks (San Bernardino County)

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Kern Canyon clarkia <i>Clarkia xantiana</i> ssp. <i>parviflora</i>	—	—	4.2	Sandy and rocky soils on slopes and roadsides within chaparral, cismontane woodland, Great Basin scrub, and valley and foothill grassland communities between 700 and 3,620 m asl.	Annual herb May – June	San Gabriel Mountains: Big Rock Creek, Devil's Punchbowl, Santiago Canyon, Bare Mountain Canyon, Little Rock Creek, Pinyon Ridge.
Monkey-flower savory <i>Clinopodium mimuloides</i> ⁷	—	—	4.2	Stream banks and mesic habitats within chaparral, and North Coast coniferous forest communities between 305 and 1,800 m asl.	Perennial herb June – October	San Gabriel Mountains: Arroyo Seco Canyon, Mill Creek, Moody Canyon.
Clokey's cryptantha <i>Cryptantha clokeyi</i>	—	—	1B.2	Mojavean desert scrub communities between 725 and 1365 m asl.	Annual herb April	Antelope Valley, California Poppy Reserve San Gabriel Mountains: Mill Creek Canyon, Aliso Canyon.
Desert cymopterus <i>Cymopterus deserticola</i>	—	—	1B.2	Sandy substrate in Joshua tree scrub and Mojavean desert scrub communities between 630 and 1500 m asl.	Perennial herb March – May	Reported from Kern & San Bernardino Counties: Muroc (Rodgers) Lake, Edwards AFB.
Mt. Pinos Larkspur <i>Delphinium parryi</i> ssp. <i>purpureum</i>			4.3	Mojavean desert scrub, pinyon-Juniper woodland, chaparral. 1000-2600m asl.	Perennial herb May-June	Liebre Mountains: Pine Canyon Rd., West Lancaster Rd.
Slender-horned spineflower <i>Dodecahema leptoceras</i>	FE	SE	1B.1	Sandy soils in flood-deposited terraces and washes in alluvial scrub communities between 200 and 760 m asl	Annual herb April – June	Liebre Mountains, Bee Canyon San Gabriel Mountains, Big Tujunga Wash.
Ewan's cinquefoil <i>Drymocallis cuneifolia</i> var. <i>ewanii</i>	—	—	1B.3	Lower montane coniferous forest (near seeps and springs) and meadow and seep communities between 1900 and 2400 m asl.	Perennial herb June – July	San Gabriel Mountains: montane areas, e.g., Mt. Islip, Little Jimmy Camp, Dawson Saddle, Big Rock Creek, etc.
San Gabriel River dudleya <i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	—	—	1B.2	Granitic cliffs and outcrops in chaparral communities between 275 and 457 m asl.	Perennial herb April – June	San Gabriel Mountains: Fish Canyon, Sawpit Canyon, Roberts Canyon.

⁷ See *Satureja mimuloides* in the 1993 edition of *The Jepson Manual*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
San Gabriel Mountains dudleya <i>Dudleya densiflora</i>	—	—	1B.1	In crevices and on decomposed granite of cliffs and canyon walls in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland communities between 244 and 610 m asl.	Perennial herb March – June	San Gabriel Mountains: San Gabriel Canyon, Fish Canyon, Roberts Canyon,
Hoover's eriastrum <i>Eriastrum hooveri</i>	DL	—	4.2	Sometimes gravelly. Chenopod scrub, pinyon-juniper woodland, Valley and foothill grassland 50-915 m	Annual Herb March - July	Antelope Valley: Lancaster, Palmdale, north of Palmdale, Rosamond Dry Lake.
Rosamond eriastrum <i>Eriastrum rosamondense</i>	—	—	1B.1	Alkaline hummocks, often sandy. Chenopod scrub (openings), Vernal pools (edges) 700-715 m	Annual Herb April-July	Antelope Valley, Lancaster.
San Jacinto Mountains daisy <i>Erigeron breweri</i> var. <i>jacinteus</i>	—	—	4.3	rocky. Subalpine coniferous forest, Upper montane coniferous forest 2700-2900 m	perennial rhizomatous herb June-September	San Gabriel Mountains: Mt. San Antonio, Big Rock Creek, Mt. Baden-Powell, Mt. Hawkins.
Tehachapi buckwheat <i>Eriogonum callistum</i>			1B.1	Limestone substrate in openings in chaparral 1400-1500m	Perennial herb May-July	Liebre Mountains: Oso Canyon in Kern County, near the LA County boundary
Southern alpine buckwheat <i>Eriogonum kennedyi</i> var. <i>alpigenum</i>	—	—	1B.3	Granitic, gravelly soils in alpine boulder and rock field and subalpine coniferous forest communities between 2,600 and 3,500 m asl.	Perennial herb July – September	San Gabriel Mountains: Mt. Baden-Powell, North Baldy, Mt. Williamson, Throop Peak.
Johnston's buckwheat <i>Eriogonum microthecum</i> var. <i>johnstonii</i>	—	—	1B.3	Rocky habitats of granite or limestone on slopes and ridges within subalpine coniferous forest and upper montane coniferous forest communities between 1,829 and 2,926 m asl.	Deciduous shrub July – September	East San Gabriel Mountains: Mt. San Antonio, Williamson Peak.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Alpine sulfur-flowered buckwheat <i>Eriogonum umbellatum</i> var. <i>minus</i>	—	—	4.3	Gravelly. Subalpine coniferous forest, Upper montane coniferous forest 1800 – 3068 m	Perennial Herb June-September	San Gabriel Mountains: Mt. Baden-Powell, Mt. San Antonio, Dawson Saddle, Mt. Waterman, Throop Peak. Mt. Williamson, Mt. Islip.
Fort Tejon sunflower <i>Eriophyllum lanatum</i> var. <i>hallii</i>			1B.1	Woodland, Chaparral Areas 11-1500m	Perennial herb May-July	Kern County near Castaic lake & just north of the LA County boundary.
Barstow woolly sunflower <i>Eriophyllum mohavense</i>	—	—	1B.2	Chenopod scrub, Mojavean desert scrub and playa communities between 500-960 m asl.	Annual herb Mar – May	El Mirage Valley, Kern County; Edwards AFB.
Pine green-gentian <i>Frasera neglecta</i>	—	—	4.3	Lower montane coniferous forest, pinyon-juniper woodland, Upper montane coniferous forest 1400 – 2500 m	Perennial Herb May-July	San Gabriel Mountains: Chilao, Horse Flats, Swarthout Valley, Charlton Flat, Mt. Waterman, Table Mountain, Big Rock Creek, Mt. Gleason.
San Antonio Canyon bedstraw <i>Galium angustifolium</i> <i>Galium angustifolium</i> ssp. <i>gabrielense</i>	—	—	4.3	Chaparral, Lower montane coniferous forest 1200 – 2650 m	Perennial Herb April-August	San Gabriel Mountains: San Antonio Canyon, San Gabriel Canyon, Mt. Lowe, Etiwanda Peak, Etiwanda Peak, Iron Mountain, Prairie Fork, Sawpit Dam, Crystal Lake.
San Gabriel bedstraw <i>Galium grande</i>	—	—	1B.2	Open chaparral and low, open oak forest; on rocky slopes between 425 and 1,500 m asl.	Deciduous shrub January – July	San Gabriel Mountains: Van Tassel Ridge, Mt. Wilson Trail, Cold Springs Canyon, Winter Creek Trail, Chantry Flat.
Jepson's bedstraw <i>Galium jepsonii</i>	—	—	4.3	Granitic, rocky or gravelly. Lower montane coniferous forest, Upper montane coniferous forest 1540 – 2500 m	perennial rhizomatous herb July- August	San Gabriel Mountains: Chilao Flat, Little Rock Creek, Pacifico Mountain, Ontario Peak, Cloudburst Summit, Mt. Waterman.
Johnston's bedstraw <i>Galium johnstonii</i>	—	—	4.3	Chaparral, Lower montane coniferous forest, pinyon-juniper woodland, riparian woodland 1220 – 2300 m	Perennial Herb June- July	San Gabriel Mountains: found scattered through the range at mid-elevation e.g., Jackson Flat, Chilao Flat, Mt. Gleason, Horse Flats, Table Mountain, Big Rock Creek, Little Rock Creek, Juniper Hills, etc.
Cuyama gilia <i>Gilia latiflora</i> ssp. <i>cuyamensis</i>	—	—	4.3	Pinyon-juniper woodland (sandy) 595 – 2000 m	Annual Herb April-June	Liebre Mountains: Ritter Ridge, Liebre Mountain San Gabriel Mountains, Little Rock Creek.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Golden goodmania <i>Goodmania luteola</i>	—	—	4.2	Alkaline or clay. Mojavean desert scrub, Meadows and seeps, Playas, Valley and foothill grassland 20-2200 m	Annual Herb April-August	Antelope Valley: Lancaster, Palmdale, Rosamond Dry Lake.
Abrams' alumroot <i>Heuchera abramsii</i>	—	—	4.3	Upper montane coniferous forest (rocky) 2800-3500 m	perennial rhizomatous herb July-August	San Gabriel Mountains: Mt. San Antonio, Mt. Waterman, Dawson Summit.
Urn-flowered alumroot <i>Heuchera caespitosa</i>	—	—	4.3	Rocky. Cismontane woodland, Lower montane coniferous forest, riparian forest (montane), Upper montane coniferous forest 1155 – 2650 m	Perennial rhizomatous herb May-August	San Gabriel Mountains: Mt. Baden-Powell, Rincon-Red Box; Mendenhall Ridge, Mt. Wilson, Little Jimmy Springs, San Gabriel River Canyon, Mt. Gleason, Mt. Lowe, Mt. San Antonio, Mt. Islip & other localities.
Mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	—	—	1B.1	Sandy or gravelly sites in chaparral, cismontane woodland, and coastal scrub communities between 70 and 810 m asl.	Perennial herb February – July (September)	San Gabriel Mountains: Claremont, Altadena, Millard Canyon, Arroyo Seco, San Gabriel River Canyon.
San Gabriel Mountains sunflower <i>Hulsea vestita</i> ssp. <i>gabrielensis</i>	—	—	4.3	Lower and upper montane coniferous forest communities between 1,500 and 2,500 m asl.	Perennial herb May – July	San Gabriel Mountains: Mt. Gleason, Pacifico Mountain, Chilao Flat, Devil's Backbone, Mendenhall Ridge, Mill Creek Summit, Devil's Punchbowl, & other localities.
Parry's sunflower <i>Hulsea vestita</i> ssp. <i>parryi</i>	—	—	4.3	Rocky, granitic or carbonate openings within lower montane coniferous forest, pinyon-juniper woodland, and upper montane coniferous forest communities between 1370 and 2895 m asl.	Perennial herb April – August	San Gabriel Mountains: Chilao Flats, Mt. San Antonio.
Southern California black walnut <i>Juglans californica</i>	—	—	4.2	Chaparral, cismontane woodland and coastal scrub communities between 50 and 900 m asl.	Deciduous tree March – August	San Gabriel Mountains: Pacoima Canyon, San Gabriel River Canyon, Clear Creek, etc.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Pale-yellow layia <i>Layia heterotricha</i>	—	—	1B.1	Alkaline or clay soils in cismontane woodland, coastal scrub, pinyon-juniper woodland, and valley and foothill grassland communities between 300 and 1705 m asl.	Annual herb March – June	Antelope Valley: Lancaster, northwest of Palmdale.
Fragrant pitcher sage <i>Lepechinia fragrans</i>	—	—	4.2	Chaparral communities between 20 and 1,310 m asl.	Shrub March – October	San Gabriel Mountains: Big Tujunga Canyon, Falls Canyon, Arroyo Seco, Palmer Canyon, Mt. Wilson Rd., Grizzly Flat Road, etc.
Ross's pitcher sage <i>Lepechinia rossii</i>	—	—	1B.2	Soils derived from fine-grained, reddish sedimentary rock in chaparral communities between 305 and 790 m asl.	Perennial shrub May – September	Liebre Mountains: Red Mountain, Ruby Canyon, Sespe Canyon.
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	—	—	4.3	Dry soils in chaparral and coastal scrub habitats between 1 and 835 m asl.	Annual herb January – July	San Gabriel Mountains: Pacoima Canyon, San Gabriel Canyon, San Dimas Canyon, Claremont, Graveyard Canyon, Rincon-Red Box.
Short-sepaled lewisia <i>Lewisia brachycalyx</i>	—	—	2.2	Mesic habitats in lower montane coniferous forest, meadow and seep communities between 1370 and 2300 m asl.	Perennial herb February – June	San Gabriel Mountains, Mt. San Antonio.
San Gabriel linanthus <i>Linanthus concinnus</i>	—	—	1B.2	Rocky soils and openings in chaparral, lower montane coniferous forest, and upper montane coniferous forest communities between 1520 and 2800 m asl.	Annual herb April – July	San Gabriel Mountains: Mill Creek Canyon, Aliso Canyon, Big Rock Creek, Waterman Mountain, Pacifico Mountain, Mt. Lowe, Valyermo, Vincent Gulch, Mescal Canyon, Burkhart Saddle, Largo Vista Rd., Dawson Saddle, Winston Peak, Devil's Punchbowl, North Fork Lytle Creek, etc.
Sagebrush loeflingia <i>Loeflingia squarrosa</i> <i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	—	—	2B.2	Sandy flats, dunes and sandy areas around clay slicks within Great Basin scrub, Sonoran desert scrub and desert dunes communities between 700 and 1615 m asl; associated with <i>Sarcobatus</i> , <i>Atriplex</i> , <i>Tetradymia</i> , etc.	Annual herb April – May	Antelope Valley: Four Points, east of Sunrise, Rosamond Dry Lake, Rogers Dry Lake.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Silky lupine <i>Lupinus elatus</i>	—	—	4.3	Lower montane coniferous forest, Upper montane coniferous forest 1500 – 3000 m	Perennial Herb June-August	San Gabriel Mountains: Mt. Pacifico, Swarthout Valley, Mt. Waterman to Dawson Saddle area, Little Rock Creek, etc.
Interior bush lupine <i>Lupinus excubitus</i> var. <i>johnstonii</i>	—	—	4.3	Decomposed granitic. Chaparral, Lower montane coniferous forest 1500 – 2500 m	Perennial Herb May- July	San Gabriel Mountains: Mt. Gleason, Mt. Islip, Mt. Waterman, Table Mountain, Cloudburst Summit, etc.
Peirson's lupine <i>Lupinus peirsonii</i>	—	—	1B.3	Decomposed granite slide and talus on slopes and ridges within Joshua tree woodland, lower montane coniferous forest, pinyon-juniper woodland, and upper montane coniferous forest communities between 1000 and 2000 m asl.	Perennial herb April – June	San Gabriel Mountains: Devil's Punchbowl, Big Rock Creek, Mt. Baden Powell, Burkhart Saddle, Caruthers Creek, Dawson Saddle, Mt. Islip, etc.
Davidson's bushmallow <i>Malacothamnus davidsonii</i>	—	—	1B.2	Sandy washes within cismontane woodland, coastal scrub, riparian woodland and chaparral between 180 and 855 m asl.	Deciduous shrub June – January	San Gabriel Mountains: Big Tujunga Canyon, Little Tujunga Canyon, Pacoima Canyon, Mescal Creek, Horse Flats, Swarthout Valley.
Sylvan microseris <i>Microseris sylvatica</i>	—	—	4.2	Chaparral, Cismontane woodland, Great Basin scrub, pinyon-juniper woodland, Valley and foothill grassland (serpentine) 45 – 1500 m	Perennial Herb March-June	Liebre Mountains: West of Quail Lake, Elizabeth Lake.
Johnston's monkeyflower <i>Mimulus johnstonii</i>	—	—	4.3	Lower montane coniferous forest (scree, disturbed areas, rocky or gravelly, roadside) 975 – 2920 m	Annual Herb May-August	San Gabriel Mountains: Little Rock Creek, Big Rock Creek, Hunt Canyon, Horse Flat, Mendenhall Ridge, Mt. Wilson, Mt. San Antonio, Mt. Williamson, etc. Liebre Mountains, Piru Ponds.
Tehachapi monardella <i>Monardella linoides</i> ssp. <i>oblonga</i>	—	—	1B.3	Lower montane coniferous forest, pinyon-juniper woodland, and upper montane coniferous forest communities between 900 and 2,470 m asl.	Rhizomatous herb June – August	Liebre Mountains, Tejon Pass.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Gray monardella <i>Monardella australis</i> <i>Monardella australis</i> ssp. <i>cinerea</i>			4.3	Lower montane coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest 1800 – 3050 m	perennial rhizomatous herb July-August	San Gabriel Mountains: Pacifico Mountain, Mt. Hawkins, Mt. San Antonio, Mt. Islip, Cloudburst Summit.
Hall's monardella <i>Monardella macrantha</i> ssp. <i>hallii</i>	—	—	1B.3	Dry slopes and ridges within broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland communities between 730 and 2195 m asl.	Rhizomatous herb June – August	San Gabriel Mountains: Evey Canyon, San Dimas Canyon.
Rock monardella <i>Monardella saxicola</i>			4.2	Rocky, usually serpentinite. Closed-cone coniferous forest, Chaparral, Lower montane coniferous forest 500 – 1800 m	Perennial rhizomatous herb June-September	San Gabriel Mountains: Mt. San Antonio, Evey Canyon, San Dimas Canyon, Palmer Canyon.
California spineflower <i>Mucronea californica</i>	—	—	4.2	Sandy. Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland 0-1400 m	Annual Herb March - August	San Gabriel Mountains: Big Tujunga Wash, Little Tujunga Wash, San Gabriel Canyon.
Spreading navarretia <i>Navarretia fossalis</i>	FT	—	1B.1	Vernal pools, chenopod scrub, marshes, swamps and playas on San Diego hardpan and San Diego claypan soils between 30 and 1300 m asl.	Annual herb April – June	Antelope Valley, west of Lancaster Liebre Mountains: Plum Canyon, Curzan Mesa.
Plute Mountains navarretia <i>Navarretia setiloba</i>	—	—	1B.1	Clay or gravelly loam soils in cismontane woodland, pinyon-juniper woodland, and valley and foothill grassland communities between 305 and 2100 m asl.	Annual herb April – July	Liebre Mountains: Cruzan Mesa, Quail Lake area.
Robbins' nemacladus <i>Nemacladus secundiflorus</i> var. <i>robbinsii</i>	—	—	1B.2	Openings within chaparral, valley, and foothill grassland communities between 350 and 1700 m asl.	Annual herb April – June	San Gabriel Mountains, Big Rock Creek Liebre Mountains, Sierra Pelona.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Short-joint beavertail <i>Opuntia basilaris</i> var. <i>brachyclada</i>	—	—	1B.2	Sandy soil or coarse granitic loam within chaparral, Joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland and riparian woodland communities between 425 and 1,800 m asl.	Perennial stem succulent April – June	San Gabriel Mountains: Kentucky Springs Canyon, Hunt Canyon, Mt. Emma Rd., Mill Creek, Valyermo, Mescal Creek, Big Rock Creek, Largo Vista, Big John Flat, Table Mountain, Pinyon Ridge, Little Rock Creek, Alimony Ridge, Santiago Canyon, Carr Canyon, Little Rock Wash, Kitter Canyon, Bare Mountain, Canyon, Devil's Punchbowl, etc. Liebre Mountains: Ritter Ridge, Portal Ridge, Leona Valley, south Elizabeth Lake (plants in the Liebre Mountains are considered unconfirmed for this taxon).
Bakersfield cactus <i>Opuntia basilaris</i> var. <i>treleasei</i> ⁸	FE	SE	1B.1	Sandy or gravelly soils in chenopod scrub, cismontane woodland, and valley and foothill grassland communities between 120 and 55 m asl.	Perennial stem succulent April – May	Liebre Mountains, Gorman Hills.
Woolly mountain-parsley <i>Oreonana vestita</i>	—	—	1B.3	High ridges, scree, talus or gravel in lower montane coniferous forest, subalpine coniferous forest, and upper montane coniferous forest, between 1,615 and 3,500 m asl.	Perennial herb May – September	San Gabriel Mountains: Mt. San Antonio, Mt. Islip, Dawson Saddle, Mt. Hawkins, Mt. Baden Powell, Burkhart Saddle. Ridge above Holcomb Canyon.
Rock creek broomrape <i>Orobanche valida</i> ssp. <i>valida</i>	—	—	1B.2	Parasitic on various chaparral shrubs on slopes of loose decomposed granite within chaparral, pinyon-juniper woodland communities between 1,250 and 2,000 m asl.	Perennial herb parasitic May – September	San Gabriel Mountains: Big Rock Creek, Van Tassel Ridge, Horse Canyon, Lytle Creek, Big Tujunga Creek, Lookout Mountain.

⁸ USFWS uses the name *Opuntia treleasei*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Tehachapi ragwort <i>Packera ionophylla</i>	—	—	4.3	Granitic, rocky. Lower montane coniferous forest, Upper montane coniferous forest 1500 – 2700m	Perennial Herb June - July	San Gabriel Mountains: Table Mountain, Little Rock Creek, Mt. Islip, Pacifico Mountain, Big Rock Creek, Swarthout Valley, Mescal Canyon, Mt. Hawkins, Mt. Gleason.
San Bernardino grass-of-Parnassus <i>Parnassia cirrata</i> var. <i>cirrata</i> ⁹	—	—	1B.3	Mesic habitats, sometimes in calcareous soils, within lower montane coniferous forest, meadows, seeps, and upper montane coniferous forest communities between 1250 and 2440 m asl.	Perennial herb August – September	San Gabriel Mountains, San Gabriel River Canyon.
Adobe yampah <i>Perideridia pringlei</i>			4.3	Serpentinite, often clay. Chaparral, Cismontane woodland, Coastal scrub, pinyon-juniper woodland 300-1800 m	Perennial Herb April-June	Liebre Mountains: Sawmill Mountain Burnt Peak, Portal Ridge, Ritter Ridge, Sierra Pelona, Elizabeth Lake, west and north of Quail Lake Antelope Valley, south of Palmdale Acton San Gabriel Mountains: Carr Canyon, Little Rock Creek.
Transverse Range phacelia <i>Phacelia exilis</i>			4.3	Sandy or gravelly. Lower montane coniferous forest, Meadows and seeps, Pebble (Pavement) plain, Upper montane coniferous forest 1100-2700 m	Annual Herb May-August	San Gabriel Mountains, Swarthout Valley.
Hubby's phacelia <i>Phacelia hubbyi</i> ¹⁰	—	—	4.2	Gravelly, rocky, talus habitats in chaparral, coastal scrub, and valley and foothill grassland from 0 to 1000 m asl.	Annual herb April – June	Liebre Mountains, Pine Canyon Newhall Ranch, Castaic Mesa San Gabriel Mountains: Little Tujunga Canyon, San Dimas Canyon.

⁹ See *Parnassia cirrata* in the 1993 edition of *The Jepson Manual*.

¹⁰ Treated as *Phacelia cicutaria* var. *hubbyi* in the 1993 edition of *The Jepson Manual*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Mojave phacelia <i>Phacelia mohavensis</i>	—	—	4.3	Sandy or gravelly soils within cismontane woodland, lower montane coniferous forest, meadow, seep, and pinyon-juniper woodland communities between 1,400 and 2,500 m asl.	Annual herb April – August	San Gabriel Mountains: Swarthout Valley, Mescal Creek, Little Rock Creek, Horse Flats, Mt. Waterman, Chilao Creek, Big Tujunga Canyon, Sulfur Spring.
South coast branching phacelia <i>Phacelia ramosissima</i> var. <i>australitoralis</i>	—	—	4.2	Sandy, sometimes rocky habitats in chaparral, coastal dune, coastal scrub, and coastal salt marsh and swamp communities between 6 and 300 m asl.	Perennial herb March – August	San Gabriel Mountains, Pacoima Canyon.
woolly chaparral-pea <i>Pickeringia montana</i> var. <i>tomentosa</i>	—	—	4.3	Gabbroic, granitic, clay. Chaparral 0 - 1700 meters	evergreen shrub May - August	San Gabriel Mountains, CCC Ridge.
Parish's popcorn-flower <i>Plagiobothrys parishii</i>	—	—	1B.1	Alkaline, mesic habitats within Great Basin scrub and Joshua tree woodland communities between 750 and 1400 m asl.	Annual herb March – June	Antelope Valley: Lovejoy Springs, Lake Los Angeles.
Fish's milkwort <i>Polygala cornuta</i> var. <i>fishiae</i> ¹¹	—	—	4.3	Chaparral, cismontane woodland, and riparian woodland communities between 100 and 1,000 m asl.	Deciduous shrub May – August	San Gabriel Mountains: Santa Anita Canyon, Mt. Wilson.
Ewan's cinquefoil <i>Potentilla glandulosa</i> ssp. <i>ewanii</i>	—	—	1B.3	Edges of seeps and springs in lower montane coniferous forest, meadow and seep communities between 1900 and 2400 m asl.	Perennial herb June – July	San Gabriel Mountains: Mt. Islip, Dawson Saddle, Lily Springs, Big Rock Creek, Dorr Canyon.
White rabbit-tobacco <i>Pseudognaphalium leucocephalum</i> ¹²	—	—	2B.2	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats between 0 and 2100 m asl.	Perennial herb (July) August – November (December)	San Gabriel Mountains: Big Tujunga Wash, Arroyo Seco, Eaton Canyon.

¹¹ Includes *Polygala cornuta* var. *pollardii*.Eas

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
San Gabriel oak <i>Quercus durata</i> var. <i>gabrielensis</i>	—	—	4.2	Chaparral and cismontane woodland communities within the San Gabriel Mountains between 450 and 1,000 m asl.	Evergreen shrub April – May	San Gabriel Mountains: Commonly found along the base of the cismontane slopes of the mountains from Claremont to Big Tujunga Canyon.
Engelmann oak <i>Quercus engelmannii</i>	—	—	4.2	Chaparral, Cismontane woodland, riparian woodland, Valley and foothill grassland 50 – 1300 m	Perennial deciduous tree March-June	San Gabriel Mountains: occasionally found along the base of the cismontane slope, e.g., Claremont, Pasadena, Sawpit Canyon, etc.
Coulter's matilija poppy <i>Romneya coulteri</i>	—	—	4.2	Often in burns. Chaparral, Coastal scrub 20-1200m	Perennial rhizomatous herb March-June	San Gabriel Mountains, Fish Canyon.
Parish's rupertia <i>Rupertia rigida</i>	—	—	4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pebble (Pavement) plain, Valley and foothill grassland. 700-2500 m	perennial herb June-August	San Gabriel Mountains, Millard Canyon.
San Gabriel ragwort <i>Senecio astephanus</i>	—	—	4.3	rocky slopes. Coastal bluff scrub, Chaparral 400-1500 m	Perennial Herb May-July	San Gabriel Mountains: Mt. Lowe, Mt. Wilson, Cortelyou Spring.
Salt spring checkerbloom <i>Sidalcea neomexicana</i>	—	—	2B.2	Alkali playas and brackish marshes within chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and playa communities between 15 and 1530 m asl.	Perennial herb March – June	Liebre Mountains: Elizabeth Lake, Lake Hughes.
Chickweed oxytheca <i>Sidotheca caryophylloides</i>	—	—	4.3	Lower montane coniferous forest (sandy) 1114 – 2600 m	Annual Herb July-September	San Gabriel Mountains: Big Tujunga Canyon, Mill Creek Canyon, Winston Peak, Kratka Ridge, Mt. Waterman, Mt. San Antonio.

¹² Treated in the 1993 edition of *The Jepson Manual* as *Gnaphalium leucocephalum*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Mason's neststraw <i>Stylocline masonii</i>	—	—	1B.1	Sandy habitats within chenopod scrub and pinyon-juniper woodland communities between 100 and 1200 m asl.	Annual herb March – May	Liebre Mountains, Soledad Canyon, east of Acton.
San Bernardino aster <i>Symphotrichum defoliatum</i> ¹³	—	—	1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows, seeps, marshes, swamps, vernal mesic valley and foothill grassland, and near ditches, streams, and springs between 2 and 2040 m asl.	Rhizomatous herb July – November	San Gabriel Mountains: San Gabriel River Canyon (historic).
Greata's aster <i>Symphotrichum greatae</i> ¹⁴	—	—	1B.3	Mesic habitats in broadleaved upland forest, chaparral, cismontane woodland, riparian woodland and lower montane coniferous forest communities between 300 and 2010 m asl.	Rhizomatous herb June – October	San Gabriel Mountains: Big Tujunga Canyon, Mill Creek Canyon, Little Rock Creek, San Gabriel River Canyon, Clear Creek, Dalton Canyon, Arroyo Seco, Santiago Canyon, Bare Mountain Canyon, etc. Liebre Mountains, Cienega Campground (Fish Canyon).
Lemmon's syntrichopappus <i>Syntrichopappus lemmonii</i>	—	—	4.3	Sandy or gravelly soils within chaparral and Joshua tree woodland communities between 860 and 1760 m asl.	Annual herb April – May	Liebre Mountains, Quail Lake area Antelope Valley, Palmdale Liebre Mountains, Soledad Canyon San Gabriel Mountains: Little Rock Creek, Mt. Emma, Kentucky Springs, Shoemaker Canyon, Pacifico Mountain, Carr Canyon.
Silvery false lupine <i>Thermopsis californica</i> var. <i>argentata</i>	—	—	4.3	Lower montane coniferous forest, pinyon-juniper woodland 665 – 1595 m	perennial rhizomatous herb April-October	Antelope Valley, Manzanita Liebre Mountains: Liebre Mountain, Horse Camp Canyon, Bald Mountain.

¹³ A synonym of *Aster bernardinus* in the 1993 edition of *The Jepson Manual*.

¹⁴ Treated as *Aster greatae* in the 1993 edition of *The Jepson Manual*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Grey-leaved violet <i>Viola pinetorum</i> ssp. <i>grisea</i>	—	—	1B.3	Meadows, seeps, subalpine coniferous forest, and upper montane coniferous forest communities between 1500 and 3400 m asl.	Perennial herb April – July	San Gabriel Mountains, Table Mountain.
Monocots						
Mt. Pinos onion <i>Allium howellii</i> var. <i>clokeyi</i>	—	—	1B.3	Great Basin scrub and pinyon-juniper woodland communities between 1,300 and 1,800 m asl.	Bulbiferous herb April – June	Liebre Mountains, Castaic Canyon.
Thread-leaved brodiaea <i>Brodiaea filifolia</i>	FT	SE	1B.1	Openings, often in clay soils, within chaparral, cismontane woodland, coastal scrub, playa, valley and foothill grassland, and vernal pools communities between 25 and 860 m asl.	Bulbiferous herb March – June	San Gabriel Mountains, Glendora, Morgan Canyon.
Catalina mariposa lily <i>Calochortus catalinae</i>	—	—	4.2	Native perennial and foothill grasslands, coastal sage scrub and cismontane woodland communities, between 15 and 700 m asl.	Bulbiferous herb (February) March – June	San Gabriel Mountains: Chilao, Glendora, Wildwood Canyon, San Dimas Canyon
Club-haired mariposa lily <i>Calochortus clavatus</i> var. <i>clavatus</i>	—	—	4.3	Rocky soils, in chaparral, coastal sage scrub, and grassland communities between 75 and 1,300 m asl.	Bulbiferous herb April – June	Liebre Mountains: Gorman, Boquet Canyon, Texas Canyon Santa Clarita San Gabriel Mountains, Claremont.
Slender mariposa-lily <i>Calochortus clavatus</i> var. <i>gracilis</i>	—	—	1B.2	Shaded foothill canyons, often on grassy slopes within chaparral and coastal scrub communities between 360 and 1000 m asl.	Bulbiferous herb April – June	Liebre Mountains: Soledad Canyon, Bouquet Canyon. Texas Canyon, Ruby Canyon, Liebre Gulch, Posey Canyon, Mint Canyon, Bee Canyon, Dry Canyon, Del Sur Ridge, Sierra Pelona Ridge, San Francisquito Canyon Osito Flat, Bear Canyon, Portal Ridge, Newhall, Santa Clarita San Gabriel Mountains, Cattle Canyon.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Palmer's mariposa lily <i>Calochortus Calochortuspalmeri</i> var. <i>palmeri</i> var. <i>palmeri</i>	—	—	1B.2	Mesic habitats in chaparral, lower montane coniferous forest, meadow and seep communities between 1000 and 2390 m asl.	Bulbiferous herb April – July	San Gabriel Mountains: Charlton Flat, Devil's Punchbowl, Juniper hills, Pinyon Flats, Little Rock Creek, Glendora Mountain, Boulder Canyon Wash
Plummer's mariposa lily <i>Calochortus plummerae</i>	—	—	1B.2	Rocky and sandy sites, usually of granitic or alluvial material in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest communities between 100 and 1700 m asl.	Bulbiferous herb May – July	San Gabriel Mountains: Big Tujunga Canyon, Mt. Wilson, Claremont, Mill Creek Canyon, San Antonio Canyon & other localities.
Alkali mariposa-lily <i>Calochortus striatus</i>	—	—	1B.2	Alkaline meadows and ephemeral washes within chaparral, chenopod scrub, Mojavean desert scrub and meadows between 70 and 1595 m asl.	Bulbiferous herb April – June	Antelope Valley: Lancaster, northwest Lancaster, Challenger Way, Sierra Hwy, Mira Loma Det. Center, Fox Airfield, Palmdale, Lovejoy Springs, Rosamond dry lake
Hot springs fimbriatylis <i>Fimbristylis thermalis</i>	—	—	2B.2	Alkaline habitats near hot springs within meadow and seep communities between 110 and 1340 m asl.	Rhizomatous herb July – September	San Gabriel Mountains, San Gabriel River Canyon.
Pine fritillary <i>Fritillaria pinetorum</i>	—	—	4.3	granitic or metamorphic. Chaparral, Lower montane coniferous forest, pinyon-juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest 1735 – 3300 m	perennial bulbiferous herb May-September	San Gabriel Mountains: Swarthout Valley, Mt. Williamson, Mt. Islip, Mt. San Antonio, Timber Mountain, Mt. Hawkins.
Vernal barley <i>Hordeum intercedens</i>	—	—	3.2	Saline flats and depressions in coastal dune, coastal scrub, valley and foothill grassland and vernal pool communities between 5 and 1,000 m asl.	Annual herb March – June	Liebre Mountains, Castaic Lake.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
California satintail <i>Imperata brevifolia</i>	—	—	2B.1	Mesic, often alkaline, habitats within chaparral, coastal scrub, Mojavean desert scrub, meadow, seep, and riparian scrub communities between 0 and 500 m asl.	Rhizomatous herb September – May	San Gabriel Mountains: Big Tujunga Canyon, Fish Canyon.
Southwestern spiny rush <i>Juncus acutus</i> ssp. <i>leopoldii</i>	—	—	4.2	Mesic and alkaline habitats in coastal dune, meadow, seep, marsh and swamp communities between 3 and 900 m asl.	Rhizomatous herb May – June	Liebre Mountains: Castaic Creek, Grasshopper Canyon,
Duran's rush <i>Juncus duranii</i>	—	—	4.3	Meadows & seeps, riparian scrub, montane coniferous forest, 1780-2800masl.	Perennial Rhizomatous herb July-August	San Gabriel Mountains: Columbine Spring, Buckhorn Flat, Dawson Saddle, Lily Spring, Little Rock Creek, Dorr Cyn.
Ocellated Humboldt lily <i>Lilium humboldtii</i> ssp. <i>ocellatum</i> ¹⁵	—	—	4.2	Openings in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland communities between 30 and 1,800 m asl.	Bulbiferous herb March – July (August)	San Gabriel Mountains, Big Tujunga Canyon, San Gabriel River Canyon, Arroyo Seco, Fish Canyon, San Dimas Canyon, Bear Gulch, etc. Liebre Mountains, Red Fox Canyon
Lemon lily <i>Lilium parryi</i> ¹⁶	—	—	1B.2	Wet, mountainous terrain, generally in forested areas, shady streambanks, and open, boggy meadows and seeps between 1220 and 2745 m asl.	Bulbiferous herb July – August	San Gabriel Mountains: Little Rock Creek, Lamel Spring, Little Jimmy Spring, Pacifico Mountain, Columbine Spring, Buckhorn Canyon, Sheep Camp Spring, San Gabriel River Canyon, Mt. Waterman, etc.
California muhly <i>Muhlenbergia californica</i>	—	—	4.3	Mesic habitats in chaparral, coastal scrub, lower montane coniferous forest, meadow, seep, and stream bank communities between 100 and 2,000 m asl.	Rhizomatous herb June – September	San Gabriel Mountains: Big Rock Creek, Arroyo Seco Canyon, Cow Canyon, San Antonio Canyon, San Gabriel River Canyon, Eaton Canyon, Big Tujunga Canyon, etc.

¹⁵ Includes *Lilium humboldtii* var. *bloomerianum* and *L. fairchildii*.

¹⁶ CNPS listing includes *Lilium parryi* var. *kessleri*.

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Table 5.4-2 Special-Status Plant Species

Common Name Scientific Name	Federal Status	State Status	CRPR List	Habitat	Growth Form Blooming Period*	Known Localities in the Project Area
Crowned muilla <i>Muilla coronata</i>			4.2	Chenopod scrub, Joshua tree woodland, Mojavean desert scrub, pinyon-juniper woodland 765 – 1960 m	Perennial bulbiferous herb March-May	Antelope Valley: Lancaster, northwest Palmdale San Gabriel Mountains, Pinyon Hills.
California Orcutt grass <i>Orcuttia californica</i>	FE	SE	1B.1	Vernal pools between 15 and 660 m asl.	Annual herb April – August	Liebre Mountains: Cruzan Mesa, Plum Canyon.
Chaparral rein orchid <i>Piperia cooperi</i>	—	—	4.2	Chaparral, Cismontane woodland, Valley and foothill grassland 15 – 1585 m	Perennial Herb March-June	San Gabriel Mountains: Arroyo Seco, Fish Canyon, San Gabriel River Canyon, Claremont.
Narrow-petaled rein orchid <i>Piperia leptopetala</i>	—	—	4.3	Cismontane woodland, Lower montane coniferous forest, Upper montane coniferous forest 380 – 2225 m	Perennial Herb May-July	San Gabriel Mountains, San Dimas Canyon.

* = Months given in parentheses indicate dates on which unusually early or late flowering records have been reported

N/A = Information not available

STATUS ABBREVIATIONS

Federal

FE: federally listed as Endangered

FT: federally listed as Threatened

FC: federal Candidate for listing as Endangered or Threatened

State

SE: state listed as Endangered

ST: state listed as Threatened

SC: state Candidate for listing as Endangered or Threatened

CRPR lists

1A: presumed extirpated in California

1B: rare, threatened, or endangered in California and elsewhere

2A: presumed extirpated in California, but more common elsewhere

2B: rare, threatened, or endangered in California, but more common elsewhere

3: more information needed to determine rarity

4: limited distribution

CRPR threat ranks

0.1: seriously threatened in California

0.2: fairly threatened in California

0.3: not very threatened in California

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Table 5.4-3 Special-Status Wildlife Species

Common Name Scientific Name	Federal Status	State Status	Other Lists	Habitat
Insects				
San Gabriel Mountains elfin butterfly <i>Callophrys mossii hidakupa</i>	—	—	CDFW Special Animals List	Restricted to cliffside habitats in the San Gabriel and San Bernardino Mountains at elevations of 3,000 to 5,500 feet. Host plant is <i>Sedum spathulifolium</i> .
Cuckoo wasp <i>Ceratochrysis longimala</i>	—	—	CDFW Special Animals List	Reported from Hungry Valley, five miles south of Gorman.
San Gabriel Mountains blue butterfly <i>Plebejus saepiolus aureolus</i>	—	—	CDFW Special Animals List	The San Gabriel blue, an undescribed subspecies, is believed to be extinct. It lived in wet meadows of the big pine recreation area in the San Gabriel Mountains until the U.S. Forest Service drained the meadows. Food plant is <i>Trifolium wormskioldii</i> .
San Emigdio blue butterfly <i>Plebulina emigdionis</i>	—	—	CDFW Special Animals List	Often near streambeds, washes, or alkaline areas from the Owens Valley south to the Mojave River, and west into Bouquet and Mint Canyons. Associated with four-wing saltbush.
Fish				
Santa Ana sucker <i>Catostomus santaanae</i>	FT, FSS	SSC	—	Habitat generalist, but prefers sand, rubble, or boulder bottoms, in cool, clear water with algae to graze. The individuals reported from the Santa Clara River west of Acton, several miles west of Antelope Valley Plan Area border, were probably introduced there.
Unarmored threespine stickleback <i>Gasterosteus aculeatus williamsoni</i>	FE, FSS	SE, CDFW Fully Protected	—	Cool, clear water with abundant vegetation in weedy pools, backwaters and among emergent vegetation at the stream edge in small Southern California streams. Reported from Santa Clara River west of Acton, several miles west of Project Area border, and from San Francisquito Canyon in the Angeles National Forest.
Arroyo chub <i>Gila orcuttii</i>	FSS	SSC	—	Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates. Introduced into the Santa Clara River west of Acton, several miles west of Project Area border.
Santa Ana speckled dace <i>Rhinichthys osculus</i> ssp. 3	FSS	SSC	—	Requires permanent flowing streams with summer water temperatures of 17 to 20 degrees C. Usually inhabits shallow cobble and gravel riffles. Known from headwaters of the Santa Ana and San Gabriel Rivers, with best habitat in tributaries to Cogswell Reservoir (Angeles National Forest).
Amphibians				
Arroyo toad <i>Anaxyrus californicus</i>	FE	SSC	—	Rivers, washes or intermittent streams with sandy banks, willows, cottonwoods and sycamores within valley-foothill, desert riparian and desert wash communities in semi-arid regions; loose gravelly areas of streams in drier parts of range. Known from Little Rock Creek on northern edge of Angeles National Forest (within proposed SEA).
San Gabriel Mountains slender salamander <i>Batrachoseps gabrieli</i>	FSS	—	—	Known from the San Gabriel Mountains from San Gabriel Canyon in the eastern San Gabriel Mountains to Waterman Canyon in the western San Bernardino Mountains. Found under rocks, wood, fern fronds and on soil at the base of talus slopes. Most active on the surface in winter and early spring.

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Table 5.4-3 Special-Status Wildlife Species

Common Name Scientific Name	Federal Status	State Status	Other Lists	Habitat
Yellow-blotched salamander <i>Ensatina eschscholtzii croceator</i>	BLMS, FSS	SSC	—	Forests and well-shaded canyons, as well as oak woodlands and old chaparral. Needs surface objects such as logs, boards and rocks. Also needs rodent burrows or other underground retreats.
California red-legged frog <i>Rana draytonii</i>	FT	SSC	—	Occurs in lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Known from Ritter Ranch area, and from mountain streams in the Angeles National Forest.
Southern mountain yellow-legged frog <i>Rana muscosa</i>	FE, FSS	SSC	—	Occurs in mountain streams. Federal listing refers to populations in the San Gabriel, San Jacinto and San Bernardino Mountains only. Known from few streams in the San Gabriel Mountains (Bear Gulch, Vincent Gulch, South Fork Big Rock Creek, Little Rock Creek, and Devil's Canyon).
Western spadefoot <i>Spea hammondi</i>	BLMS	SSC	—	Vernal pools and other areas of seasonally ponded water, primarily in grasslands habitats, but can be found in valley-foothill hardwood woodlands. In Project Area, occurs primarily in the Angeles National Forest, and in the Santa Clarita Valley area.
Coast Range newt <i>Taricha torosa</i>	—	SSC	—	Occurs primarily in hardwood and conifer forests, chaparral, and grasslands from near sea level to about 1,830 m. Terrestrial individuals seek cover under surface objects such as rocks and logs, or in mammal burrows, rock fissures, or human-made structures such as wells. Aquatic larvae find cover beneath submerged rocks, logs, debris, and undercut banks. Breeding and egg-laying occur in intermittent streams, rivers, permanent and semi-permanent ponds, lakes and large reservoirs. In the Project Area, known from the San Gabriel Mountains.
Reptiles				
Silvery legless lizard <i>Anniella campi</i>	FSS	SSC	—	Moist loose soils and leaf litter in diverse plant communities, including chaparral, pine-oak and riparian woodlands, desert scrub, and sandy washes. The taxonomy of this species was recently revised, and individuals from the desert slope of the mountains within the Project Area appear to be referable to <i>A. campi</i> .
Coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>	—	—	CDFW Special Animals List	Various habitats in firm, sandy or rocky soils within sparse vegetation, open areas, woodlands and riparian communities of deserts and semi-arid areas. In the Project Area, known from the San Gabriel Mountains.
Rosy boa <i>Charina trivirgata</i>	BLMS, FSS	—	—	Habitats with a mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains in desert and chaparral from the coast to the Mojave and Colorado Deserts.
San Bernardino ringneck snake <i>Diadophis punctatus modestus</i>	FSS	—	—	Surface litter or herbaceous vegetation in open, relatively rocky areas, often in moist areas near intermittent streams.

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BIOLOGICAL RESOURCES

Table 5.4-3 Special-Status Wildlife Species

Common Name <i>Scientific Name</i>	Federal Status	State Status	Other Lists	Habitat
southern western pond turtle <i>Actinemys pallida</i>	BLMS, FSS	SSC	—	Requires basking sites such as partially submerged logs, vegetation mats or open mud banks and needs suitable nesting sites in permanent or near permanent bodies of water in many habitat types below 2,000 m asl. Taxonomic revision of the pond turtles divided the species into two species, with the southern California form being <i>Actinemys pallida</i> .
Desert tortoise <i>Gopherus agassizii</i>	FT	ST	—	Occurs in almost every desert habitat; most common in desert scrub, desert wash and Joshua tree habitats. Requires friable soil for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms is preferred. Part of the Fremont-Kramer Unit of DWMA/ACEC (Desert Wildlife Management Area/BLM Area of Critical Environmental Concern) occurs in the northwest corner of the Project Area, in Edwards Air Force Base.
San Bernardino mountain kingsnake <i>Lampropeltis zonata parvirubra</i>	FSS	SSC	—	Big-cone spruce and chaparral at lower elevations to black oak, incense cedar, and Jeffrey pine at higher elevations. Requires well-lit canyons with rocky outcrops or talus. In the Project Area, known from the San Gabriel Mountains.
Coast horned lizard <i>Phrynosoma blainvillii</i>	BLMS, FSS	SSC	—	Occurs in relatively open areas of coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland, and coniferous forest habitat on sandy soils, often in association with harvester ants. Occurs in the Angeles National Forest, Acton, northwestern corner of the Antelope Valley and the southern part of the valley floor.
Two-striped garter snake <i>Thamnophis hammondi</i>	BLMS, FSS	SSC	—	Perennial and intermittent streams having rocky or sandy beds and artificially created aquatic habitats (manmade lakes and stock ponds); requires dense riparian vegetation. From sea level to 2,400 m (8,000 ft). In the Project Area, known from the San Gabriel Mountains, and along desert slope streams (e.g., the Mojave River).
South coast garter snake <i>Thamnophis sirtalis</i> ssp.	—	SSC	—	Marsh and upland habitats near permanent water with riparian vegetation from sea level to approximately 850 m asl. In the Project Area, known from the San Gabriel Mountains, and in the Santa Clarita Valley.
Birds				
Cooper's hawk (nesting) <i>Accipiter cooperii</i>	—	CDFW Watch List	—	Nests in open forests, groves, or trees along rivers, or low scrub of treeless areas. The wooded area is often near the edge of a field or water opening.
Tricolored blackbird (nesting colony) <i>Agelaius tricolor</i>	BCC, BLMS	SSC	USBC, AWL, ABC	Highly colonial species, requiring open water, protected nesting substrate and foraging areas with insect prey within a few km of the colony. Known to nest in the Lake Palmdale area, and potentially occurs in other aquatic areas in the northern part of the Project Area. Currently under consideration for state listing as threatened or endangered.

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Table 5.4-3 Special-Status Wildlife Species

Common Name Scientific Name	Federal Status	State Status	Other Lists	Habitat
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	—	CDFW Watch List	—	Frequents relatively steep, often rocky hillsides with grass and forb patches. Resident in Southern California coastal sage scrub and mixed chaparral.
Grasshopper sparrow <i>Ammodramus savannarum</i>	—	—	CDFW Special Animals List	Occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. Apparently a thick cover of grasses and forbs is essential for concealment.
Bell's sage sparrow <i>Artemisiospiza belli belli</i>	BCC	CDFW Watch List	—	Nests on the ground beneath shrubs or in shrubs 6 to 18 inches above the ground within chaparral communities dominated by fairly dense stands of chamise or in coastal scrub in southern part of the range.
Golden eagle (nesting and wintering) <i>Aquila chrysaetos</i>	BCC, BLMS	CDFW Watch List, CDFW Fully Protected, CDF	—	Open terrain in deserts, mountains, slopes, and valleys. Nest mainly on cliffs, also in large trees (such as oaks), and rarely on artificial structures or the ground.
Short-eared owl (nesting) <i>Asio flammeus</i>	—	SSC	USBC, AWL, ABC, LAA (wintering)	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation. Generally occurs in the Antelope Valley as winter migrant, although there are several known and suspected nest events in exceptionally wet years in the Project Area.
Burrowing owl <i>Athene cunicularia</i>	BCC, BLMS	SSC	—	Open, dry grassland and desert habitats, or scrublands characterized by low-growing, widely spaced vegetation. Nests in burrows dug by small mammals (mainly California ground squirrels). In agricultural areas, they nest along roadsides and in water conveyance structures. Nesting pairs are known from the Project Area, but are relatively small in number and apparently in decline due to development pressure.
Ferruginous hawk (wintering) <i>Buteo regalis</i>	BCC, BLMS	CDFW Watch List	AWL, LAA	Forages in agricultural and urban habitats, as well as creosote bush and saltbush scrub. Breeds in isolated trees, small groves of trees, on rocky ledges, or occasionally on the ground. Nests are adjacent to open areas such as grasslands or shrublands. Prefers open country, where it often hunts from low perches on fence posts, utility poles, or small trees. Occurs in the Project Area as a winter visitor, foraging in agricultural fields (especially alfalfa), grasslands and open desert scrub.
Swainson's hawk (nesting) <i>Buteo swainsoni</i>	BCC, FSS	ST	USBC, AWL, ABC	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannas and agricultural or ranch fields. Requires adjacent suitable foraging areas such as grasslands or agricultural fields supporting rodent populations. Known to nest in the lowlands of the Project Area.
Western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, BCC	SSC	ABC, AWL, USBC	In the desert, nests, feeds, and takes cover on sandy or gravelly substrates around salt ponds and alkali lakes. In the Project Area, known to nest at Rosamond Lake within Edwards Air Force Base.
Mountain plover (wintering) <i>Charadrius montanus</i>	BCC	SSC	USBC, AWL, ABC	Short vegetation, bare ground and flat topography associated with grasslands, freshly plowed fields, newly sprouting grain fields and sometimes sod farms. Prefers grazed areas and areas with burrowing rodents.

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BIOLOGICAL RESOURCES

Table 5.4-3 Special-Status Wildlife Species

Common Name <i>Scientific Name</i>	Federal Status	State Status	Other Lists	Habitat
Black swift (nesting) <i>Cypseloides niger</i>	BCC	SSC	USBC, AWL, ABC	Breeds near or behind permanent or semi-permanent waterfalls, on steep cliffs near water. In the Project Area, known from the San Gabriel Mountains.
Southwestern willow flycatcher (nesting) <i>Empidonax traillii extimus</i>	FE, FSS (full species)	SE (full species)	USBC, AWL, ABC (all include full species)	Dense willow thickets are required for nesting and roosting. Nesting site usually near languid stream, standing water, or seep. Most numerous where extensive thickets of low, dense willows edge on wet meadows, ponds, or backwaters. There are no known nesting records for the Project Area, though the species may nest in the Santa Clarita area west of Acton.
California horned lark <i>Eremophila alpestris actia</i>	—	CDFW Watch List	LAA (full species, coastal slope)	Occurs in open areas with short vegetation, sparse brush, and a preponderance of bare ground. Nesting is known to occur in the northwestern and southeastern parts of the Project Area.
Merlin <i>Falco columbarius</i>	—	CDFW Watch List	—	Occurs in grasslands, savannahs, woodlands, lakes, wetlands, deserts, farms and ranches. Rare winter migrant in the Project Area.
Prairie falcon (nesting) <i>Falco mexicanus</i>	BCC	CDFW Watch List	LAA	Breeds on cliffs in dry, open terrain and forages far afield, even to marshlands and ocean shores. Forages widely over desert scrub and arid grasslands, but nesting is generally confined to sheltered cliff ledges, potholes, and caves in rugged terrain. Nests in low numbers in the Project Area.
American peregrine falcon (nesting) <i>Falco peregrinus anatum</i>	BCC, FSS	CDF, CDFW Fully Protected	AWL, ABC	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape on a depression or ledge in an open site. There are no recent nesting records from the Project Area.
California condor <i>Gymnogyps californianus</i>	FE	SE, CDF, CDFW Fully Protected	USBC, AWL, ABC	Nests in deep canyons containing clefts in rocky walls of mountain ranges of moderate altitude. Forages up to 100 miles from nest sites over vast expanses of open savanna, grasslands and foothill habitats. Does not breed in the Project Area but known to forage in the northwestern part.
Bald eagle (nesting and wintering) <i>Haliaeetus leucocephalus</i>	—	SE, CDF, CDFW Fully Protected	—	Nests in large, old growth or dominant large trees with open branches, especially ponderosa pines. Roosts communally in winter. Occurs along ocean shore, lake margins and rivers for both nesting and wintering. Most nests within a mile of water. Wintering individuals have been observed at Lake Elizabeth.
Loggerhead shrike (nesting) <i>Lanius ludovicianus</i>	BCC	SSC	LAA (coastal slope wintering)	Found in broken woodlands, savanna, pinyon-juniper woodland, Joshua tree woodland, riparian woodland, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.
White-faced ibis <i>Plegadis chihi</i>	—	CDFW Watch List	LAA	Prefers to feed in fresh emergent wetland, shallow lacustrine waters, muddy ground of wet meadows, and irrigated or flooded pastures and croplands. Nests in dense, fresh emergent wetland. Roosts in freshwater marsh such as bulrushes, cattails, reeds or low shrubs over water. Extensive marshes are required for nesting. Known to nest at Piute Ponds within Edwards Air Force Base (in northern part of Project Area) and forages in nearby agricultural fields.

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Table 5.4-3 Special-Status Wildlife Species

Common Name Scientific Name	Federal Status	State Status	Other Lists	Habitat
Coastal California gnatcatcher <i>Polioptila californica californica</i>	FT	SSC	USBC, AWL, ABC	Resident of coastal sage and alluvial scrub habitats below 800 m asl. Occurs in the Santa Clarita Valley area and southern foothills of the San Gabriel Mountains.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE, BCC	SE	USBC, AWL, ABC	Resident below about 600 m (2,000 ft) in willows and other low, dense valley foothill riparian habitat. Thickets of willow and other low shrubs afford nesting and roosting cover. May inhabit thickets along dry, intermittent streams. Reported from few localities within the Antelope Valley with willow-dominated habitat, and occurs in the southern part of the Project Area in the southern foothills of the San Gabriel Mountains.
Mammals				
Pallid bat <i>Antrozous pallidus</i>	FSS, BLMS	SSC	WBWG High	Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and open buildings. In the Project Area, known from the San Gabriel Mountains, and along desert slope streams (e.g., the Mojave River).
Pallid San Diego pocket mouse <i>Chaetodipus fallax pallidus</i>	—	SSC	—	Sandy, herbaceous areas, usually in association with rocks or coarse gravel in desert wash, desert scrub, desert succulent scrub, pinyon-juniper woodlands of the southeastern part of the Project Area.
Spotted bat <i>Euderma maculatum</i>	BLMS	SSC	WBWG High	Habitats occupied include arid deserts, grasslands and mixed conifer forests. Prefers to roost in rock crevices. Occasionally found in caves and buildings.
Western mastiff bat <i>Eumops perotis californicus</i>	BLMS	SSC	WBWG High	Roosts in crevices in cliff faces, high buildings, trees and tunnels within many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral.
Silver-haired bat <i>Lasionycteris noctivagans</i>	—	—	WBWG Medium	Roosts in hollow trees, snags, buildings, rock crevices, caves, and under bark. Females may form nursery colonies or occur as solitary individuals in dense foliage or hollow trees. Needs drinking water.
Hoary bat <i>Lasiurus cinereus</i>	—	—	WBWG Medium	Habitats suitable for bearing young include all woodlands and forests with medium to large-size trees and dense foliage. Generally roosts in dense foliage of medium to large trees.
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	—	SSC	—	Shrub habitats and intermediate canopy stages of shrub habitats and open shrub/herbaceous and tree/herbaceous edges. Occurs in the Santa Clarita Valley area and the southern foothills of the San Gabriel Mountains.
Western small-footed myotis <i>Myotis ciliolabrum</i>	BLMS	—	WBWG Medium	A common bat of arid uplands in California. Occurs in a variety of habitats, primarily in relatively arid wooded and brushy uplands near water from sea level to 8,900 feet. Seeks cover in caves, buildings, mines, crevices, and occasionally under bridges and under bark. Separate night roosts may be used, and have been found in buildings and caves. Maternity colonies of females and young are found in buildings, caves, and mines. Requires water.

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Table 5.4-3 Special-Status Wildlife Species

Common Name <i>Scientific Name</i>	Federal Status	State Status	Other Lists	Habitat
Long-eared myotis <i>Myotis evotis</i>	BLMS	—	WBWG Medium	Widespread in California, but generally uncommon in most of its range. Found in nearly all brush, woodland, and forest habitats, from sea level to at least 2,700 m (9,000 ft), but coniferous woodlands and forests seem to be preferred. Roosts in buildings, crevices, spaces under bark, and snags. Caves used primarily as night roosts. Roosts singly, or is found in fairly small groups. Nursery colonies of 12 – 30 individuals are found in buildings, crevices, snags, and behind bark. May require water.
Fringed myotis <i>Myotis thysanodes</i>	BLMS	—	WBWG High	Widespread in California, occurring in all but the Central Valley and Colorado and Mojave deserts. Irregular but may be common locally. Occurs in a variety of habitats from sea level to 2,850 m (9,350 ft). Optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer, generally at 1,300 – 2,200 m (4,000 – 7,000 ft). Roosts in caves, mines, buildings, and crevices. Separate day and night roosts may be used. Maternity colonies of up to 200 individuals located in caves, mines, buildings, or crevices. Requires water. Uses open habitats, early successional stages, streams, lakes, and ponds as foraging areas.
Long-legged myotis <i>Myotis volans</i>	BLMS	SSC	WBWG Medium	Once common; has experienced significant declines, and status in California is uncertain. Habitats occupied in California include desert scrub, desert succulent shrub, desert wash, and desert riparian. Colonial cave-dweller, occurring in colonies of several thousand individuals in most of its range. Mines and buildings also may be used. Hibernation caves have high humidity, often with standing or running water and little air movement. Uses temporary night roosts. Nursery colonies are in the hibernation cave or another cave. Occasionally other sites, such as bridges, are used. Optimal sites are relatively warm, with little human disturbance. May require water.
Yuma myotis <i>Myotis yumaensis</i>	BLMS	—	WBWG Low – Medium	Common and widespread in California outside the Mojave and Colorado Desert regions, except for the mountain ranges bordering the Colorado River Valley. Found in a wide variety of habitats ranging from sea level to 11,000 ft, uncommon to rare above 8,000 feet. Optimal habitats are open forests and woodlands with sources of water over which to feed. Roosts in buildings, mines, caves, or crevices, abandoned swallow nests and under bridges. Maternity colonies of several thousand females and young may be found in buildings, caves, mines, and under bridges. Warm, dark sites are preferred.
Lodgepole chipmunk <i>Neotamias speciosus speciosus</i>	—	—	CDFW Special Animals List	Usually found in open canopy forests, lodgepole pine forests. In the Project Area, known from the San Gabriel Mountains.
San Diego desert woodrat <i>Neotoma lepida bryanti</i>	—	SSC	—	Occurs in scrub and desert habitats, usually in association with rock outcroppings, boulders, cacti, or areas of dense undergrowth. . In the Project Area, known from the San Gabriel Mountains and Santa Clarita Valley area.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	—	SSC	—	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover. Feeds almost exclusively on arthropod prey, especially scorpions and orthopterans. In the Project Area, known from the Santa Clarita Valley area.

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Table 5.4-3 Special-Status Wildlife Species

Common Name <i>Scientific Name</i>	Federal Status	State Status	Other Lists	Habitat
Nelson's bighorn sheep <i>Ovis canadensis nelsoni</i>	BLMS, FSS	—	—	Open, rocky, steep areas with available water and herbaceous forage. Occurs in range of habitats, including alpine, sagebrush, bitterbrush, pinyon-juniper, palm oasis, desert riparian, and desert scrub, subalpine, conifer, perennial grassland, montane chaparral, and montane riparian plant communities. In the Project Area, known from the San Gabriel Mountains
Tehachapi pocket mouse <i>Perognathus alticolus inexpectatus</i>	FSS	SSC	—	Arid annual grassland and desert shrub communities, but also found in fallow grain fields and Russian-thistle (<i>Salsola tragus</i>). Burrows for cover and nesting. Aestivates and hibernates through extreme weather. Forages on open ground and under shrubs. Occurs in the northwestern part of the Project Area.
San Joaquin pocket mouse <i>Perognathus inornatus inornatus</i>	BLMS	—	—	Friable soils, typically in grasslands and blue oak savannas. Occurs in the northwestern part of the Project Area.
American badger <i>Taxidea taxus</i>	—	SSC	—	Drier, open stages of most shrub, forest, and herbaceous habitats with friable soils.
Mojave ground squirrel <i>Xerospermophilus mohavensis</i>	—	ST	—	Sandy to gravelly soils in open desert scrub, alkali scrub and Joshua tree woodland. Avoids rocky areas. Nests in burrows and uses burrows at the base of shrubs for cover. Also feeds in annual grassland. Historical range includes virtually all of the valley floor and foothill areas within the Project Area.

STATUS ABBREVIATIONS

Federal

FE: Federally listed as Endangered

FT: Federally listed as Threatened

FPE: Federally proposed for listing as Endangered

FPT: Federally proposed for listing as Threatened

FPD: Federally proposed for delisting

FC: Federal Candidate species

SC: National Marine Fisheries Service Species of Concern

BLMS: Bureau of Land Management Sensitive Species

FSS: USDA Forest Service Sensitive Species

BCC: Fish and Wildlife Service Birds of Conservation Concern

State

SE: State-listed as Endangered

ST: State-listed as Threatened

SCE: State candidate for listing as Endangered

SCT: State candidate for listing as Threatened

SCD: State candidate for delisting

CDF: California Department of Forestry and Fire Protection

Sensitive Species

SSC: CDFW Species of Special Concern

CDFW Special Animals List - 2011

Other

AFS: American Fisheries Society categories of risk: vulnerable, threatened, or endangered

AWL: Audubon Watchlist

ABC: American Bird Conservancy Green List

LAA: Los Angeles Audubon list of Los Angeles County's

Sensitive Bird Species

USBC: United States Bird Conservation Watch List

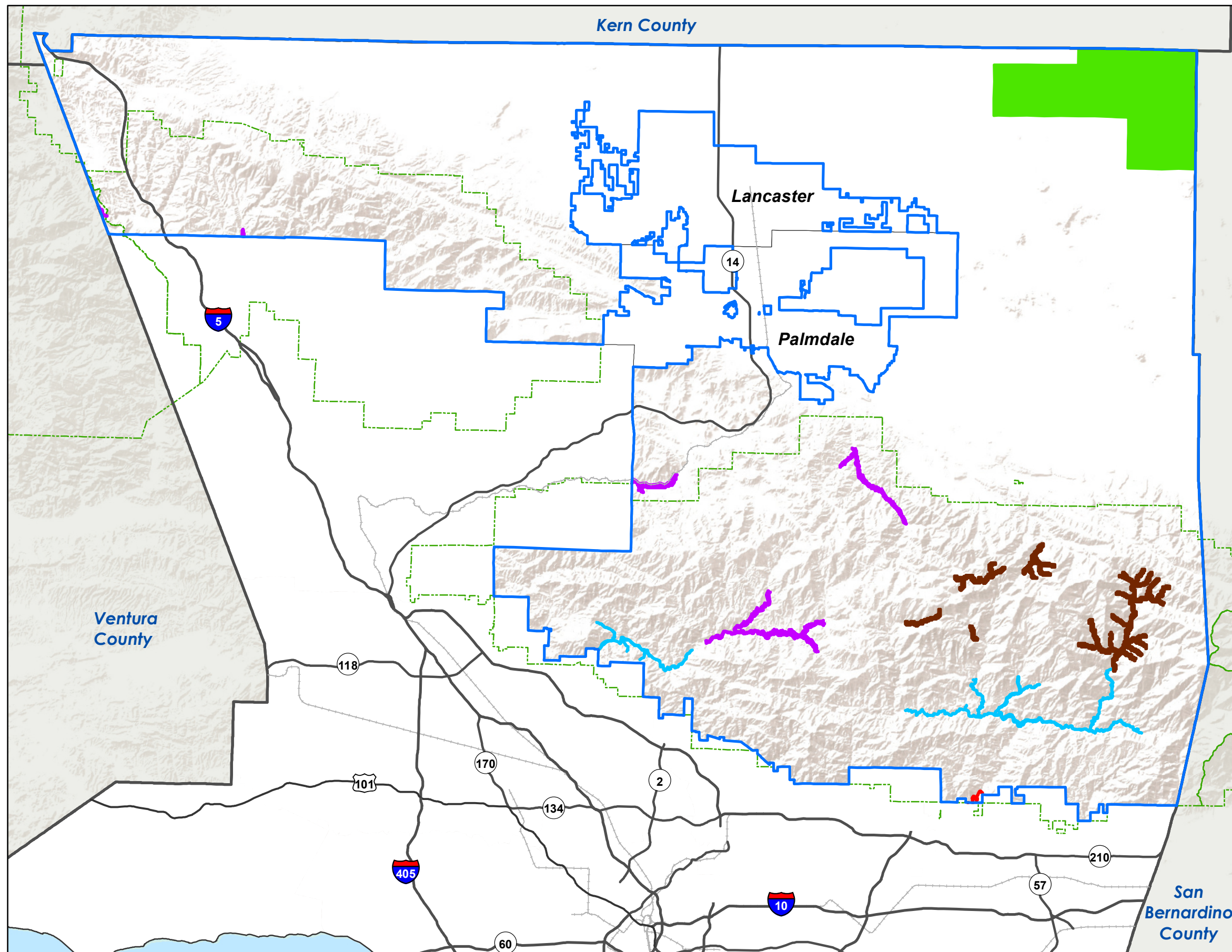
WBWG: Western Bat Working Group: High, Medium and Low priority

Xerces: Xerces Society Red List of Pollinators

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5. ENVIRONMENTAL ANALYSIS

FIGURE 5.4-3

DESIGNATED CRITICAL HABITAT

- ▬ Antelope Valley Project Area
- ▬ Arroyo (=arroyo southwestern) toad
- ▬ Desert tortoise
- ▬ Mountain yellow-legged frog
- ▬ Santa Ana sucker
- ▬ Southwestern willow flycatcher

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PLACEWORKS

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Significant Ecological Areas

A Significant Ecological Area (SEA) designation is given to lands in the County that contain irreplaceable biological resources. Individual SEAs include undisturbed or lightly disturbed habitat supporting valuable and threatened species, linkages and corridors to promote species movement, and are sized to support sustainable populations of its component species.

SEA History

The identification of important biological resources and preservation of SEAs have a lengthy history in the County. The Proposed Project's SEA boundaries can be traced back to areas identified in an initial General Plan guiding document, the 1970 Environmental Development Guide, which was adopted as a preliminary General Plan for the County and included a schematic map called the Open Space Concept Plan that depicted areas thought to be of significance for both conservation and safety. In 1972, the Environmental Resource Committee of the Southern California Academy of Sciences and members of the UCLA botany and zoology faculties prepared an environmental resources survey that identified areas throughout Los Angeles County that warranted special consideration due to their high biological resource value. As a result of this effort, 81 SEAs of these areas were identified on the vegetation and wildlife map in the 1973 Los Angeles County General Plan.

Since then, Proposed Project components have been updated several times under the umbrella of the larger SEA Program efforts related to the proposed General Plan Update, which is outside the scope of this Proposed Project. From 2001 to 2011, Regional Planning conducted public outreach, solicited additional recommendations on the SEA boundaries, and revised the SEA boundaries and SEA resource descriptions as part of the proposed General Plan Update. Several versions of the countywide SEA Map were publicly released, including in the 2003 Draft General Plan policy and map document called 'Shaping the Future 2025'.

In 2010, an expert panel of biologists was convened to evaluate the SEA boundaries, and additional locations were identified as areas that warranted the SEA designation. In 2011, the draft SEA Map including those recommendations was released for public review as part of the Los Angeles County Draft 2035 General Plan.

SEA Current Status

The County proposes to expand SEAs and create three new ones in the Project Area as part of the Proposed Project. Under the Proposed Project, the SEA coverage in Project Area would be expanded from 135,772 to 332,899 total acres. Three new SEAs would be created in the southern San Gabriel Mountain area in the southern part of the Project Area. Figure 5.4-4, *Existing and Proposed Significant Ecological Areas (SEAs)* shows the locations of the existing and proposed SEAs in the Project Area. Table 5.4-4, *Existing and Proposed SEAs in the Project Area*, summarizes the acreages of the existing and proposed SEAs.

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Table 5.4-4 Existing and Proposed SEAs in the Project Area

SEA	Existing Acres	Proposed Acres**
Antelope Valley		202,846
47. Edwards Air Force Base	18,822	
48. Big Rock Wash	6,011	
49. Little Rock Wash*	3,225	
50. Rosamond Lake	14,376	
51. Saddleback Butte State Park	7,435	
52. Alpine Butte*	5,419	
53. Lovejoy Butte	2,484	
54. Piute Butte	1,557	
55. Desert Montane Transect	26,737	
San Andreas		105,454
56. Ritter Ridge*	2,290	
57. Fairmont And Antelope Buttes	5,567	
58. Portal Ridge/Liebre Mountain	31,035	
59. Tehachapi Foothills	3,575	
Joshua Tree Woodland		5,323
60. Joshua Tree Woodland Habitat	4,430	
Santa Clara River*		19,276
23. Santa Clara River*	1,028	
61. Kentucky Springs	1,781	
Altadena Foothills and Arroyos SEA*	0	6,152
San Dimas Canyon and San Antonio Wash SEA*	0	2,899
San Gabriel Canyon*		14,823
Total	134,772	356,773

Source: County of Los Angeles

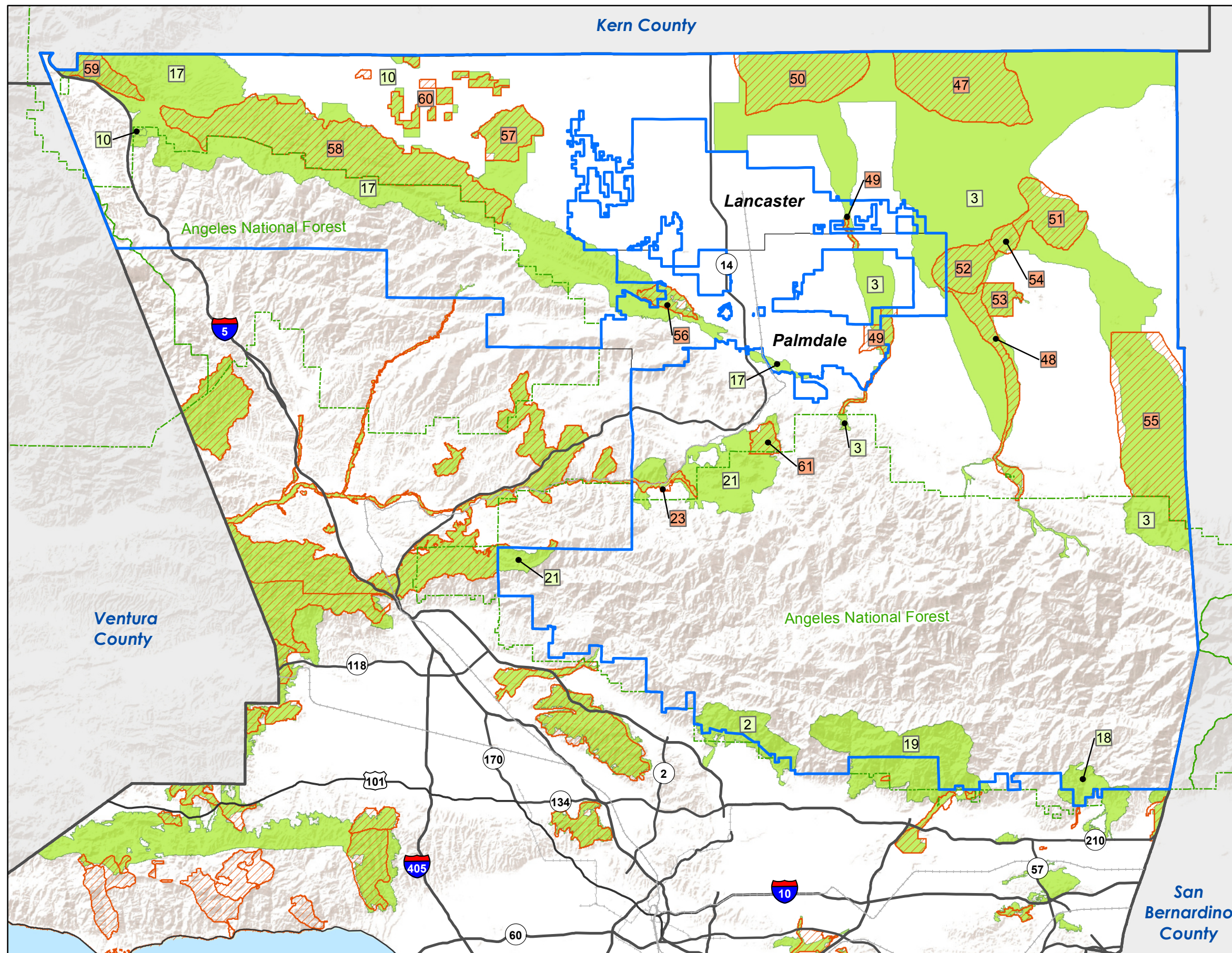
* SEAs partially located in Los Angeles County jurisdiction

** Total acreage for proposed SEAs includes existing SEAs

SEA Descriptions

Antelope Valley SEA

The proposed Antelope Valley SEA covers 202,846 acres under the Proposed Project, which includes 86,000 acres of existing SEAs adopted in 1980: Edwards Air Force Base (47), Big Rock Wash (48), Little Rock Wash (49), Rosamond Lake (50), Saddleback Butte State Park (51), Alpine Butte (52), Lovejoy Butte (53), Piute Butte (54), and Desert Montane Transect (55).



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FIGURE 5.4-4

EXISTING AND PROPOSED SIGNIFICANT ECOLOGICAL AREAS (SEAs)

- Antelope Valley Project Area
- Significant Ecological Area - Existing
- Significant Ecological Area - Proposed

Existing SEA	Proposed SEA
23 Santa Clara River	2 Altadena Foothills and Arroyos
25 San Dimas Canyon	3 Antelope Valley
47 Edwards Air Force Base	10 Joshua Tree Woodlands
48 Big Rock Wash	17 San Andreas
49 Little Rock Wash	18 San Dimas Canyon/San Antonio Wash
50 Rosamond Lake	19 San Gabriel Canyon
51 Saddleback Butte State Park	21 Santa Clara River
52 Alpine Butte	
53 Lovejoy Butte	
54 Piute Butte	
55 Desert-Montane Transect	
56 Ritter Ridge	
57 Fairmont & Antelope Buttes	
58 Portal Ridge-Liebre Mountain	
59 Tehachapi Foothills	
60 Joshua Tree Woodland Habitat	
61 Kentucky Springs	

Note:
The Proposed Significant Ecological Areas (SEA) depicted on this map have been numbered for reference only. Official SEA numbers to be assigned at a future date.

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The Antelope Valley SEA is focused on the principal watercourses of the eastern part of the Project Area: Little Rock Creek and Big Rock Creek and tributaries, such as Mescal Creek. The origins of the watercourses in the San Gabriel Mountains are an important aspect of their diversity and connectivity. There are three dry lakes and their adjacent plains (protected as part of Edwards Air Force Base) included in the SEA: Rosamond Dry Lake with the adjacent Piute Ponds, Buckhorn Lake, and Rogers Lake. These lakes and ponds are often flooded during the winter-spring seasons, and are important resting areas for migratory birds on this portion of the Pacific Flyway.

The SEA includes playa lakes, alkali marsh, alluvial fan scrub, a mosaic of xeric desert scrubs, Joshua tree woodland, desert riparian woodlands, juniper scrub, pinyon pine, chaparral and mixed conifer, oak, and riparian communities of higher elevations. Lovejoy, Alpine, Piute, Black and Saddleback buttes, along with smaller unnamed buttes, form most of the topographical relief. These areas offer different ecological conditions that are associated with rock shelter, perching sites, nesting sites, denning areas, wind protection and sand sheet accumulation areas. Local and migratory bat species roost and reproduce in the caves and crevices of the butte formations. The buttes provide nesting sites for several birds of prey.

Birds of prey frequently hunt over the open agricultural areas, including fallow fields; wide-ranging predators also find excellent hunting conditions in and around agricultural areas. A variety of local and migratory bat species feed over the irrigated fields in the spring and summer, when insect numbers are the highest, and at least one sensitive bat species, the pallid bat, forages in open scrub or ruderal desert habitats.

The geographical features of the SEA serve as a major habitat linkage and movement corridor for wildlife within its vicinity and, in an intergenerational sense, many of the plant species. Ecologically generalist species (mountain lion, bobcat, coyote, gray fox, etc.) have the ability to move across such vast areas and through changing habitat types. For such species, the SEA may serve as an important system for long-term and genetic exchange among populations. For smaller or less-mobile species or taxa, which are narrowly restricted in their habitat needs, the SEA can serve as a broad linkage zone in which individual movement can take place during seasonal population dispersal or over generations. This provides essential genetic exchange within and between metapopulations. The two drainages, combined with the upland terrestrial Desert-Montane transect portion of the SEA, ensure linkage and direct movement areas for all of the wildlife species in the County portion of the Antelope Valley.

The SEA supports several habitat types considered sensitive by resource agencies, including mesquite bosque, Joshua tree woodland, desert grassland, southern willow scrub, southern cottonwood-willow woodland, fresh-water swamp, alkali meadow, Mojave riparian forest, and desert dry wash woodland. The sensitive plant and animal species that occur there include desert cymopterus, Mason's neststraw, Lancaster milk-vetch, Parry's spineflower, and Parish's alkali grass, and listed animal species, including arroyo toad, desert tortoise, Swainson's hawk, willow flycatcher, and Mohave ground squirrel, among others. The desert tortoise has critical habitat in this SEA. The arroyo toad has nearby critical habitat and may be present in the SEA.

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San Andreas SEA

The proposed San Andreas SEA covers 105,454 acres under the Proposed Project, which includes 42,467 acres of existing SEAs adopted in 1980: Ritter Ridge (56), Fairmont & Antelope Buttes (57), Portal Ridge-Liebre Mountain (58), and Tehachapi Foothills (59).

The San Andreas SEA is in the unincorporated western portion of the Antelope Valley. The SEA would be the second largest SEA and is at a crossroads of ecoregions and connecting landscapes extending along the SEA and San Andreas Fault, including the coastal mountains, Central Valley, Tehachapi Mountains, San Gabriel Mountains, and Antelope Valley. The length of the San Andreas Fault is rich in wetlands and bogs, which are home to concentrations of the tricolored blackbird, a bird being considered for listing by CDFW.

The SEA includes arid desert communities, foothill woodland communities; high elevation piñon pine; chaparral communities; sag pond wetlands; native perennial grasslands; desert and montane riparian; and deciduous, oak, and conifer forest communities. The upper slopes of these mountains are densely vegetated with chaparral and scattered mixed woodlands. The lower slopes are more sparsely vegetated with scrub species, mixed scrub, and grassland. The grassland and some ephemeral wildflower fields extend onto the plain of the valley floor. Most of the mountainous portion of the SEA is undisturbed open space, with a few scattered residential developments. Ritter Ridge comprises an easterly portion of the San Gabriel Mountains in the SEA, which contain important Joshua tree and California juniper mixed woodlands. The mountainous part of the SEA has a diverse flora, and includes oak savannahs of blue oak and valley oak, and gray pine woodland, California buckeye, Joshua tree woodland and sagebrush scrub.

The SEA includes several important linkages for wildlife movement. The foothills in the westernmost part of the SEA are an important linkage between the San Gabriel Mountains, the Tehachapi Mountains, and the Coastal Ranges. This linkage to the Tehachapi Mountains is important because they connect to the southernmost extent of the Sierra Nevada. The Tehachapi Mountains represent the only mountain linkage from the Transverse Ranges and the Coast Ranges to the Sierra Nevada. This feature may be an important topographic reference for migrating birds, as well as providing high-elevation foraging grounds along the migratory route. The SEA includes numerous drainages that extend onto the Antelope Valley floor toward resources such as the Fairmont and Antelope buttes. These washes provide important connectivity between the valley floor, the buttes, and the western part of the San Gabriel Mountains. In addition, Anaverde Creek, Amargosa Creek, and Pine Canyon facilitate east-west wildlife movement through the mountains, Portal Ridge, and Ritter Ridge. Tributary drainages from the Santa Clara River, such as Elizabeth Lake Canyon and San Francisquito Canyon, connect the ocean and coastal zones to the fault. The frequency of valuable riparian communities along this travel route, which are located within an otherwise arid climate, further contributes to the SEA's importance for wildlife and habitat linkages in the region.

The SEA supports several sensitive habitats, including Joshua tree woodland, valley oak woodland, native grassland, wildflower field, southern cottonwood-willow riparian forest, fresh-water swamp, alkali meadow, and southern willow scrub. The sensitive plant and animal species that occur there include slender mariposa lily, Bakersfield cactus, southwestern willow flycatcher, and California condor, among others.

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Joshua Tree Woodlands SEA

The proposed Joshua Tree Woodlands SEA covers seven areas and 5,323 acres under the Proposed Project, which is reconfigured from eight areas within the Joshua Tree Woodlands SEA name adopted in 1980, which covered seven areas and totaled 4,430 acres. The proposed SEA is located in the western portion of the Antelope Valley and contains many of the remaining old-growth stands of Joshua trees in the region. Joshua tree woodland is a complex biological community of the gradual slopes of higher elevation desert areas and once covered much of this part of the Antelope Valley around the Antelope Wash. Because Joshua trees live in areas that are easily developed for residences and agriculture, this habitat has become fragmented in the County.

Wildlife movement within the SEA is possibly limited to local movement, but large-scale movement across the Antelope Valley floor may be facilitated by the Joshua tree habitat as island-like stepping stones. Typically in burned-over areas, animal paths tend to orient toward the Joshua tree habitat. Birds, and possibly bats, and other aerial organisms that use the migration corridor along the desert side of the San Gabriel Mountains probably use the woodland in the SEA for resting and feeding.

The SEA supports several sensitive habitats, including California joint fir scrub, Joshua tree woodland, spiny hop sage scrub, broom snake weed scrub, and bitter bush scrub. The sensitive plant and animal species that occur there include pale yellow layia, Swainson's hawk, and hoary bat, among others.

Santa Clara River SEA

The Santa Clara River SEA will encompass both the existing Santa Clara River and Kentucky Springs SEAs, which were adopted under the 1980 General Plan, and add another 19,276 acres. The Kentucky Springs SEA is in the Project Area, together with a small segment of the existing Santa Clara River SEA in Soledad Canyon.

Soledad Canyon in the Project Area contains critical habitat for the federally endangered arroyo toad and potentially suitable habitat for the state- and federally endangered unarmored threespine stickleback. The Kentucky Springs basin has a large population of Parish's Great Basin sagebrush (*Artemisia tridentata* ssp. *parishii*), which is considered rare and sensitive in the County.

The SEA within the Project Area includes semi-arid chaparral, desert scrub, and pinyon-juniper woodlands in upland parts and riparian communities along the Santa Clara River. The riparian corridor along the Santa Clara River has served as the primary east-west linkage between the Pacific coastline, coast ranges, interior ranges, high desert, and southern Sierra (via the Tehachapi Range). The SEA embraces the river corridor and linkage zones that are considered essential to ensuring connectivity and resource values within the historic movement zones for all of the wildlife species in the County portion of the Santa Clara River, including mountain lion, coyote, bobcat, and several medium-sized mammals, as well as birds, reptiles, amphibians, and fishes.

Altadena Foothills and Arroyos SEA

The proposed Altadena Foothills and Arroyos SEA would be a new SEA under the Proposed Project, covering 6,152 acres in the westernmost portion of the San Gabriel Valley along the southern border of the

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Project Area. The majority of lands within the Project Area are under the jurisdiction of the Angeles National Forest. The SEA represents the lower elevation/urban interface portions of Millard, Alzada, Chiquita, Las Flores, Rubio, and Eaton canyons from the urban edge, to undeveloped wildland areas of the lower elevations of the Angeles National Forest.

The SEA includes the undeveloped portions of subwatersheds of the Arroyo Seco and encompasses undeveloped parts of drainages, including Alzada and Chiquita, which flow into the Devils Gate Reservoir of the Arroyo Seco. The northern boundary is formed along ridgelines within the Angeles National Forest that define the catchment of the local canyons. The SEA supports high species diversity due to its position between the mountain and valley biomes, and its locations between the Los Angeles River and the San Gabriel River. The SEA provides a lower elevation east-west linkage.

San Dimas Canyon and San Antonio Wash SEA

The proposed San Dimas Canyon and San Antonio Wash SEA covers 2,899 acres in the southeastern corner of the Project Area. The entire area of this SEA within the Proposed Project is under the jurisdiction of the Angeles National Forest. The existing San Dimas Canyon SEA is outside the southern border of the Project Area.

The San Dimas Canyon and San Antonio Wash SEA is located along the cismontane foothills of the eastern San Gabriel Mountains. Generally, the SEA is centered on the mouths of four major canyons, which flow from the mountains and interconnecting terrain. From east to west, these canyons include San Antonio Canyon above the City of Claremont as one component; and Live Oak, Marshall, and San Dimas canyons above the cities of La Verne and San Dimas as a second component. The SEA incorporates areas with diverse natural habitat ranging from high elevations to the foothill alluvial areas of two of the major drainages of the San Gabriel Mountains. Over most of its boundaries, particularly to the north, east, and west of both the San Dimas Canyon and San Antonio Wash components, the SEA is bordered by open space within the Angeles National Forest. Generally to the south, however, the borders are mostly defined by the edge of urban development within the San Gabriel Valley.

The topography of the SEA is severe, consisting of steep-walled canyons and narrow ridgelines. This area contains the last-remaining, relatively well-developed lower montane riparian habitat in the eastern County.

San Gabriel Canyon SEA

The proposed San Gabriel Canyon SEA covers 14,823 acres in the southeastern corner of the Project Area and consist of lands under the jurisdiction of the Angeles National Forest. The San Gabriel Canyon SEA is along the cismontane foothills of the eastern section of the San Gabriel Mountains. Generally, the SEA is centered on the mouths of three major canyons, which flow from the mountains and interconnecting terrain. From west to east these are Santa Anita, Monrovia and Sawpit, and San Gabriel canyons, which are located above the cities of Sierra Madre, Arcadia, Monrovia, Duarte, Bradbury, Irwindale, and Azusa. A substantial part of the eastern and southern part of the SEA along the San Gabriel River is in the California Audubon–designated State Important Bird Area (IBA) of the Los Angeles Flood Control Basin IBA. The proposed San Gabriel Canyon SEA contains critical habitat for Branton's milk-vetch.

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Wildlife Movement Corridors

Wildlife corridors are areas of habitat, usually linear in nature, that connect two or more habitat patches that would otherwise be fragmented or isolated from one another (e.g., by rugged terrain, changes in vegetation, or human disturbance). Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. A wildlife corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as habitat or landscape linkages) can provide both transitory and resident habitat for a variety of species. Wildlife corridors and landscape linkages are vital in promoting habitat connectivity, facilitating wildlife movement on a regional scale, and sustaining species and wildlife communities through the impacts of climate change.

The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. Various studies have concluded that in the absence of habitat linkages that allow movement to adjoining open space areas, some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because barriers of many kinds prohibit the infusion of new individuals and genetic material.^{17,18,19,20}

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.^{21,22,23,24} Wildlife movement activities usually fall into one of three movement categories (though often the motivating needs are a combination of these): (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and, (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Although the nature of each of these types of movement is species specific, large open spaces will generally support a diverse wildlife community and will provide for all types of movement. Each type of movement may also be represented at a variety of scales in space and time, from generational time scales for immobile plants and small animals with limited home ranges to home ranges of many square miles for large mammals and raptorial birds.

¹⁷ MacArthur, R. M. and E. O. Wilson. 1967. *The Theory of Island Biogeography*. Princeton University Press: Princeton, New Jersey.

¹⁸ Soulé, M. E. 1987. *Viable Populations for Conservation*. Sinaur Associates Inc., Publishers, Sunderland, Massachusetts.

¹⁹ Harris, L. D. and P. B. Gallagher. 1989. New Initiatives for Wildlife Conservation: The Need for Movement Corridors. Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife. Washington D.C. 96 pp.

²⁰ Bennett, A. F. 1990. *Habitat Corridors and the Conservation of Small Mammals in a Fragmented Forest Environment*. *Landscape Ecol.* 4:109-122.

²¹ Noss, R. F. 1983. *A Regional Landscape Approach to Maintain Diversity*. *BioScience*. 33:700 – 706.

²² Fahrig, L. and G. Merriam. 1985. *Habitat Patch Connectivity and Population Survival*. *Ecology*. 66:1762-1768.

²³ Simberloff, D. and J. Cox. 1987. *Consequences and Costs of Conservation Corridors*. *Conserv.Biol.* 1:63-71.

²⁴ Harris, L. D. and P. B. Gallagher. 1989. New Initiatives for Wildlife Conservation: The Need for Movement Corridors. Pages 11-34 in G. Mackintosh, ed. *Preserving Communities and Corridors*. Defenders of Wildlife. Washington D.C. 96 pp.

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Wildlife Linkages to Adjoining Regions

The South Coast Missing Linkages report²⁵ identifies landscape linkages throughout Southern California that are considered important for habitat connectivity. The report identifies four linkages that include parts of the Project Area, shown in Figure 5.4-5, *Regional Wildlife Linkages*.

- **The Tehachapi Connection** occurs at the crossroads of the Sierra Nevada, South Coast, Central Valley, and the Mojave Desert Ecoregions. It is thought to provide a link between the Sierra-Cascade mountain system to the north and west, and the Coastal, Transverse, and Peninsular mountain ranges to the south. The Tehachapi connection is largely outside the Project Area. The part of this connection within the Project Area is a small lowland area in the northwestern corner of the Project Area that is currently within the Tehachapi SEA.
- **The Sierra Madre-Castaic Connection**, located in the mountain foothills in the northwestern corner of the Project Area, links the Los Padres and Angeles national forests. The part of the designed corridor within the Project Area is located within the Tehachapi SEA.
- **The San Gabriel-Castaic Connection** links coastal and desert biotic communities facilitated by the Santa Clara River. In the Project Area, a key segment of this corridor complex is Soledad Canyon, which is within the existing Santa Clara River SEA and which would be expanded under the Proposed Project.
- **The San Gabriel-San Bernardino Connection** provides connectivity between the Angeles and San Bernardino National Forests. Several small areas fall within the southeastern corner of the Project Area, and are included within the Angeles National Forest.

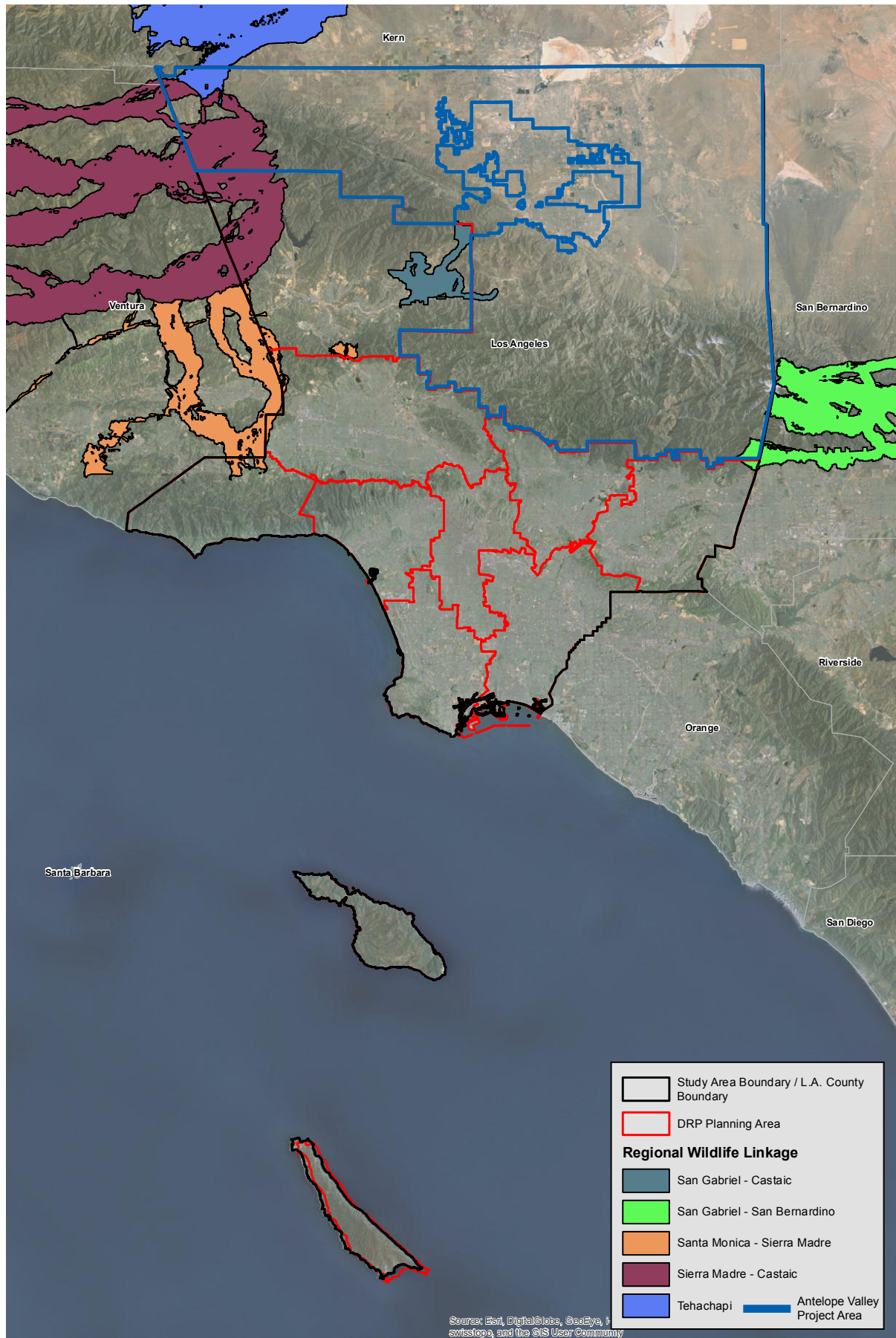
Wildlife Linkages in the Project Area

Other important habitat linkages in the Project Area include linear topographic features such as principal water courses, including Antelope Wash, Little Rock Creek, Big Rock Creek, Santa Clara River, and those along the mountain and hilly ranges: the San Gabriel Mountains, the Transverse Ranges, the Tehachapi Mountains, and the linkage along the San Andreas Fault.

The existing SEAs served to slow or modify development within their defined boundaries, but over time many of the smaller areas lost the biotic qualities for which they were nominated, and resource values in some larger SEAs may have been reduced or degraded. The proposed SEAs provide linkages and corridors to promote regional species movement within the Project Area; these linkages are critical for conserving habitat and biodiversity, and in some cases these SEAs overlap with Regional Wildlife Linkages.

²⁵ South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. Available online at: www.scwildlands.org. March 2008.

REGIONAL WILDLIFE LINKAGES



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The San Andreas SEA overlaps with the Tehachapi Connection and the northeasternmost portions of the Sierra Madre-Castaic Connection. This proposed SEA includes substantial portions of the San Andreas Fault Zone; most of the Los Angeles County portion of the Tehachapi Mountains; the headwaters of Antelope Wash; part of the San Gabriel Mountains western section; a portion of the headwaters of Piru Creek, the largest tributary of the Santa Clara River; a portion of the headwaters of Castaic Creek, the largest tributary of the Santa Clara River within Los Angeles County; and portions of the headwaters of the Santa Clara River itself.

The Antelope Valley SEA covers the north-south connection between the San Gabriel Mountains and the Mojave Desert, which provides movement opportunities along the drainages, such as Big Rock Creek, into open area playas in Kern and San Bernardino Counties to the north. This proposed SEA contains a portion of the eastern section of the San Gabriel Mountains in Los Angeles County, most of the drainage of Big Rock Creek, part of the drainage of Little Rock Creek, and playas on Edwards Air Force Base that are a major stopover on the Pacific Flyway when flooded.

The San Gabriel-San Bernardino Connection overlaps with the San Dimas Canyon and San Antonio Wash SEA in the Project Area along its southern branch. This connection links the San Gabriel Mountains with the San Bernardino Mountains over Cajon Canyon and links the Angeles National Forest with the San Bernardino National Forest in the vicinity of San Antonio Canyon, among other locations in the eastern San Gabriel Mountains.

In the part of the Project Area that extends across the San Gabriels to the south, the Proposed Project includes parts of the SEAs that are located in the coastal foothill area of the mountains: Altadena Foothills and Arroyos SEA, San Gabriel Canyon SEA, San Dimas and San Antonio Canyons SEA, and the East San Gabriel Valley SEA. This foothill area, influenced by the coastal conditions of the Los Angeles Basin, is an important connecting area for coastal species and migrant species.

Jurisdictional Waters and Wetlands

The Project Area includes a number of major watercourses, smaller streams and tributaries, open water areas, and dry lakes. These watercourses, lakes, and dry lakes support riverine and riparian habitat.

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California. The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (RHA); the CDFW regulates activities under the Fish and Game Code Sections 1600 to 1616; and the RWQCB regulates activities under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

USACE jurisdictional waters are referred to as “Waters of the U.S.,” the limits of which are generally defined by the ordinary high water mark (OHWM). Although RWQCB jurisdictional resources are considered “waters of the State,” the extent of RWQCB jurisdiction generally defaults to USACE jurisdictional guidelines as no formal guidelines for RWQCB jurisdictional determinations currently exist. Isolated drainage features that have been evaluated by the USACE and determined not to support federal “Waters of the U.S.” may still be subject to RWQCB and CDFW jurisdiction pursuant to the Porter-Cologne Water Quality Act and the California Fish and Game Code, respectively. The limits of CDFW jurisdictional streambed and associated

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riparian habitat are generally defined to the top of the bank of a streambed and extend to include any associated native riparian habitat.

Regulated Trees

The County Oak Tree Ordinance was established to recognize oak trees as significant historical, aesthetic, and ecological resources and provide for their preservation and propagation. The Oak Tree Ordinance regulates any tree of the oak genus within the unincorporated areas that is (a) 25 inches or more in circumference (8 inches in diameter) as measured 4.5 feet above mean natural grade, or a combined circumference of any two trunks of at least 38 inches (12 inches in diameter) in the case of oaks with more than one trunk, or (b) any tree that has been provided as a replacement or mitigation tree. Per the ordinance, a person shall not cut, destroy, remove, relocate, inflict damage on, or encroach into a protected zone of any regulated oak tree without first obtaining an oak tree permit.²⁶

In addition, to satisfy Public Resources Code Section 21083.4, which provides for the conservation of oak woodland habitats, the County adopted the OWCMP in 2012. The OWCMP develops a consistent policy for the management of oak woodlands by providing a voluntary conservation strategy in order to meet the requirements of the California Oak Woodlands Conservation Act (AB 242). The OWCMP extends CEQA consideration of impacts to oak woodlands comprised of oaks greater than 5 inches at DBH within an oak woodland habitat in the unincorporated areas.

5.4.2 Thresholds of Significance

According to Los Angeles County significance thresholds, consistent with and modified from Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- B-1 Development of the Project would impact, either directly or through habitat modifications, species identified as 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.
- B-2 Development of the Project would result in the loss of riparian habitat or sensitive natural communities identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- B-3 The Project would impact 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.
- B-4 The Project would affect wildlife movement of 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.

²⁶ County of Los Angeles. Oak Tree Ordinance. Section 22.56.2050 et seq.

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- B-5 The Project would require compliance with adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state policies or ordinances protecting biological resources.

5.4.3 Relevant Area Plan Goals and Policies

Land Use Element

Goal LU 1: A land use pattern that maintains and enhances the rural character of the unincorporated Antelope Valley.

- **Policy LU 1.1:** Direct the majority of the unincorporated Antelope Valley's future growth to rural town center areas, rural town areas, and identified Economic Opportunity Areas.
- **Policy LU 1.2:** Limit the amount of potential development in rural preserve areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.

Goal LU 2: A land use pattern that protects environmental resources.

- **Policy LU 2.1:** Limit the amount of potential development in Significant Ecological Areas, including Joshua Tree woodlands, wildlife corridors, and other sensitive habitat areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.
- **Policy LU 2.2:** Limit the amount of potential development near and within Scenic Resource Areas, including water features, significant ridgelines, and Hillside Management Areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.
- **Policy LU 2.3:** Limit the amount of potential development in Agricultural Resource Areas, including important farmlands designated by the State of California and historical farmland areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.
- **Policy LU 2.4:** Limit the amount of potential development in Mineral Resource Areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.
- **Policy LU 2.5:** Limit the amount of potential development in riparian areas and groundwater recharge basins, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.

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- **Policy LU 2.6:** Limit the amount of potential development near the National Forests and on private lands within the National Forests, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.

Conservation and Open Space Element

Goal COS 3: A clean water supply untainted by natural and man-made pollutants and contaminants.

- **Policy COS 3.4:** Support preservation, restoration and strategic acquisition of open space to preserve natural streams, drainage channels, wetlands, and rivers, which are necessary for the healthy functioning of ecosystems.

Goal COS 4: Sensitive habitats and species are protected to promote biodiversity.

- **Policy COS 4.1:** Direct the majority of the unincorporated Antelope Valley's future growth to rural town center areas, rural town areas and, where appropriate, economic opportunity areas, minimizing the potential for habitat loss and negative impacts on Significant Ecological Areas.
- **Policy COS 4.2:** Limit the amount of potential development in Significant Ecological Areas, including the Joshua Tree woodlands, wildlife corridors, and other sensitive habitat areas, through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan.
- **Policy COS 4.3:** Require new development in Significant Ecological Areas to comply with applicable Zoning Code requirements, ensuring that development occurs on the most environmentally suitable portions of the land.
- **Policy COS 4.4:** Require new development in Significant Ecological Areas, to consider the following in design of the project, to the greatest extent feasible:
 - Preservation of biologically valuable habitats, species, wildlife corridors and linkages;
 - Protection of sensitive resources on the site within open space;
 - Protection of water sources from hydromodification in order to maintain the ecological function of riparian habitats;
 - Placement of development in the least biologically sensitive areas on the site, prioritizing the preservation or avoidance of the most sensitive biological resources onsite;
 - Design of required open spaces to retain contiguous undisturbed open space that preserves the most sensitive biological resources onsite and/or serves to maintain connectivity;
 - Maintenance of watershed connectivity by capturing, treating, retaining, and/or infiltrating storm water flows on site; and

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- Consideration of the continuity of onsite open space with adjacent open space in project design.
- **Policy COS 4.5:** Require new development to provide adequate buffers from preserves, sanctuaries, habitat areas, wildlife corridors, State Parks, and National Forest lands.
- **Policy COS 4.6:** Encourage connections between natural open space areas to allow for wildlife movement.
- **Policy COS 4.10:** Restrict development that would reduce the size of water bodies, minimizing the potential for loss of habitat and water supply.

Goal COS 6: Farming is a viable profession for Antelope Valley residents, contributing to the Valley's rural character and economic strength.

- **Policy COS 6.1:** Limit the amount of potential residential development in Agricultural Resource Areas (Map 4.3: Agricultural Resource Areas) through appropriate land use designations with very low residential densities, as indicated in the Land Use Policy Map (Map 2.1) of this Area Plan, minimizing the potential for future land use conflicts.
- **Policy COS 6.2:** Limit incompatible non-agricultural uses in Agricultural Resource Areas. Where non-agricultural uses are necessary to meet regional or community needs, require buffering and appropriate development standards to minimize potential conflicts with adjacent agricultural uses.

Goal COS 18: Permanently preserved open space areas throughout the Antelope Valley.

- **Policy COS 18.1:** Encourage government agencies and conservancies to acquire lands in the following areas and preserve them as permanent open space:
 - Significant Ecological Areas, including Joshua Tree woodlands, wildlife corridors, and other sensitive habitat areas;
 - Hillside Management Areas;
 - Scenic Resource Areas, including water features such as the privately owned portion of Elizabeth Lake, significant ridgelines, buttes, and other natural landforms;
 - Lands adjoining preserves, sanctuaries, State Parks, and National Forests; and
 - Privately owned lands within the National Forest.
- **Policy COS 18.4:** Pursue funding for open space acquisition and maintenance on an ongoing basis.

Goal COS 19: New development meets open space objectives while maintaining rural character.

- **Policy COS 19.1:** Require new development in Hillside Management Areas and Significant Ecological Areas to comply with applicable Zoning Code requirements for open space preservation.

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- **Policy COS 19.2:** When new development is required to preserve open space, require designs with large contiguous open space areas that maximize protection of environmental and scenic resources.
- **Policy COS 19.3:** Allow large contiguous open space areas to be distributed across individual lots so that new development preserves open space while maintaining large lot sizes that are consistent with a rural environment, provided that such open space areas are permanently restricted through deed restrictions.
- **Policy COS 19.4:** Pursue innovative strategies for open space acquisition and preservation through the land development process, such as Transfers of Development Rights, Land Banking, and Mitigation Banking, provided that such strategies preserve rural character.

Hillside Management Areas

The existing County provisions that regulate HMAs apply to all unincorporated areas that contain terrain with a natural slope of 25 percent or greater. The goal of the ordinance is to protect resources in HMAs from incompatible development, which may result in or have the potential for environmental degradation and/or destruction of life and property. The purpose of the ordinance is not to preclude development, but ensure to the extent possible that the natural topography, resources, and amenities of HMAs are maintained and, where possible, enhanced.

5.4.4 Environmental Impacts

The scope of this assessment is at a programmatic level rather than a project-specific level; thus, this analysis of impacts to biological resources is discussed at a qualitative level. Project-level analyses are not required at this program level; however, development contemplated in the Proposed Project within the unincorporated areas will require subsequent project-by-project analysis to determine individual projects' impacts to biological resources, significance, any project-specific mitigation, and any subsequent discretionary permits or coordination with resource agencies (e.g., USFWS, USACE, CDFW, RWQCB) that may be required.

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Development of the Proposed Project would impact, either directly or through habitat modifications, species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the CDFW or USFWS. [Threshold B-1]

Impact Analysis: The Project Area has a large number of sensitive plant and animal species (130 and 70, listed in Table 5.4-2, *Special-Status Plant Species*, and Table 5.4-3, *Special-Status Wildlife Species*, respectively). Among these are nine plant species and 14 animal species listed as threatened or endangered or rare by the USFWS or CDFW. The Proposed Project covers two distinctly different bioregions: the Antelope Valley and foothill areas on the northern edges of the San Gabriel Mountains and Liebre Mountains, and the mountains west and south of the Antelope Valley that are open space under the jurisdiction of the Angeles National Forest (ANF) and Los Padres National Forest (LPNF). Development (residential, commercial, industrial, and public/institutional) under the Proposed Project would occur primarily in the Antelope Valley. The Proposed

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Project would not change existing open space designations within the ANF and LPNF, but would allow low density residential development on private in-holdings within the national forests (typically one dwelling unit per 10 acres) and limited commercial/recreational development. The Proposed Area Plan would not affect land use within Edwards Air Force Base.

Of the nine listed plant species known from the Project Area, five are known largely from the San Gabriel Mountains in the southern or western mountainous and foothill habitats, where they occur largely within national forest lands or other open space. These include San Gabriel Indian paintbrush, Brauntton's milkvetch, Nevins barberry, slender horned spineflower, and thread-leaved broadiaea. The remaining species, the San Fernando Valley spineflower, Bakersfield cactus, spreading navarretia, and California orcutt grass have the potential to occur in areas where residential or other development could occur under the Proposed Project. The Proposed Project could impact all of these species, either through residential and commercial development, or through other activities such as fuel modification and flood control.

There are 13 federal- and state-listed species known to occur in the Project Area. Two species (the southern mountain yellow-legged frog and California red-legged frog) occur within the ANF or LPNF. The western snowy plover is known to nest only within Edwards Air Force Base and would not be impacted by the Proposed Project. Among the remaining species, the California condor (which forage within the Project Area), desert tortoise, Mohave ground squirrel, bald eagle, and Swainson's hawk all occur in the Project Area, where they would be expected to be adversely impacted by development under the Proposed Project. The least Bell's vireo, unarmored threespine stickleback, Santa Ana sucker, and southwestern willow flycatcher have the potential to occur in the Santa Clara River area where it flows from the Project Area boundary near Acton, and could be impacted by development in that area. Within the Project Area, the arroyo toad occurs mainly on lands managed by national forests, but has the potential to occur in foothill areas within major washes (e.g., Big Creek Wash), where it could be impacted by the Proposed Project.

The Proposed Project would incorporate the proposed SEAs, which are designed to protect Los Angeles County's most sensitive biological resources within the Antelope Valley. The Proposed Project would increase the land area under SEAs in the Project Area from the current 134,745 acres to 356,773 acres. The inclusion of the most suitable habitat in the Project Area within SEAs will have a positive impact on the sensitive plants and animals in the Project Area. Under the existing SEA Ordinance, proposed development is required to be designed so that it is highly compatible with the biotic resources present—including setting aside appropriate and sufficient undisturbed areas; maintaining water bodies, watercourses, and their tributaries in their natural state; leaving wildlife movement corridors undisturbed and in a natural state; retaining sufficient natural vegetative cover and/or open spaces to buffer critical resource areas from the proposed development; providing fences or walls where necessary to buffer important habitat from development; and locating and designing roads and utilities so they do not conflict with critical resources. However, the SEAs do not guarantee preservation, nor do they protect all habitats potentially supporting special-status species. Rather, they are a planning tool to provide a higher level of scrutiny for those areas and resources of greatest biological concern within the County.

Figure 5.4-6, *Proposed Land Use Designations Within SEAs*, shows the land use designations within the SEA areas under the Proposed Project. Table 5.4-5, *Land Use Designations Within Proposed SEAs in the Project Area*, lists the land use designations that are proposed within the SEAs and their acreages. The SEA areas under the

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Proposed Project consist of designated open space (31 percent) and privately owned lands with land use designations other than open space (61 percent). Of the non-open space lands within SEAs, 91 percent have a land use designation of low density rural residential (one dwelling unit/20 acres) under the Proposed Project. The low density rural residential land use designation, together with project review and mitigation under the existing SEA Ordinance, would serve to minimize impacts to biological resources in the proposed SEAs. Furthermore, the Proposed Project would seek to focus new development capacity within three Economic Opportunity Areas (EOAs) (see Chapter 3 of this DEIR for descriptions of the EOAs), which could serve to reduce development pressure inside SEAs.

Nonetheless, buildout of the Proposed Project will result in impacts to various habitat types, which will result in the loss of special-status species through direct mortality, habitat loss, and edge effects at the urban-wildland interface. As a consequence, buildout of the Proposed Project will have a significant adverse effect on special-status species.

Mitigation measure BIO-1 would ensure that, on a project-specific level, necessary surveys are conducted and a biological resources assessment is prepared to analyze project-specific impacts and propose appropriate mitigation measures to offset those impacts. In addition, any applicable project within an SEA will be subject to the SEA provisions and review by the SEA Technical Advisory Committee (SEATAC).²⁷ SEATAC is an advisory committee to Regional Planning, which consists of experts who specialize in various areas of biology in Los Angeles County. SEATAC advises on the adequacy of analyses provided in biological reports; provides recommendations intended to help the applicant avoid, minimize, or mitigate biological impacts; and advises on a project's compatibility with the SEA. Additionally, for federal- and state-listed species, consultation with regulatory agencies for compliance with state and federal Endangered Species Acts and species-specific permits and mitigation may be required with the intent that the information provided for the SEA Ordinance can also be used for other regulatory agency review. Furthermore, for waters, wetlands, and riparian habitat under the jurisdiction of the USACE, CDFW, and/or RWQCB, permits and mitigation may be required, subject to the approval of the regulatory agencies.

²⁷ The SEA Ordinance, Section 22.52.2940 requires all Type B SEA CUP applications to be subject to review by SEATAC. The SEA CUP Type shall be determined by the Director of Planning using the criteria listed in SEA Ordinance Section 22.52.2935.D. In all cases, the County Staff Biologist will conduct a site review to assess the onsite biological resources.

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Table 5.4-5 Land Use Designations Within Proposed SEAs in Project Area

Land Use	Acres
Commercial (CR)	485
Residential 2 (H2)	69
Residential 5 (H5)	3,577
Residential 9 (H9)	30
Rural Land 1 (RL1)	1,123
Rural Land 2 (RL2)	747
Rural Land 5 (RL5)	4,079
Rural Land 10 (RL10)	816
Rural Land 20 (RL20)	189,305
Heavy Industrial (IH)	600
Light Industrial (IL)	909
Public and Semi-Public (P)	5,244
Subtotal	206,984
Military Land (M)	41,948
Open Space BLM (OS-BLM)	3,426
Open Space Conservation (OS-C)	17,388
Open Space National Forest (OS-NF)	57,661
Open Space Parks and recreation (OS-PR)	5,815
Water (W)	6,636
Subtotal	132,874
TOTAL	339,857

Mitigation measure BIO–2 would minimize direct mortality to special-status species within SEAs from implementation of construction activities by requiring pre-construction surveys (and construction monitoring where warranted) for special-status species as necessary.

Although some direct impacts to special-status species would be mitigated, it does not offset the loss and degradation of sensitive and common habitats inside and outside SEAs that would result from implementation of the Proposed Project. Special-status species are dependent on a variety of habitat types (both common and sensitive), and the conversion of both habitat types with the buildout of the Proposed Project would result in the overall reduction of habitat and resources to support special-status species. Thus, due to the loss and degradation of these habitats, impacts to special-status species remain significant at the Proposed Area Plan level.

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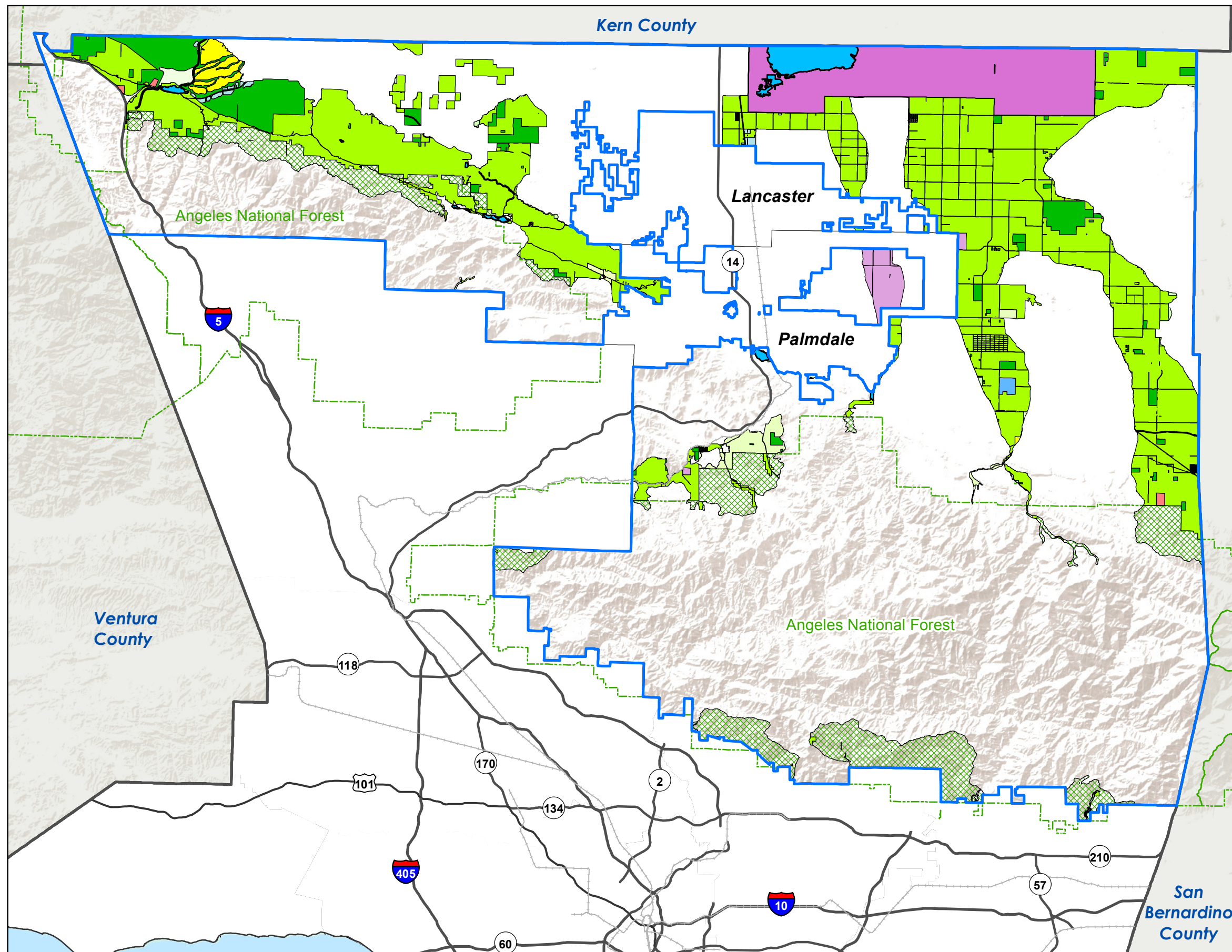
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Impact 5.4-2: Development of the Proposed Project would result in the loss of riparian habitat or sensitive natural communities identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. [Threshold B-2]

Impact Analysis: The Project Area contains 16 sensitive natural plant communities identified in the CNDDDB, including canyon live oak ravine forest, Mojave riparian forest, Riversidean alluvial fan sage scrub, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern mixed riparian forest, southern riparian forest, southern riparian scrub, southern sycamore alder riparian woodland, southern willow scrub, valley needlegrass grassland, valley oak woodland, wildflower field, vernal pool, Southern California arroyo chub/Santa Ana sucker stream, and Southern California threespine stickleback stream. Several of the sensitive woodland plant communities occur primarily in the mountainous parts of the Project Area, which are under the jurisdiction of the Angeles and Los Padres national forests. Development (residential, commercial, industrial, and public/institutional) that would occur under the Proposed Project would occur primarily in the Antelope Valley, and to a much smaller extent in the San Gabriel Mountains part of the Project Area. The Proposed Project would allow low density residential development on private in-holdings within the national forests (typically one dwelling unit per 10 acres) and limited commercial/recreational development. The Proposed Area Plan would not affect land use within Edwards Air Force Base.

The Proposed Project would incorporate the proposed SEAs, which were designed to identify and protect the most sensitive biological resources in the Project Area, including sensitive plant communities. The Proposed Project would increase the land area under SEAs in the Project Area from the current 134,745 acres to 356,773 acres and would have a positive impact on sensitive plant communities in the Project Area. Under the existing SEA Ordinance, proposed development is reviewed and recommendations are provided to help the applicant avoid, minimize, or mitigate biological impacts. However, the SEAs do not guarantee preservation, nor do they protect all sensitive plant communities. Rather, they are a planning tool to provide a higher level of scrutiny for those areas and resources of greatest biological concern within the County.

As noted in the analysis of impacts to sensitive species, the SEA areas under the Proposed Project consist of designated open space (31 percent) and privately owned lands with land use designations other than open space (61 percent). Of the non-open space lands within SEAs, 91 percent have a land use designation of low density rural residential (one dwelling unit/20 acres) under the Proposed Project. The low density rural residential land use designation, project review and mitigation under the existing SEA Ordinance, and the Proposed Project's conservation goals and policies (described above in Section 5.4.3, *Relevant Area Plan Goals and Policies*) would together serve to minimize impacts to sensitive plant communities inside and outside the proposed SEAs. Mitigation measure BIO-1 would ensure that, on a project-specific level, necessary surveys are conducted and a biological resources assessment is prepared to analyze project-specific impacts and propose appropriate mitigation measures to offset those impacts. Additionally, for riparian habitat under the jurisdiction of the USACE, CDFW, and/or RWQCB, permits and mitigation may be required, subject to the approval of the regulatory agencies. Furthermore, project sites containing plant communities considered sensitive by the CDFW must be analyzed under CEQA and evaluated for impacts to such sensitive resources.



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FIGURE 5.4-6

PROPOSED LAND USE DESIGNATIONS WITHIN SEAS

- Antelope Valley Project Area
- RL1 - Rural Land 1 (1 du / 1 gross ac)
- RL2 - Rural Land 2 (1 du / 2 gross ac)
- RL5 - Rural Land 5 (1 du / 5 gross ac)
- RL10 - Rural Land 10 (1 du / 10 gross ac)
- RL20 - Rural Land 20 (1 du / 20 gross ac)
- H2 - Residential 2 (0-2 du / net ac)
- H5 - Residential 5 (0-5 du / net ac)
- H9 - Residential 9 (0-9 du / net ac)
- CR - Rural Commercial
- IL - Light Industrial
- IH - Heavy Industrial
- P - Public and Semi-Public
- ML - Military Land
- OS-NF - Open Space National Forest
- OS-C - Open Space Conservation
- OS-PR - Open Space Parks and Recreation
- OS-BLM - Bureau of Land Management
- W - Water

ANTELOPE VALLEY
AREA PLAN UPDATE
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 PLACEWORKS

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Nonetheless, buildout of the Proposed Project would result in impacts to plant communities, including those recognized by the County and wildlife agencies as sensitive. As a consequence, buildout of the Proposed Project would have a significant adverse effect on sensitive communities.

Impact 5.4-3: The Proposed Project would impact federally protected wetlands as defined by Section 404 of the Clean Water Act (marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. [Threshold B-3]

Impact Analysis: Los Angeles County supports a number of water bodies (e.g., Lake Hughes, Elizabeth Lake, Quail Lake, Palmdale Lake), several major dry lakes (Rosamond Dry Lake, Rogers Dry Lake, and Buckhorn Dry Lake), large intermittent streams (Big Rock Wash and Little Rock Wash), and numerous smaller streams and tributaries that support riverine and riparian habitat, including wetlands. The U.S. Fish and Wildlife Service wetlands mapper (<http://www.fws.gov/wetlands/NWI/index.html>) identifies a number of riverine wetlands (e.g., within the Big Rock and Little Rock alluvial drainages), freshwater emergent wetlands, and freshwater forested/shrub wetlands distributed broadly along the northern base of the San Gabriel Mountains within the Project Area. However, a large proportion of jurisdictional streams and wetlands in the County have not been mapped and would need to be identified and delineated during individual project-level reviews. Individual projects considered for approval under the Proposed Project would impact these habitats.

Three key agencies regulate activities within inland streams, wetlands, and riparian areas in California: the USACE, CDFW, and RWQCB. Any project that involves permanently or temporarily impacting jurisdictional waters and/or wetlands through filling, stockpiling, construction access, conversion to a storm drain, channelization, bank stabilization, road or utility line crossings, geotechnical investigations, or any other modifications that involve the discharge of fill and/or alteration of a jurisdictional resource, will likely require permits from the USACE, CDFW, and/or RWQCB before any land disturbance can commence. Both permanent and temporary impacts are regulated by the resource agencies.

The Project area contains 16 Significant Ecological Areas (SEAs), many of which contain riparian habitats and wetlands that receive some protection under the existing SEA Ordinance. The Proposed Project includes substantial enlargement of the SEAs in the Project Area, from 134,745 acres to 356,773 acres, which will expand the land area of wetlands under protection. However, the SEAs do not guarantee preservation, nor do they protect all wetland habitats that occur in the Project Area.

Development of properties adjacent to riparian communities or other wetland habitats should be designed to protect water quality and the riverine biological ecological functions. Wetlands and Waters of the U.S. that are under state and federal jurisdiction occur in the Project Area, however, the potential impacts to these by individual development projects will be analyzed on a project by project basis. Protection of wetland habitats where they occur throughout the Project Area will assist in the preservation of these resources within the Project Area. Best management practices during construction to minimize erosion and sedimentation will contribute to the protection of water quality. The Conservation and Open Space Element of the Proposed Area Plan outlines policies for the protection of wetlands and biological resources (see Section 5.4-3, 5.4.3, *Relevant Area Plan Goals and Policies*, above).

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Implementation of these policies will have both direct and indirect beneficial effects for wetlands by avoiding the most biologically sensitive areas, concentrating development in previously disturbed areas, and emphasizing avoidance, minimization, and mitigation of impacts to wetland areas. However, the buildout of the Proposed Project may impact wetland areas, and these impacts may have a significant adverse effect on wetlands through hydromodification, filling, diversion, or change in water quality.

Mitigation measure BIO-1 would ensure that, on a project-specific level, necessary surveys are conducted and a biological resources assessment is prepared to analyze project-specific impacts and propose appropriate mitigation measures to offset those impacts. These surveys will allow the County to monitor and inventory wetlands within the Project Area. Any projects within an SEA will be subject to the existing SEA provisions and reviewed by SEATAC. In addition, for wetlands under the jurisdiction of the USACE, CDFW, and/or RWQCB, as well as waters and riparian habitat under their respective jurisdictions, permits and mitigation may be required, subject to the approval of the regulatory agencies. Furthermore, project locations with plant communities considered sensitive by the CDFW must be analyzed under CEQA. Thus, with implementation of these mitigation measures in combination with the requirements for regulatory permitting (e.g., Section 404 permitting and any associated mitigation requirements), impacts to wetlands would be considered less than significant.

Impact 5.4-4: The Proposed Project would affect wildlife movement of 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. [Threshold B-4]

Impact Analysis:

The Project Area supports four recognized regional wildlife linkages²⁸: the Tehachapi, San Gabriel-Castaic, Sierra Madre-Castaic, and the San Gabriel-San Bernardino. The Tehachapi linkage is largely outside the Project Area. The part within Project Area is a small lowland area in the northwestern corner that is within the current Tehachapi SEA. The Sierra Madre-Castaic Connection is also located partially within the Tehachapi SEA. The San Gabriel-Castaic linkage includes Soledad Canyon, which is within the existing Santa Clara River SEA and which would be expanded under the Proposed Project. The San Gabriel-San Bernardino Connection provides connectivity between the Angeles and San Bernardino National Forests. Several small areas within the larger wildlife linkage areas fall within the southeastern corner of the Project Area and are in the Angeles National Forest.

All of these regional wildlife linkages are at least partially within one or more SEA. The Proposed Project includes substantial enlargement of the SEAs in the Project Area, from 134,745 acres to 356,773 acres, which will expand the land area within identified wildlife corridors under protection. However, the SEAs do not guarantee preservation, nor do they protect all wildlife corridors that occur in the Project Area.

Implementation of the conservation policies of the Proposed Project will have direct and indirect beneficial effects for protecting regional wildlife linkages and facilitating wildlife movement by minimizing impacts to the most biologically sensitive areas.

²⁸ *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*, South Coast Wildlands, 2008

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However, the buildout of the Proposed Project will impact regional wildlife linkages and may impact nursery sites. Thus, buildout of the Proposed Project will have a significant adverse effect on wildlife movement and nursery sites.

Mitigation measure BIO-1 would ensure that, on a project-specific level, a biological resources assessment is prepared to analyze project-specific impacts, including impacts to wildlife movement and nursery sites, and propose appropriate mitigation measures to offset those impacts. Such a survey will give the County the ability to monitor potential reductions in connectivity between core habitats. Any projects within an SEA will be subject to the existing SEA ordinance and review by SEATAC.

Mitigation measure BIO-1 may provide some protection measures to avoid or minimize impacts to wildlife corridors and nursery sites; however, for those projects where avoidance or minimization of impacts is infeasible, the policies proposed in the Proposed Project do not provide for mitigation for loss of wildlife movement opportunities or nursery sites. If development impacts regional wildlife linkages and impedes wildlife movement, connectivity will be lost on a regional scale in these vital landscape corridors and linkages. Thus, impacts to wildlife movement remain significant at the Proposed Area Plan level.

Impact 5.4-5: The Proposed Project would require compliance with adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state policies or ordinances protecting biological resources. [Thresholds B-5]

Impact Analysis:

Significant Ecological Areas (SEAs). The County's SEA Program seeks to preserve the genetic and physical ecological diversity of Los Angeles County by designing biological resource areas capable of sustaining themselves into the future. The SEA designation is given to land that contains irreplaceable biological resources and includes undisturbed or lightly disturbed habitats that support valuable and threatened species and linkages and corridors to promote species movement. The Proposed Project includes expansion of the number of SEAs in the Project Area, and the land area under SEAs from the current 134,745 acres to 356,773 acres. The expansion of the SEAs under the Proposed Project is based on the best available science and adheres to the overarching objectives of the SEA Program, in particular protecting the most sensitive biological resources in the Project Area, promoting the long-term sustainability of the SEAs, and ensuring landscape-level connectivity that promotes sustainability and wildlife movement. The Proposed Project is consistent with the SEA Program and Ordinance.

County Oak Tree Ordinance. The Oak Tree Ordinance regulates impacts to oak trees of 8 inches in diameter. The County adopted the OWCMP in 2012, which develops a consistent policy for the management of oak woodlands. The OWCMP extends CEQA consideration of impacts to oak woodlands comprised of oaks 5 inches or larger in diameter at 4.5 feet above the ground surface. The County Oak Tree Ordinance and OWCMP are applied on a project-specific level, and consistency with these plans will be determined on a project-by-project basis. The Proposed Project does not alter or contradict the Oak Tree Ordinance, and the Proposed Project includes expansion of oak woodlands protected under SEAs. The Proposed Project does not impact the County Oak Tree Ordinance.

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County Oak Woodlands Conservation Management Plan. In 2012, the County adopted the OWCMP to encourage the preservation of oak woodlands throughout Los Angeles County. The County recently prepared the Oak Woodlands Conservation Management Plan Guide, which details the process by which the County will determine the extent of oak woodland habitat, the requirement for the preparation of an oak woodland report, an analysis of impacts to the extant oak woodland, and the need for mitigation for impacts to the oak woodland habitat. The County requires development projects to avoid impacts to oak woodlands and requires appropriate compensatory mitigation where development disturbs or removes such habitat. The policies of the Proposed Project do not conflict with the County Oak Tree Ordinance or OWCMP.

West Mojave Plan. The WEMO is an HCP that encompasses most of California's western Mojave Desert and was adopted by the BLM in 2006. Portions of Los Angeles County are located within the WEMO. However, the plan applies only to BLM public lands, as other agencies did not adopt the habitat conservation plan proposed in the West Mojave Plan to cover their jurisdictions. Therefore, the plan provisions have not been adopted by the County. The Proposed Project does not contain development plans within any area proposed for protection under the WEMO and is consistent with goals and policies of the WEMO.

Desert Renewable Energy Conservation Plan. The DRECP is a proposed NCCP, HCP, and Land Use Plan Amendment for the Mojave and Colorado deserts, including portions of Los Angeles County. As a part of California's renewable energy planning efforts, the DRECP is intended to provide effective protection and conservation for desert ecosystems by providing binding, long-term endangered species permit assurances and to facilitate the review and approval of compatible renewable energy projects. The DRECP will include implementation of a scientifically based adaptive management and monitoring program as a part of its overall conservation strategy. However, the DRECP is still in draft form and has not been formally adopted. The Proposed Project does not impact the DRECP.

5.4.5 Cumulative Impacts

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered significant. "Related projects" refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. CEQA deems a cumulative impact analysis to be adequate if a list of "related projects" is included in the EIR or the proposed project is consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(b)(1)(B)]. CEQA also states that no further cumulative impact analysis is necessary for impacts of a proposed project consistent with an adopted general, specific, master, or comparable programmatic plan [Section 15130(d)].

For the purposes of this analysis, the cumulative impacts study area extends beyond the boundaries of the Project Area into the adjacent Tehachapi Mountains and Mojave Desert within Kern County to the north, the Mojave Desert and San Bernardino National Forest within San Bernardino County to the east. It should also be noted that large-scale, regional HCPs, NCCPs, and local plans occur within the cumulative impacts study area, including the West Mojave Plan, the draft DRECP, and Land Management Plans for the Southern California National Forests (i.e., Angeles, Los Padres, and San Bernardino National Forests).

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Although any direct impacts to special-status species would be mitigated to the extent feasible, impacts to special-status species remain significant at the Proposed Area Plan level due to the loss and degradation of habitats required by sensitive species. However, as analyzed at the Proposed Area Plan level (i.e., loss of sensitive and common habitats and diminished resource availability), cumulative impacts to special-status species would be cumulatively significant.

Impacts to sensitive plant communities under the Proposed Project would be mitigated to the extent feasible inside and outside of SEAs but would nonetheless be significant at the project level. At the Proposed Area Plan level, cumulative impacts to sensitive plant communities would be cumulatively significant.

For impacts to federally regulated wetlands, mitigation would ensure that unavoidable impacts to wetlands are mitigated with environmentally superior mitigation; thus, impacts to wetlands would be considered less than significant. Additionally, wetlands under the jurisdiction of the USACE, CDFW, and/or RWQCB are subject to permits and mitigation that may be required by the regulatory agencies. Presuming that impacts to wetlands would be similarly mitigated in other regions of the cumulative impacts study area, cumulative impacts would be less than significant.

For projects where avoidance or minimization of impacts to wildlife movement corridors is infeasible, the policies proposed in the Proposed Project do not provide mitigation for the loss of wildlife movement opportunities or nursery sites. Impacts to wildlife movement would remain significant at the Proposed Area Plan level. Similarly, it is presumed that cumulative impacts to wildlife movement would be cumulatively significant. Although there are studies, such as South Coast Missing Linkages,²⁹ that document important landscape linkages to facilitate wildlife movement throughout Southern California, there are few assurances or mitigation requirements to protect these areas, which may be broad areas that cross the jurisdictions of multiple cities and counties and can be a mosaic of various public and private land ownership.

The policies of the Proposed Project do not conflict with the SEA and other county ordinances, LCPs, HCPs, or NCCPs, nor would it conflict on a cumulative level. Rather, the Proposed Project's policies are compatible with many of the goals and policies of other conservation plans within the cumulative study area.

5.4.6 Existing Regulations and Standard Conditions

Federal

- Federal Endangered Species Act
- Migratory Bird Treaty Act
- Federal Clean Water Act, Section 404
- Federal Clean Water Act, Section 401

²⁹ South Coast Wildlands. 2008. *South Coast Missing Linkages: A Wildland Network for the South Coast Ecoregion*. South Coast Wildlands, Idyllwild, CA. Available online at: www.scwildlands.org. March 2008.

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State

- West Mojave Plan
- Desert Renewable Energy Conservation Plan
- California Endangered Species Act
- State of California Fish and Game Code, Sections 3503/3503.5/3511/3513
- State of California Fish and Game Code, Section 1602
- State of California Porter-Cologne Water Quality Control Act

5.4.7 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.4-3, 5.4-5.

Without mitigation, the following impacts would be **significant**:

- **Impact 5.4-1** Impacts to special-status species remain significant at the Area Plan level due to the loss of common habitats and diminished resource availability.
- **Impact 5.4-2** Impacts to riparian habitat and sensitive plant communities.
- **Impact 5.4-4** Impacts to wildlife movement.

5.4.8 Mitigation Measures

Mitigation measures are recommended for those impacts to sensitive biological resources that are determined to be significant. Mitigation measures for impacts considered to be “significant” were developed in an effort to reduce such impacts to a level of “less than significant,” while at the same time allowing the individual projects an opportunity to realize development goals. As stated in State CEQA Guidelines Section 15370, mitigation includes:

1. Avoiding the impact altogether by not taking a certain action or parts of an action.
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
3. Rectifying the impact by repairing, rehabilitating, or restoring the impacted environment.
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
5. Compensating for the impact by replacing or providing substitute resources or environments.

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The County requires a conditional use permit for proposed projects within SEAs³⁰, in order to ensure that the following measures are incorporated to protect identified biological resources:

- be highly compatible with the biotic resources present, including the setting aside of appropriate and sufficient undisturbed areas;
- maintain water bodies, watercourses, and their tributaries in a natural state;
- leave wildlife movement corridors (migratory paths) in an undisturbed and natural state;
- retain sufficient natural vegetative cover and/or open spaces to buffer critical resource areas;
- incorporate fences or walls as appropriate to buffer important habitat areas from development; and
- locate roads and utilities serving the proposed development are located and designed so as not to conflict with critical resources, habitat areas or migratory paths.

It is not the purpose to preclude development within these areas but to ensure, to the extent possible, that such development maintains and where possible enhances the remaining biotic resources of the significant ecological areas.

The existing SEA Ordinance would minimize impacts to sensitive species, sensitive communities, and wildlife movement corridors, but would not reduce these impacts to a less than significant level.

Impacts 5.4-1 and 5.4-2

BIO-1 Biological resources shall be analyzed on a project-specific level by a qualified biological consultant. A general survey shall be conducted to characterize the project site, and focused surveys should be conducted as necessary to determine the presence/absence of special-status species (e.g., focused sensitive plant or wildlife surveys). For proposed projects within SEAs, biological resources assessment report shall be prepared to characterize the biological resources on-site, analyze project-specific impacts to biological resources, and propose appropriate mitigation measures to offset those impacts. The report shall include site location, literature sources, methodology, timing of surveys, vegetation map, site photographs, and descriptions of biological resources on-site (e.g., observed and detected species as well as an analysis of those species with potential to occur onsite).

BIO-2 If there is potential for direct impacts to special-status species with implementation of construction activities, the project-specific biological assessment (as mentioned in Mitigation Measure BIO-1) shall include mitigation measures requiring pre-construction surveys for special-status species and/or construction monitoring to ensure avoidance, relocation, or safe escape of special-status species from the construction activities, as appropriate. If

³⁰ 22.56.215 Hillside Management and Significant Ecological Areas—Additional Regulations

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special-status species are found to be nesting, brooding, denning, etc., on-site during the pre-construction survey or monitoring, construction activity shall be halted until offspring are weaned, fledged, etc. and are able to escape the site or be safely relocated to appropriate offsite habitat areas. Relocations into areas of appropriate restored habitat would have the best chance of replacing/incrementing populations that are lost due to habitat converted to development. Relocation to restored habitat areas should be the preferred goal of this measure. A qualified biologist shall be on site to conduct surveys, to perform or oversee implementation of protective measures, and to determine when construction activity may resume.

Impact 5.4-4

BIO-3: Currently, development proposed within SEAs requires a conditional use permit, which provides additional protection to wildlife movement corridors and other sensitive biological resources. Proposed projects are requested to be designed so that wildlife movement corridors are left in an undisturbed and natural state. In practice, this protection typically involves adopting appropriate buffers around sensitive resources and setting aside undisturbed areas. However, no feasible mitigation measures are available that would reduce impacts to wildlife movement entirely.

5.4.9 Level of Significance After Mitigation

Impact 5.4-1 and 5.4-2

Development of the Proposed Project would impact, either directly or through habitat modifications, species identified as candidate, sensitive, or special-status in local or regional plans, policies, or regulations or by the CDFW or USFWS.

Although direct impacts to special-status species would be minimized within SEAs, there is no mitigation for the direct and indirect impacts to special-status species through the loss of sensitive and common habitats. Special-status species are dependent on a variety of habitat types (both common and sensitive), and the conversion of common habitat types with the buildout of the Proposed Project would result in the overall reduction of habitat and resources to support special-status species. Thus, due to the loss of common habitats capable of supporting special-status species and diminished resource availability, impacts to special-status species and associated habitat remain significant and unavoidable at the Proposed Area Plan level.

Impact 5.4-4

The Proposed Project would affect wildlife movement of native resident or migratory fish or wildlife species, conflict with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Implementation of the Proposed Project will have both direct and indirect beneficial effects for protecting regional wildlife linkages and facilitating wildlife movement by avoiding the most biologically sensitive areas and concentrating development in previously disturbed areas. However, buildout of the Project will impact

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regional wildlife linkages and may impact nursery sites. Thus, buildout of the Project will have a significant adverse effect on wildlife movement and nursery sites.

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