

4.5 BIOLOGICAL RESOURCES

As part of the Antelope Transmission Project, SCE plans to construct a new 500 kV transmission line between its Antelope Substation located in Lancaster and its Pardee Substation near Saugus, CA. The proposed Antelope-Pardee 500 kV T/L Project is also referred to as Segment 1. This project would facilitate potential new wind energy development. This document is an assessment of Segment 1 only including one proposed and one alternative (Alternative 1) route. The USGS 7.5 minute topographic quads for this Segment are: Newhall, Mint Canyon, Warm Springs Mountain, Green Valley, Sleepy Valley, Lake Hughes, and Del Sur (Figure 3-1).

As part of the project's permitting and environmental assessment process, SCE conducted an evaluation of the likelihood of occurrence by any special-status plant or wildlife species in the project area and in association with any of the proposed project facilities.

The purpose of this assessment is to present the results of field surveys over several years, and literature/database reviews, to document the likelihood of certain special-status plants and wildlife potentially being affected by the proposed project.

The project R-O-W includes the centerline along each proposed and alternative segment route plus a buffer zone (i.e., 0.5 mile on either side of the R-O-W centerline). Within this linear R-O-W, biologists determined the potential or actual occurrence of selected special-status plant and wildlife species, or sensitive habitats. A map atlas (Figure 4.5-1) summarizes many of the findings presented in this report, including dominant vegetation types and California Natural Diversity Data Base (CNDDB) occurrences in the vicinity of Segment 1 components.

4.5.1 Study Approach and Methods

The approach to the project involved completing two phases. In the first phase, background information was gathered and compiled in preparation for going into the field. The description of this phase appears in Section 4.5.1.1, below. Following this pre-field orientation, the second phase involved having qualified field biologists conduct field studies along the entire R-O-W and other project facilities. Section 4.5.1.2, below, describes the methods used for the field survey phase of the project.

4.5.1.1 Pre-field Methods

Biologists contracted by SCE (BioResource Consultants: C. Thelander (Project Manager), D. Taylor, Ph.D., James Castle, Charlene Burge, Christopher Bysshe, and Edward Johnson)

compiled a list of candidate sensitive species (plants and wildlife), and areas of special concern, that are known or expected to occur in the project area. Standard database searches were performed (e.g., California Natural Diversity Data Base [CNDDDB, 2002], various botanical herbaria, etc.). All of the information compiled formed the basis for a project-specific database and resource mapping effort for the project area.

Special-status species are plants and animals that are either listed as endangered or threatened under the federal or state Endangered Species Acts, listed as rare under the California Native Plant Protection Act, or considered to be rare (but not formally listed) by resource agencies, professional organizations (e.g., Audubon Society, California Native Plant Society [CNPS], The Wildlife Society), and the scientific community.

Specific criteria were used to select species for inclusion in the project as a rare, sensitive, or listed species (see Appendix D.1). Collectively these are termed ‘special-status’ species. Based on these criteria, a target list of special-status plants and wildlife with potential to occur in the project area was prepared. Sources of information used included California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Tibor, 2001), Angeles National Forest, Land and Resources Management Plan (USFS, 1987a), the draft West Mojave Plan (BLM, 2003) and the CNDDDB (RareFind3) maintained by the California Department of Fish and Game (CNDDDB, 2002).

To aid the fieldwork and data collection, a map atlas was compiled that depicted the proposed project facilities using USGS 7.5 minute topographic base maps. These maps were numbered sequentially and compiled in a three-ring binder format. A set of maps was provided to each of the field biologists for reference and to assist with data collection and navigation in the field. The maps included the pre-survey (known) locations of any sensitive species or their habitat, areas likely to require specific surveys in the project area, and any access roads.

4.5.1.2 Field Survey Methods

The proposed project has been under consideration for several years. As a result, field surveys have been conducted over this period along portions of the two potential routes. Most of the work was completed during the spring and summer months of 2001, 2002 and 2003.

The first fieldwork along these routes was conducted in April 2001. The most recent surveys were completed in August 2004. Typically, a two-person team of biologists traveled together conducting the field surveys and recording data. Additionally, individual specialists conducted their own focused surveys on an as-needed basis.

The field surveys were scheduled to coincide with the season of year when observations of sensitive plants, or certain wildlife species, were most likely to occur. For plants, several visits to the project area were required to address differing flowering seasons for each sensitive plant species. All vascular plant species observed during surveys of the routes were documented (Appendix D.2). Directed surveys for special status plant species potentially occurring in the project area were based on the CNPS *Botanical Survey Guidelines* (CNPS, 2002).

Surveys were conducted by inspection of these routes, since the specific locations of towers and other project areas where impacts might occur were not identified prior to going into the field. Many unpaved access routes were inspected for special-status plant species and wildlife habitat. The survey area was modified at some locations where steep topography would preclude the ability to use the area for construction activities, such as canyons where the transmission line would span but not impact habitat.

At each survey site, dominant habitat characteristics and factors affecting local habitats, general soil characteristics, slope, aspect, and drainage were recorded onto field maps. Directed surveys were then focused on observed suitable habitats for special-status species potentially occurring in the project area (Tables 4.5-1A and 4.5-1B). Plant surveys were floristic in nature and were conducted during the blooming period for each special status species having potential to occur in the project area.

Data collection was standardized for each site visited to the fullest extent possible. A field form designed specifically for the project was developed to record the results of field surveys. Digital photos were taken periodically for reference purposes. The field biologists were equipped with handheld GPS units. Specific locations of sensitive resources found in the field were digitized for later mapping and reporting purposes. CNDDDB Reporting Forms were submitted for all special-status species.

4.5.2 Environmental Setting

The mountains and foothills of southern California are inhabited by 18 amphibian, 61 reptile, 299 bird, 104 mammal, and about 2,900 vascular plant species (CDFG, 1996). Throughout the proposed project area, habitat is present for many of these species because of the diversity of topography and climate it traverses.

The project area terminates at Pardee Substation in Saugus, CA, where coastal influences merge with an arid inland climate, then extends over the Castaic Ranges and descends into the southern Antelope Valley.

TABLE 4.5-1A
SUMMARY OF SENSITIVE PLANT SPECIES THAT MAY POTENTIALLY OCCUR
IN THE PROJECT REGION ALONG SEGMENT 1¹

Scientific Name	Common Name	CA Status	Federal Status	Segment	CNPS List	CNPS Code	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<i>Berberis nevinii</i>	Nevin's barberry	Endangered	Endangered	1	1B	333								
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa lily	None	None	1	1B	323								
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None	FSS	1	1B	223								
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Candidate	Endangered	1	1B	333								
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	Endangered	Endangered FSS	1	1B	333								
<i>Erodium macrophyllum</i>	Round-leaved filaree	None	None	1	2	231								
<i>Galium grande</i>	San Gabriel bedstraw	None	None FSS		1B	313								
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	None	None	1	1A	Extinct?								
<i>Navarretia fossalis</i>	Spreading navarretia	None	None	1	1B	333								
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	None	FSS	1	1B	323								

¹ Shading denotes months in which flowering occurs and/or when species is most likely to be observed.

Note: The column 'Segment' refers to R-O-W segments where CNDDDB Occurrence Records appear for the species (1 = Antelope – Pardee).

FSS = Forest Service Sensitive species

**TABLE 4.5-1B
OTHER RARE PLANTS GENERALLY NOT MANDATED FOR CEQA MITIGATION REVIEW
THAT MAY OCCUR IN THE PROJECT REGION ALONG SEGMENT 1¹**

Scientific Name	Common Name	CA Status	Federal Status	CNPS List	CNPS Code	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<i>Calystegia peirsonii</i>	Pierson's morning-glory	None	None	4	123								
<i>Canbya candida</i>	White pygmy poppy	None	None	4	123								
<i>Chamaesyce vallis-mortae</i>	Death Valley spurge	None	None	4	123								
<i>Chorizanthe spinosa</i>	Mojave spineflower	None	None	4	122								
<i>Goodmania luteola</i>	Golden goodmania	None	None	4	111								
<i>Juncus cooperi</i>	Cooper's rush	None	None	4	221								
<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	Sagebrush loeflingia	None	None	2									
<i>Mucronea californica</i>	California spineflower	None	None	4	122								
<i>Muilla coronata</i>	Crowned muilla	None	None	4	113								
<i>Phacelia mohavensis</i>	Mojave phacelia	None	None	4	122								
<i>Sclerocactus polyancistrus</i>	Mojave fish-hook	None	None	4	113								
<i>Syntrichopappus lemmonii</i>	Lemmon's sunflower	None	None	4	221								
<i>Viola aurea</i>	Golden violet	None	None	2	221								

¹ Shading denotes months in which flowering occurs and/or when species is most likely to be observed.

Several dominant vegetation types typify the environmental setting for the overall project area. These include ruderal/disturbed area undergoing development as residential or commercial facilities, several chaparral community types (predominately chamise), valley-foothill riparian and woodland, montane upland hardwoods, lower montane conifer/hardwood, pinyon/juniper woodland, interior/desert scrub, grasslands/wildflower fields, and several types of agriculture uses including cattle grazing and dry or irrigated farming. Biologists recorded the distribution of these dominant vegetation types along these routes based on field surveys and interpretations from aerial photographs taken in 2000.

With the exception of USFS lands, the habitat quality of native vegetation communities in the project area has been degraded because of various human activities and land conversions. Large areas of ruderal vegetation occur that are dominated by weedy species that often establish themselves either because of previous agricultural activities, grazing, or because of weed abatement plowing. These can eventually produce fields of non-native grasslands or star-thistle (*Centaurea melitensis*). Ruderal/degraded scrub and ruderal chaparral mosaic often results from agricultural/weed abatement activities or frequent fires that encourage the spread of non-native grasses. Non-native grasses are more easily involved in fires than some other vegetation types. As a result, native shrub communities often gradually disappear. This process has been underway over much of the project area.

At various locations in the project region there are remnants of sensitive or declining habitat types. Many of these locations are recorded in the CNDDDB RareFind3 system. They can include: California Walnut Woodland, Mainland Cherry Forest, Riversidian, Alluvial Fan Sage Scrub, Southern Coast Live Oak Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Valley Oak Woodland.

4.5.2.1 Antelope – Pardee: Segment 1

Segment 1 is located in northern Los Angeles County. It originates at SCE's Antelope Substation near Avenue J and 100th Street West in Lancaster, CA and it terminates at SCE's Pardee Substation located near Saugus, CA and north of the Santa Clara River. It crosses the Castaic Ranges, which are considered part of the Transverse Ranges. The area consists of rugged topography that is relatively low in elevation, rarely climbing over 5,000 feet.

The area surrounding the Antelope Substation is predominately disturbed annual grasslands dominated by non-native grasses, mustard (*Hirschfeldia incana*), star thistle (*Centaurea* spp.), and Russian thistle (*Salsola* spp.). Heading west out of the Antelope Substation, the proposed alternative T/L routes split at mile 1.2 into the proposed route and the alternative route (Alternative 1).

The proposed route enters a series of low foothills at mile 2.8. After crossing the Leona Valley, the route enters Angeles National Forest at mile 5.7. Alternative 1 enters the Angeles National Forest at mile 6.8. The area is predominately mixed chaparral dominated by chamise and scrub oaks. Other components include black sage, California sagebrush, yucca, California buckwheat, California broom, and introduced annual grasses.

The proposed route traverses the western edge of Bouquet Reservoir between mile 8.5 and mile 9.8. Coast live oak mixes here with cottonwoods and other riparian species along the lakeshore. Many areas along or near the routes burned in 2002 so a mosaic of burned and unburned areas remain throughout the region. The higher elevations and ridgelines are predominately lower montane conifer/hardwood surrounded by chamise chaparral. Suitable habitat is present for Nevin's barberry in the region, but not along the specific routes. California condors may be present in portions of this segment as they move from one area to another; no suitable nesting habitat is present here, however.

Near Dry Canyon Reservoir at approximately mile 20.5, the proposed and alternate routes converge and exit Angeles National Forest. For the remaining 5 miles to Pardee Substation the proposed and alternative R-O-Ws traverse a common route through an area undergoing extensive and rapid urbanization. The predominately coastal scrub/chamise chaparral communities that once existed throughout the region are rapidly being converted to human use. Much of area's ability to support native plants and wildlife is greatly diminished, but small pockets of suitable habitat persist.

4.5.3 Special-status Species Occurrence

4.5.3.1 Sensitive Plants

Tables 4.5-1A and 4.5-1B summarize the 23 special-status plant species that may occur in or near the proposed project facilities and, therefore, possibly be affected by the project. Based on field surveys during 2001-2003, an assessment of probable occurrence in the project area was formulated, and is presented in Table 4.5-2. For each plant, the probability of occurrence was derived from field experience at reference populations or from literature as compared to the habitat conditions encountered along the alignment.

For plants judged as having low potential, no further assessment is provided, because potential impacts to such plants are considered unlikely and hence not significant. For plants judged as having moderate to high potential for occurrence along the routes, more specific discussions are provided below.

**TABLE 4.5-2
SUMMARY PROJECT ASSESSMENT FOR RARE, THREATENED OR ENDANGERED
PLANTS WITH SUITABLE HABITAT IN THE PROJECT REGION¹**

Scientific Name	Common Name	Habitat Requirements, Suitable Habitat Along Alignment, Observations	Probability of Occurrence	Preconstruction Survey Recommended
<i>Astragalus preussii</i> var. <i>laxiflorus</i>	Lancaster milk-vetch	Suitable subalkaline meadow habitat absent from the alignment; meadows near Tehachapi judged non-habitat	Low	No
<i>Berberis nevini</i>	Nevin's barberry	Moist canyon bottoms; known from San Francisquito Canyon near RD1 MP18; not located in field surveys, distinctive and therefore surveys effective. No suitable habitat along R-O-W.	Moderate	Yes
<i>Calochortus clavatus</i> var. <i>gracilis</i>	Slender mariposa	Heavy soils in shrublands (chaparral or coastal sage scrub); not located in field surveys	Low	No
<i>Calochortus plummerae</i>	Plummer's mariposa	Rocky or stony shrublands (chaparral or coastal sage scrub); not located in field surveys	High	Yes
<i>Cryptantha clokeyi</i>	Clokey's cryptantha	Sandy desert scrub; known only from near Barstow; not located in desert scrub segments in Antelope Valley	Low	No
<i>Cymopterus deserticola</i>	Desert cymopterus	Sandy substrata in desert scrub or Joshua tree woodland; known well east of alignment; not located in field surveys	Low	No
<i>Chorizanthe parryi</i> var. <i>fernandina</i>	San Fernando Valley spineflower	Sandy washes, sandy openings in chaparral or coastal scrub, often after fires; not located in field surveys; known site ca. 1 mile W of Pardee Substation;	Moderate	Yes
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	Sandy to gravelly desert scrub or alluvial fan scrub; not located in field surveys. Low probability of occurring.	Low	No
<i>Dodecahema leptoceras</i>	Slender-horned spineflower	Sandy washes, sandy openings in chaparral or coastal scrub, often after fires; not located in field surveys	Moderate	Yes
<i>Eriogonum kennedyi</i> var. <i>pinicola</i>	Kern buckwheat	Windswept ridges with low sagebrush vegetation in the Tehachapi Mountains; not located during field surveys	Low	No
<i>Eschscholzia minutiflora</i> <i>twisselmannii</i>	Red Rock poppy	Sandy to gravelly desert scrub or alluvial fan scrub; not located in field surveys	Low	No

TABLE 4.5-2 (CONTINUED)
SUMMARY PROJECT ASSESSMENT FOR RARE, THREATENED OR ENDANGERED PLANTS WITH SUITABLE HABITAT IN THE PROJECT REGION

Scientific Name	Common Name	Habitat Requirements, Suitable Habitat Along Alignment, Observations	Probability of Occurrence	Preconstruction Survey Recommended
<i>Erodium macrophyllum</i>	Round-leaved filaree	Clay or adobe soils in grasslands; not located in field surveys	Moderate	Yes
<i>Galium grande</i>	San Gabriel bedstraw	Rocky, northerly facing ridges in chaparral, Big Cone fir or pine forests; not located in field surveys	High	Yes
<i>Helianthus nuttallii</i> ssp. <i>parishii</i>	Los Angeles sunflower	Riparian, limited to marshy or wet sites in stream drainages or seeps; not located in field surveys	Low	No
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	Vernal pools, or vernal wet grasslands with barren clay or subalkaline clay soils; not located in field surveys	Low	No
<i>Layia heterotricha</i>	Pale-yellow layia	Wildflower fields, sandy openings of scrub or chaparral after fires; not located in field surveys	Low	No
<i>Navarretia fossalis</i>	Spreading navarretia	Vernal pools, or vernal wet grasslands with barren clay or subalkaline clay soils; not located in field surveys	Low	No
<i>Opuntia basilaris</i> var. <i>brachyclada</i>	Short-joint beavertail	Chaparral or coastal scrub. Verified occurrence along RP alignment near MP 40-43	Observed	Yes
<i>Plagiobothrys parishii</i>	Parish's popcorn	Vernal pools, or vernal wet grasslands with barren clay or subalkaline clay soils; not located in field surveys	Low	No

¹ Note: Plants with moderate or high probability of project occurrence are discussed in text.

4.5.3.1.1 Nevin’s Barberry (*Berberis nevinii*). *Berberis nevinii* is a perennial shrub that currently occurs from the foothills of the San Gabriel Mountains to the foothills of the Santa Ana Mountains. It is listed as a state and federal endangered species.

Plants are distributed in discrete and localized areas, usually in one of two types of habitats. They may occur in sandy and gravelly sites along the margins of dry washes, or on coarse soils associated with chaparral (USFWS, 1995).

B. nevinii was not identified in the project area during field surveys; however, occurrences are recorded nearby in San Francisquito and Lopez canyons on the Angeles National Forest. CNDDDB Occurrence Record No. 12 (Newhall Quad) is a pre-1970 occurrence near the confluence of San Francisquito Canyon and the Santa Clara River. Occurrence Record No. 11 (Warm Springs Mountain Quad) is a 1986-77 record in San Francisquito Canyon for a population that may have been planted there in ca. 1929. It is located alongside the existing public roadway. Occurrence Record No. 19 (Warm Springs Mountain Quad) is a 1985 record of a single plant in the same general area and near the public road.

The species is threatened by development projects on private lands, especially where there are losses of alluvial scrub habitats. Fire suppression and brush clearing activities may further reduce the abundance of this species where populations remain. A natural fire regime appears necessary for the long-term survival of the species.

B. nevinii is unlikely to occur in areas potentially impacted by ground-disturbing activity related to the project because there are no known occurrence records there and habitat conditions are less than optimal. Pre-construction clearance surveys are recommended where suitable habitat is affected on Segment 1. This is mainly where the routes parallel San Francisquito Canyon in the Angeles National Forest.

4.5.3.1.2 Plummer’s Mariposa Lily (*Calochortus plummerae*). *Calochortus plummerae* is an uncommon bulb-forming herb limited to the Transverse Range Mountains of southern California. *Calochortus plummerae* is on the CNPS List 1B, a Forest Service sensitive species, and is considered by CNPS as endangered throughout its range. It is not formally listed by either the state or federal governments.

CNPS (2001) considers *Calochortus plummerae* to be “Significantly reduced by development, and continues to decline”. The habitat selected by *Calochortus plummerae* is described generally as rocky shallow soils, often on decomposed granitic deposits, within chaparral, woodland or open forest communities. *Calochortus plummerae* was not documented in the Project area during field surveys conducted in 2001-2003, perhaps owing to extreme drought. Because mariposa lilies populations can go without flowering in years

with unfavorable climate and growing conditions, *Calochortus plummerae* is judged to have moderate potential for occurrence along the project alignments even though it was not documented during field surveys. This species has a high probability of occurrence in the general vicinity of Segment 1. Pre-construction clearance surveys are recommended.

4.5.3.1.3 San Fernando Valley Spineflower (*Chorizanthe parryi* var. *fernandina*).

Chorizanthe parryi var. *fernandina* is a small annual herb restricted to southern California. It is state listed as endangered, and is a candidate for federal listing. *Chorizanthe parryi* var. *fernandina* is on the CNPS List 1B and is considered by CNPS as endangered throughout its range.

Thought extinct prior to being rediscovered in 1999, it is now known from only three occurrences. Most of the historical habitat is now heavily urbanized. CNPS (2001) considers it seriously threatened by development and non-native plants. *Chorizanthe parryi* var. *fernandina* occurs in sandy washes and other sandy soil sites: it is presently documented from Ventura and Los Angeles counties, and is considered extirpated from Orange County.

Suitable habitat occurs for *Chorizanthe parryi* var. *fernandina* along Project alignments in the general region for several miles northwest of Pardee Substation, particularly the lower reaches of San Francisquito Canyon and tributary washes. *Chorizanthe parryi* var. *fernandina* is judged to have moderate potential for occurrence along the Project alignments even though it was not documented during field surveys: most of the suitable habitat for this species is in sites under existing transmission line spans but not adjacent to existing towers or access roads.

One recorded occurrence is known approximately two miles west of Pardee Substation. It is known to support thousands of plants in wet years but only a few dozen plants in dry years, which is an indication that *Chorizanthe parryi* var. *fernandina* may not have been present in suitable habitat during 2001-2003 field surveys. For this reason, *Chorizanthe parryi* var. *fernandina* is judged to have moderate potential for occurrence along the project alignments even though it was not documented during field surveys. This species has a high probability of occurrence in the area of Segment 1. Pre-construction clearance surveys are recommended.

4.5.3.1.4 Slender-horned Spineflower (*Dodecahema leptoceras*). *Dodecahema leptoceras* is a small annual herb restricted to southern California. It is state listed as endangered, and has a federal listing as endangered. *Dodecahema leptoceras* is on the CNPS List 1B, is a Forest Service Sensitive species, and is considered by CNPS as endangered throughout its range. It is found only in Los Angeles, Riverside and San Bernardino counties.

Like *Chorizanthe parryi* var. *fernandina*, *Dodecahema leptoceras* occurs in sandy washes and other sandy soil sites. CNPS (2001) states that many historical occurrences lost to urbanization and stream channelization, and that *Dodecahema leptoceras* is currently threatened by development, sand and gravel mining, flood control, proposed reservoir construction, and other elements of urbanized development.

Suitable habitat occurs for *Chorizanthe parryi* var. *fernandina* along Project alignments in the general region for several miles northwest of Pardee Substation, particularly the lower reaches of San Francisquito Canyon and tributary washes. *Dodecahema leptoceras* is judged to have moderate potential for occurrence along the Project alignments even though it was not documented during field surveys: most of the suitable habitat for this species is in sites under existing transmission line spans but not adjacent to existing towers or access roads. This species has a high probability of occurrence near Segment 1. Pre-construction clearance surveys are recommended.

4.5.3.1.5 Round-leaved Filaree (*Erodium macrophyllum*). *Erodium macrophyllum* is a annual perennial herb restricted to the lowland, interior grasslands of California. It once ranged from near Redding in the Sacramento Valley, south throughout the Central Valley and Coast Range, into the lowland coastal areas of southern California in the vicinity of the San Fernando Valley and Los Angeles, and south thence to near San Diego, including adjacent Baja California.

Erodium macrophyllum is on the CNPS List 2 and is considered by CNPS as seriously endangered in California. It is not formally listed by either the state or federal governments.

Erodium macrophyllum typically occurs in heavy clay soils which are wet in winter to the degree that non-native grasses are not favored. CNPS (2001) lists the introduction of dozens of species of non-native grasses as responsible for the decline of *Erodium macrophyllum*.

No occurrences of *Erodium macrophyllum* were documented in 2002 or 2003. Field surveys in this region conducted prior to fires of 2002 may have not located all of the occurrences in this vicinity, since plants of *Erodium macrophyllum* might be expected to grow vigorously after fire. Segment 1's Alternative 1 passes through the vicinity of a known historical occurrence in Elizabeth Canyon, a population recorded in the 1880s that may now be extirpated. Due to the potential for the species to occur, pre-construction clearance surveys are recommended.

4.5.3.1.6 San Gabriel Bedstraw (*Galium grande*). *Galium grande* is a tufted perennial herb restricted to the Transverse Ranges of southern California, documented only from Los Angeles County. *Galium grande* is on the CNPS List 1B, is a Forest Service Sensitive

species, and is considered by CNPS as endangered throughout its range. It is not formally listed by either the state or federal governments.

Galium grande typically occurs in open chaparral, oak woodland, or similar woodland communities including stands of Big Cone Fir (*Pseudotsuga macrocarpa*) and generally at high elevations (ca. 3,000 to 6,000 feet).

CNPS (2001) lists urbanization and associated impacts as primary threats, but also invokes mining, horticultural collecting, grazing, and off-road vehicles as secondary concerns. A sizable proportion of the ca. 30 known occurrences are on Angeles National Forest lands, where Species Management Guidelines (Soza et al., 2002) are being applied.

No occurrences of *Galium grande* were documented during field surveys. Field surveys in this region conducted prior to fires of 2002 may have not located all of the occurrences in this vicinity, since plants of *Galium grande* in dense chaparral would be more difficult to spot, and would be expected to grow vigorously after fire. This species has a high probability of occurrence in the vicinity of Segment 1 and pre-construction clearance surveys are recommended.

4.5.3.1.7 Short-joint Beavertail (*Opuntia basilaris* var. *brachyclada*). *Opuntia basilaris* var. *brachyclada* is a cactus restricted to the Transverse Ranges of southern California, documented only from Los Angeles and San Bernardino Counties. *Opuntia basilaris* var. *brachyclada* is on the CNPS List 1B, is a Forest Service Sensitive species, and is considered by CNPS as endangered throughout its range. It is not formally listed by either the state or federal governments.

Opuntia basilaris var. *brachyclada* typically occurs in open chaparral, juniper woodland, or similar woodland communities, but not at high elevations. CNPS (2001) lists urbanization and associated impacts as primary threats, but also invokes mining, horticultural collecting, grazing, and off-road vehicles as secondary concerns. A sizable proportion of the ca. 60 known occurrences are on Angeles National Forest lands, where Species Management Guidelines are being applied (Mistretta and Parra-Szilj, 1991).

Occurrences of *Opuntia basilaris* var. *brachyclada* were documented (in 2002 and 2003) along the project alignments near Del Sur Ridge. Field surveys in this region conducted prior to fires of 2002 may have not located all of the occurrences in this vicinity, since plants of *Opuntia basilaris* var. *brachyclada* in dense chaparral would be more difficult to spot.

At one location, plants were located only where a previous fire (circa 2000) made them both more visible but also resulted in their abundant regrowth, making them more easily detected.

For this reason, *Opuntia basilaris* var. *brachyclada* may occur along other project alignments in the region. This species was observed in the project routes, therefore pre-construction clearance surveys are recommended.

4.5.3.2 Sensitive Wildlife

Table 4.5-3 summarizes the 31 special-status wildlife species that occur regionally and that may be affected by the project. Specific information is provided below for selected sensitive wildlife species whose known distributions, and habitat conditions observed in the project area, indicate that they may occur there, or potentially be impacted in some way by the project.

4.5.3.2.1 California Red-legged Frog (*Rana aurora draytonii*)

Status, Distribution, and Habitat Requirements

California red-legged frogs are a California species of special concern and a threatened species under federal law. They are mainly associated with suitable habitat in coastal counties of southern California; however, there are records for many other regions of the state. They generally require permanent water sources usually greater than three feet deep. They appear to prefer water near thick growths of willows or emergent vegetation, but they have been recorded in ephemeral pools where suitable water conditions are present.

Habitat Assessment and Occurrence in the Project Area

No suitable habitat for California red-legged frogs was found in the project area. Generally, the project area is outside of the known range for the species. The project area is not within any critical habitat areas designated by the USFWS.

Potential Project-Related Impacts

No impacts to this species are expected because of the proposed project. A pre-construction survey to search for potential habitat, such as agricultural ponds, may be warranted if such an area was to be disturbed during construction.

**TABLE 4.5-3
SUMMARY OF SENSITIVE WILDLIFE SPECIES THAT MAY POTENTIALLY OCCUR IN THE PROJECT REGION**

Common Name	Scientific Name	Status	Probability of Project Occurrence ¹	Preconstruction Survey Recommended
Amphibians				
California Red-legged Frog	<i>Rana aurora draytonii</i>	CSC, FT	Low/None	Yes
Arroyo Toad	<i>Bufo californicus</i>	FE, CSC	Low	Yes
Western Spadefoot	<i>Spea hammondi</i>	CSC	Low	Yes
Reptiles				
Silvery Legless Lizard	<i>Anniella pulchra pulchra</i>	CSC, FSS	Low	No
Coastal Rosy Boa	<i>Lichanura trivargata roseofusca</i>	FSS, ST	Low	No
San Bernardino Ringneck Snake	<i>Diadophis punctatus modestus</i>	FSS	Low	No
San Bernardino Mountain Kingsnake	<i>Lampropeltis zonata parvirubra</i>	FSS, CSC	Low	No
Two-striped Garter Snake	<i>Thamnophis hammondi</i>	CSC, FSS	Low	Yes
Coast Horned Lizard	<i>Phrynosoma coronatum blainvillii</i> <i>Phrynosoma coronatum frontale</i>	CSC, FSS	High High	Yes
Southwestern Pond Turtle	<i>Emys (=Clemmys) marmorata pallida</i>	CSC, FSS	Low	No
Birds				
California Condor	<i>Gymnogyps californianus</i>	FE, CE, FP	Low	No
Bald Eagle	<i>Haliaeetus leucocephalus</i>	CE, FT, FP	Moderate	No
White-tailed Kite	<i>Elanus leucurus</i>	FP	Moderate	Yes (Nesting)
Sharp-shinned Hawk	<i>Accipiter striatus</i>	CSC	Moderate	No
Cooper's Hawk	<i>Accipiter cooperi</i>	CSC	Moderate	Yes (Nesting)
Golden Eagle	<i>Aquila chrysaetos</i>	CSC, BLM, FP	High	Yes (Nesting)
Swainson's Hawk	<i>Buteo swainsoni</i>	CT, FSS	Low	Yes (Nesting)
Northern Harrier	<i>Circus cyaneus</i>	CSC	Moderate	Yes (Nesting)
Merlin	<i>Falco columbarius</i>	CSC	Moderate (wintering)	No
Peregrine Falcon	<i>Falco peregrinus anatum</i>	CE, FP, FSS	Moderate (wintering)	No

TABLE 4-5.3 (CONTINUED)
SUMMARY OF SENSITIVE WILDLIFE SPECIES THAT MAY POTENTIALLY OCCUR IN THE PROJECT REGION

Common Name	Scientific Name	Status	Probability of Project Occurrence ¹	Preconstruction Survey Recommended
Prairie Falcon	<i>Falco mexicanus</i>	CSC	High	No
Burrowing Owl	<i>Athene cunicularia</i>	CSC, BLM	High	Yes
Loggerhead Shrike	<i>Lanius ludovicianus</i>	CSC	High	Yes
Least Bell's Vireo	<i>Vireo bellii pusillus</i>	FE, CE	Moderate/High	No
Mammals				
Pallid Bat	<i>Antrozous pallidus</i>	FSS	Moderate	No
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	FSS	Moderate	No
Western Red Bat	<i>Lasiurus blossevillii</i>	FSS	Moderate	No
Tehachapi Pocket Mouse	<i>Perognathus alticola inexpectatus</i>	CSC, FSS	High	No
Fish				
Santa Ana Sucker	<i>Catostomus santaanae</i>	CSC, FT, FSS	Low	No
Unarmored Threespine Stickleback	<i>Gasterosteus aculeatus williamsoni</i>	CE, FE	Low	No
Arroyo Chub	<i>Gila orcutti</i>	CSC, FSS	Low	No

Status Codes:

FE – Federally Endangered

FT – Federally Threatened

FC – Federal Candidate

FPE – Federally Proposed for Listing as Endangered

FPT – Federally Proposed for Listing as Threatened

FSS – Forest Service Sensitive

CE – California Endangered

CT – California Threatened

CR – California Rare

CC – California Candidate for Listing

CSC – California Species of Concern

BLM – BLM-Sensitive

FP – Fully Protected

Probability of Presence:

High – Project includes suitable habitat with confirmed presence of species.

Moderate – Project includes suitable habitat, but no confirmed presence, or outside known distribution.

Low – Project includes marginal habitat, little potential presence of species, or outside known distribution.

None – No suitable or potential habitat, or far from known distribution.

4.5.3.2.2 Arroyo Toad (*Bufo californicus*).*Status, Distribution, and Habitat Requirements*

Arroyo toads are a federal endangered species. There are isolated, known populations and areas of suitable habitat remaining in southern California. It is known to occur in the southern-most portions of the project area. The species is restricted to streams and rivers that have shallow, gravelly pools adjacent to sandy terraces. Suitable habitat situations are usually associated with valley-foothill or desert riparian areas with willows, cottonwoods, and sycamores present.

Habitat Assessment and Occurrence in the Project Area

CNDDDB Occurrence No. 20 is a 1994 record for an individual collected on the Santa Clara River east of Interstate 5 in Los Angeles County. While this is not an area directly associated with the project, similar and suitable habitat appears to be present in Bouquet Canyon, San Francisquito Canyon, or other tributaries in the project area.

Potential Project-Related Impacts

There is potential for the project to impact suitable habitat for this species, especially where construction is near certain streambeds in the extreme southern portions of the project area in Segment 1. Pre-construction clearance surveys are recommended in areas where suitable habitat may occur.

4.5.3.2.3 Western Spadefoot (*Spea hammondi*).*Status, Distribution, and Habitat Requirements*

The western spadefoot is a state species of special concern. It occurs from San Luis Obispo County southward into Baja. They occur in coastal valley habitats, valley-foothill grasslands, coastal scrub, and chaparral communities up to about 3,000 feet in elevation. They are generally confined to flat terrain with shallow ephemeral pool habitats.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat for western spadefoots occurs in the project area. There are five CNDDDB occurrence records for the southern portion of the project area (CNDDDB Nos. 50, 178, 201, 206, and 207). Each of these is in the area of Santa Clarita and Highway 14. No. 206 is a

relatively recent record (2001) for the western edge of San Francisquito Creek adjacent to the proposed alternative in Segment 1.

Potential Project-Related Impacts

The proposed project has the potential to affect the species, either directly or through habitat loss. Pre-construction surveys for sensitive wildlife that may be impacted during construction should address potential impacts to this species and its habitat.

4.5.3.2.4 Silvery Legless Lizard (*Anniella pulchra pulchra*).

Status, Distribution, and Habitat Requirements

Silvery legless lizards are a state species of special concern and a Forest Service Sensitive species. Though found primarily at low elevations, they can range up to 5,700 feet in the Sierra Nevada foothills. Legless lizards are usually associated with coastal dune settings. The species burrows into sandy or loose loamy soils in areas that are sparsely vegetated. It occurs sporadically in desert scrub areas in the Mojave Desert.

Habitat Assessment and Occurrence in the Project Area

Little is known about the specific habitat requirements of this species. Suitable habitat likely occurs in the project area in the southern Antelope Valley. Two CNDDDB occurrence records (Nos. 8 and 9) represent the first records for the desert floor of the Antelope Valley. These were recorded in 1988 approximately 6-7 km west of Lancaster at two separate localities. The observer noted that high moisture content of the soil was essential for this species.

Potential Project-Related Impacts

It is difficult to assess whether the project would impact such a secretive, and little-known species. Systematic pre-construction clearance surveys are not feasible because so little is known about specific habitat requirements; however, where suitable habitat conditions may be disturbed by construction, biological monitors and workers would be trained to identify this species. If any individuals are observed during construction they would be retrieved from harm's way and relocated to a safe site nearby. Species-specific pre-construction clearance surveys are not warranted.

4.5.3.2.5 Two-striped Garter Snake (*Thamnophis hammondi*).*Status, Distribution, and Habitat Requirements*

The two-striped garter snake is a state species of special concern and a Forest Service Sensitive species. They inhabit streams from the coast to about 7,000 feet in elevation throughout much of central and southern California, mainly from near Salinas to Baja California. Stock pond and artificial water sources are also used.

Habitat Assessment and Occurrence in the Project Area

Few aquatic habitats, if any, would be impacted by the proposed project. There are two CNDDDB Occurrence Records (Nos. 43 and 54) in the project area. No. 43 is at 1,700 feet in Oak Spring Canyon near Santa Clarita in 1995. This was a site consisting of an artificial retention pond. No. 54 is a 1997 sighting along Amargosa Creek near Elizabeth Lake, approximately 7 miles west of Palmdale. In general, suitable habitat for the species may be encountered during the project in Segment 1.

Potential Project-Related Impacts

It is unlikely that this species would be impacted by the proposed project since aquatic habitats would be avoided, however: pre-construction surveys for sensitive wildlife that may be impacted during construction should address potential impacts to this species or its habitat.

4.5.3.2.6 Coast Horned Lizards (*Phrynosoma coronatum blainvillii* and *P. c. frontale*).*Status, Distribution, and Habitat Requirements*

There are two forms of coast horned lizards that occur in the project area. They are the coast (San Diego) horned lizard (*P.c. blainvillii*) and the coast (California) horned lizard (*P.c. frontale*). *P.c. blainvillii* is a Forest Service Sensitive species and a state species of special concern. *P.c. frontale* is a state species of special concern. The ranges of these two subspecies overlap in the project region. They are widely distributed throughout the project area, and throughout southern California.

This ground-dwelling reptile has a distinctive flattened body that can reach up to four inches in length. Pointed scales line each side of their body, across their backs and along the backside of their head where two larger rigid pointed scales stick out as well. Their cryptic coloration pattern begins with two dark patches behind their head, followed by three dark

bands down their back with numerous patches along the tail. Their overall color consists of various shades of brown with light-brown accents.

Both subspecies are typically found in areas of open vegetation such as coastal sage scrub, chaparral, and grassland habitats and typically associated with sandy substrates and nearby native anthills. They are insectivorous. The majority of their diet consists of native ants but they consume other invertebrates such as beetles, grasshoppers, and caterpillars. Breeding season occurs from spring to early summer.

Habitat Assessment and Occurrence in the Project Area

Coast horned lizard habitat is expected to occur along much of Segment 1 and its alternative. It is likely that they would be encountered during construction.

Potential Project-Related Impacts

Construction may result in impacts to coast horned lizards. Construction vehicles may crush individuals, or their local food resources. Pre-construction clearance surveys are recommended.

4.5.3.2.7 Southwestern Pond Turtle (*Emys marmorata pallida*).

Status, Distribution, and Habitat Requirements

Southwestern pond turtles are a state species of special concern and a Forest Service Sensitive species. This species ranges from San Luis Obispo County southward into San Diego County. South of the Santa Clara River pond turtle populations have declined significantly. They inhabit a wide range of low-elevation aquatic habitats. They rarely occur above 4,000 feet in elevation. They are found in aquatic habitats such as rivers and streams that have persistent, deep pools. They are active year-round in most areas.

Habitat Assessment and Occurrence in the Project Area

In Segment 1, there are two CNDDDB Occurrence Records for the species in the project area (Nos. 149 and 150). Both are located on the outer limits of the project area. The closest was in a series of small lakes that are the eastern marshland of Elizabeth Lake, Los Angeles County.

Potential Project-Related Impacts

Though suitable habitat may occur in the project area, it is unlikely that this species would be affected by construction. Aquatic habitats, especially rivers and streams, are generally spanned by power lines and no impacts to these habitats are anticipated. No pre-construction clearance surveys are warranted.

4.5.3.2.8 California Condor (*Gymnogyps californianus*).*Status, Distribution, and Habitat Requirements*

The California condor is a federal and state listed endangered species, and state fully protected species, that can weigh up to 22 pounds and have a wingspan of nearly eight feet. It ranges over large expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Typically, condors are found in deep canyons containing clefts in rocky walls that provide nesting and roosting sites. Individuals may forage up to a hundred miles from communal roost sites. They feed upon the carcasses of large mammals. The number of California condors was probably never large. However, its populations were further reduced by habitat loss, food shortage, the poisoning of carcasses in predator control, and a naturally low reproductive rate.

Habitat Assessment and Occurrence in the Project Area

In the mid-1980s, an aggressive captive breeding and release program was undertaken. Over 200 condors exist in the wild and in breeding facilities. Releases are underway in California and Arizona. At present, several groups of captively-bred condors have been released into mountainous regions of southern California. While there have been difficulties with some individuals assimilating into a wild environment, pairs are now established and breeding once again in the wild. Angeles and Los Padres National Forests are playing a key role in this release and recovery effort.

The only known nesting site in the region is within Angeles National Forest on the San Fernando quad. Individuals vary greatly in their movements throughout the region. They may be seen periodically, most likely in the Angeles National Forest portions of the project in Segment 1.

Potential Project-Related Impacts

No impacts due to construction are expected to affect California condors. Post-construction impacts that may occur include incidental collisions with transmission lines. The released

condors that reside in the general region may collide with new or existing transmission lines. Prior to construction beginning, information would be sought from the appropriate agencies to identify areas with the highest condor use near transmission lines. This information would be used to formulate strategies to minimize or eliminate any possible impacts with California condors. No pre-construction surveys are warranted.

4.5.3.2.9 Bald Eagle (*Haliaeetus leucocephalus*).

Status, Distribution, and Habitat Requirements

Bald eagles are a federally threatened, state endangered, and state fully protected species. After many years of poor reproduction and loss of habitat, the species is recovering over much of its former range. This is largely attributable to banning the use of DDT/DDE and other organochlorines as agricultural pesticides. Also, the creation of artificial reservoirs throughout the state has provided suitable habitat over much of their range. While on migration, bald eagles can be seen just about anywhere in the state. However, they are generally associated with large water bodies such as lakes and reservoirs, or wildlife refuges where waterfowl congregate. Bald eagles typically eat fish, mammal, carrion, and waterbirds/waterfowl.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat for wintering bald eagles exists along the shores of Bouquet Reservoir on Segment 1's proposed route. No nesting by this species is known for the region. In some wintering areas, bald eagles roost communally, and often in areas up to several miles from a reservoir or primary foraging area.

Potential Project-Related Impacts

It is likely that bald eagles wintering at Bouquet Reservoir would encounter the proposed transmission lines. There have been records of bald eagles striking transmission lines, especially when visibility is low. Conversely, transmission towers provide safe and suitable perching sites from which to hunt or loaf. No pre-construction surveys are recommended.

4.5.3.2.10 White-tailed Kite (*Elanus leucurus*).

Status, Distribution, and Habitat Requirements

White-tailed kites, a state fully protected species, typically are found in association with low rolling foothills or valley margins with scattered trees and river bottom areas, or marshes

adjacent to deciduous woodlands. They hunt usually over open grasslands, meadows, or marshes. Dense tree stands are often preferred for nesting sites. Loss of habitat is the primary threat to the species.

Habitat Assessment and Occurrence in the Project Area

It is likely that white-tailed kites occur in isolated areas where suitable habitat exists. No nesting sites are known along the routes, but wintering and foraging habitat is present in small, isolated areas. The species migrates throughout California between late fall and spring, so they may be seen in a variety of settings outside of the nesting season.

Potential Project-Related Impacts

No impacts to nesting habitat are expected to occur because of the proposed project. While some habitat suitable for foraging by the species may be temporarily disturbed, these impacts would be temporary and insignificant. Pre-construction surveys for nesting sites are recommended.

4.5.3.2.11 Northern Harrier (*Circus cyaneus*).

Status, Distribution, and Habitat Requirements

Northern harriers are a state species of special concern. They occur throughout the state and elsewhere wherever suitable habitat exists. They are mostly associated with meadows, marshes, and wetland areas where they nest and forage for small mammals and birds. They also inhabit grassland and agricultural areas where small mammals may be abundant.

Habitat Assessment and Occurrence in the Project Area

Little suitable habitat for northern harriers exists along the routes in Segment 1.

Potential Project-Related Impacts

Harriers typically fly at heights too low to encounter transmission lines, which greatly reduces the likelihood of line strikes occurring. No direct impacts to this species are expected because of the proposed project. In a regional context, a minimal amount of foraging habitat may be temporarily disturbed or modified. Specific habitat for nesting is not expected to be impacted by the project; however, pre-construction surveys are recommended as part of any general raptor nesting surveys.

4.5.3.2.12 Sharp-shinned Hawk (*Accipiter striatus*)*Status, Distribution, and Habitat Requirements*

Sharp-shinned hawks are a state species of special concern. No nesting sites are known (or expected) for the project area. Numerous migrants can, however, be seen throughout southern California during the non-breeding season.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat is present throughout the project area for migrating sharp-shinned hawks. There are no CNDDDB occurrence records for this species nesting in the project region. It is likely that sharp-shinned hawks would be seen during construction in woodland areas. Typically these would be brief encounters with migrants.

Potential Project-Related Impacts

No impacts are expected to occur to the species because of the project. Since this species is not known to nest in this portion of California, no pre-construction surveys are warranted.

4.5.3.2.13 Cooper's Hawk (*Accipiter cooperi*)*Status, Distribution, and Habitat Requirements*

Cooper's hawks are a state species of special concern. They breed throughout much of the mountainous area in the project area and are typically associated with riparian communities, though not exclusively. In addition to the breeding population, each winter large numbers of Cooper's hawks migrate through California.

Habitat Assessment and Occurrence in the Project Area

Breeding habitat in the project area occurs where riparian woodland habitat occurs, though some nesting may occur in more arid conditions. There are no CNDDDB occurrence records for the species nesting in the project area, though it is likely that they nest in the region.

Potential Project-Related Impacts

Cooper's hawks are unlikely to be impacted by the proposed project. The greatest concern would be for the loss of nesting habitat. The species is relatively susceptible to disturbance and human activity near their nests. They would abandon nesting territories early in the

breeding cycle under some circumstances. Pre-construction surveys would in suitable nesting habitat would locate any active nesting territories and impacts can be avoided by seasonal work restrictions in certain areas.

4.5.3.2.14 Swainson’s Hawk (*Buteo swainsoni*)*Status, Distribution, and Habitat Requirements*

Swainson’s hawks are a state threatened species. They have no federal listing designation, but are considered a Forest Service Sensitive species. They nest mainly in northern and central California, but they are seen occasionally in southern California, including in the project area, during migration. Their selection of nesting sites varies greatly, but often nests are placed in trees that are situated in grasslands and agricultural areas, or in Great Basin sage and pinyon-juniper habitats.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat is present throughout Segment 1 near Antelope Substation and where agricultural areas occur in southern Antelope Valley.

Potential Project-Related Impacts

No impacts to Swainson’s hawks or their habitat are expected because of the proposed project. Preconstruction surveys should be conducted to identify whether any active nesting territories are present that may be disturbed due to construction activities. Seasonal work restrictions would be applied to avoid impacting any nests found near the routes or other project facilities.

4.5.3.2.15 Ferruginous Hawk (*Buteo regalis*)*Status, Distribution, and Habitat Requirements*

Ferruginous hawks are a state species of special concern. They breed north and east of California, but numerous individuals winter throughout the arid and agricultural areas of the state. They eat small rodents and are most commonly associated with flat, open terrain including agricultural areas such as alfalfa fields, fallow fields, and pastures.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat for wintering ferruginous hawks is prevalent throughout in the lowland areas of Segment 1, mainly in the Antelope Valley region. There are no CNDDDB Occurrence Records for this species in the region, but they are observed frequently by birdwatchers.

Potential Project-Related Impacts

No impacts are expected to occur to this species because of the proposed project. Since this species does not breed in the region, no pre-construction surveys are warranted.

4.5.3.2.16 Golden Eagle (*Aquila chrysaetos*).*Status, Distribution, and Habitat Requirements*

Golden eagles are a state species of special concern, state fully protected species, and they receive federal protection under the Bald and Golden Eagle Protection Act. Golden eagles hunt for rabbits and other small mammals in open habitats such as grasslands, oak savannahs, and scrub communities. They nest throughout California, but less so in southern California where habitat loss and urbanization has greatly reduced the amount of suitable nesting and foraging habitat. The species requires relatively large home ranges.

Nesting territories probably overlap with the project area, but there are no known nesting sites within it. Nesting habitat includes cliffs, and various tree species that provide suitable height and security. Non-breeding individuals may be seen foraging or loafing in the project area at any time of the year. They often use high perches such as transmission towers for foraging.

Habitat Assessment and Occurrence in the Project Area

Nesting sites are present in the project area, but not all are active every year. Much of the project area provides suitable foraging habitat for golden eagles, especially those areas where agriculture, grassland and scrub habitats dominate the landscape. It is likely that individuals from nesting territories, and winter migrants, frequently forage along the entire length of the routes.

Potential Project-Related Impacts

No impacts to golden eagles are expected because of the project. Transmission towers provide excellent perch sites from which eagles often forage. In some instances, towers are

used for nesting sites, although no nests were observed in transmission towers during surveys. All transmission and subtransmission lines would be built per Avian Power Line Interaction Committee guidelines to be raptor-safe. Since no significant amount of habitat loss is expected, use by golden eagles and other large raptors in the area should remain largely the same as it was prior to the project.

Suitable nesting habitat for golden eagles occurs mainly outside of Segment 1, although individuals may be seen anywhere in the project area. Pre-construction clearance surveys are recommended for nesting sites on existing towers and in areas of suitable habitat within one mile of construction.

4.5.3.2.17 Merlin (*Falco columbarius*).

Status, Distribution, and Habitat Requirements

Merlins are a state species of special concern. They are only known to occur in California as migrants, though there are persistent rumors in the bird-watching and falconry community of historical nesting sites near the Oregon border. It is common to see merlins nearly anywhere in the project area during the non-breeding months. Relatively large numbers of merlins pass through the region during migration each year. They are aerial predators, rarely landing on the ground and rarely dependent upon specific habitat conditions. They are attracted to areas, natural or artificial, that attract flocks of small birds. They are seen foraging on flocks of meadowlarks in grasslands, on European starlings around feedlots, and in urban settings hunting sparrows and other passerines.

Habitat Assessment and Occurrence in the Project Area

The project area provides suitable habitat for merlins during their migration through California from northern latitudes to Central and South America. No specific habitat features predict their occurrence, other than the likely presence of small birds.

Potential Project-Related Impacts

No direct impacts to merlins are expected because of this project because they are wide-ranging aerial predators whose occurrence is rarely associated with any particular habitat conditions or vegetation type. Since this species does not nest in the region, no pre-construction surveys are warranted.

4.5.3.2.18 Peregrine Falcon (*Falco peregrinus*).*Status, Distribution, and Habitat Requirements*

Peregrine falcons are state listed as a threatened species and are state fully protected. They were delisted in 1999 from federal endangered status following a nationwide population recovery. They are a Forest Service Sensitive species.

Peregrines nest throughout mountainous and coastal California, and in urban areas. They use coastline and interior cliffs and artificial structures such as bridges and buildings. No known nesting sites occur in the project area, or within 10 lateral miles at any point along the R-O-W.

Habitat Assessment and Occurrence in the Project Area

No suitable nesting habitat for peregrines occurs along or near the R-O-W. It is likely that peregrines may occasionally use these routes as foraging habitat. No peregrines were observed during field surveys along the R-O-W.

Potential Project-Related Impacts

No nesting habitat or critical foraging habitat would be disturbed or removed because of the project. There are no wetland habitats, or other habitat features present along the R-O-W that might concentrate peregrine prey species, and thus attract peregrines.

Transmission towers often provide perching sites for loafing and foraging. Some peregrines are killed occasionally by striking transmission lines (Walton, 2003). As aerial predators, they can hit line spans while flying or pursuing their favorite prey, small to mid-sized birds. These impacts are unavoidable and incidental. The R-O-W already supports transmission lines and there have been no reported instances of peregrines striking transmission lines in this area. No suitable nesting habitat for peregrines would be impacted; therefore, no pre-construction surveys are warranted.

4.5.3.2.19 Prairie Falcon (*Falco mexicanus*).*Status, Distribution, and Habitat Requirements*

Prairie falcons are a state species of concern. They occur throughout California, but rarely in close association with human activity or urbanization. They nest on cliffs in foothill and mountainous regions. Desert scrub, arid open areas, and grasslands are their preferred habitat

(Garrett and Dunn, 1981). They are especially adaptable and have been recorded nesting in the Sierra Nevada from above 10,000 ft. elevation to desert canyons near Death Valley.

Habitat Assessment and Occurrence in the Project Area

Because prairie falcons nest exclusively on cliffs, no nesting sites are known or expected to occur along these routes although individuals may be seen foraging throughout the length of the routes. They often perch on transmission towers.

Potential Project-Related Impacts

No impacts to prairie falcons or their habitat are expected because of the proposed project. Pre-construction clearance surveys are not warranted, because no suitable nesting cliffs occur within one mile of the proposed project area.

4.5.3.2.20 Burrowing Owl (*Athene cunicularia*)

Status, Distribution, and Habitat Requirements

Burrowing owls are a state species of special concern. Once a widespread species throughout California, their distribution is now fragmented and much reduced. Loss of habitat is considered the major cause of their decline. Burrowing owls typically frequent low foothill valleys including the Antelope Valley and the western Mojave Desert. They seem to prefer dry sparse grasslands, desert scrub, and agricultural areas. Burrows initiated by California ground squirrels are often used for nesting and roosting.

Habitat Assessment and Occurrence in the Project Area

Suitable habitat for burrowing owls is present in the northern section of the project area. No burrowing owls were observed during surveys of the area. These surveys included the appropriate nesting season for the species in the region.

There is a CNDDDB occurrence record for the species in the project area. No. 586 is a nesting site reported in 2003 near 120th Street West and Avenue I, about 4 miles northeast of Elizabeth Lake. This relatively recent occurrence indicates that a remnant population of burrowing owls persists in the Antelope Valley. Pre-construction surveys should be conducted in suitable habitat to locate active nesting sites. If any are located within the area potentially affected by the project, then seasonal work restrictions would be applied so that the work is done in the non-breeding season (July – February). If construction cannot be

delayed, SCE would arrange for any young owls present at any particular burrow to be relocated locally by a qualified raptor specialist possessing the appropriate permits.

Potential Project-Related Impacts

No impacts to burrowing owls are expected to occur because of the proposed project. Burrowing owls are relatively conspicuous. Pre-construction surveys in suitable habitat would detect them. Should a pair become established prior to construction, appropriate measures can be taken to avoid disturbance.

4.5.3.2.21 Loggerhead Shrike (*Lanius ludovicianus*).

Status, Distribution, and Habitat Requirements

The loggerhead shrike is a state species of special concern. It is widely distributed where habitat remains in California. Typically it is associated with low elevations (less than 5,000 feet) in dry, open areas with sparse shrubs or trees. The species has declined in recent decades due largely to loss of habitat and conversion of native vegetation to agriculture. The conditions that predict suitable habitat are quite variable throughout the state making identification of specific, required habitat features difficult to determine.

Habitat Assessment and Occurrence in the Project Area

Habitat for loggerhead shrikes exists mainly in low arid areas of southern Antelope Valley. Pre-construction surveys should be conducted where suitable habitat exists within 1,000 meters of the proposed project.

Potential Project-Related Impacts

Impacts to this species can be avoided by ensuring that no active nesting sites are disturbed. Some temporary habitat loss would be likely as a result of the project.

4.5.3.2.22 Least Bell's Vireo (*Vireo bellii pusillus*).

Status, Distribution, and Habitat Requirements

Least Bell's vireos are a state and a federal endangered species. They breed in select areas in southern California in low riparian vegetation near water or in dry river bottoms, and usually below 2,000 feet elevation.

Habitat Assessment and Occurrence in the Project Area

Very limited amounts of suitable habitat for least Bell's vireos occur in the vicinity of the R-O-W. There are no known nesting sites on the Angeles National Forest at the present time. The nearest reported historical nesting area is near Castaic (Newhall Ranch) (see CNDDDB Occurrence Record No. 149). It is likely the species occurs in the Santa Clara River drainage, also.

If it is determined that construction would affect suitable habitat for the species, then pre-construction surveys would be conducted to identify if seasonal work restrictions are warranted.

Potential Project-Related Impacts

No impacts to least Bell's vireos or their habitat are expected to occur as a result of the proposed project; pre-construction surveys are not warranted.

4.5.3.2.23 Tehachapi Pocket Mouse (*Perognathus alticola inexpectatus*)*Status, Distribution, and Habitat Requirements*

The Tehachapi Pocket Mouse is a state species of special concern and a Forest Service Sensitive species that occurs in the project region. This pocket mouse occurs on the desert side of the Castaic Mountains, a distribution that intersects with the route in Segment 1.

The habitat requirements for pocket mice are not well defined. They can be found in arid grasslands, desert scrub habitats, pinyon/juniper woodlands, and in open desert conditions. Live-trapping specific sites is the only way to suitably determine presence/absence.

Habitat Assessment and Occurrence in the Project Area

Since the habitat requirements for Tehachapi pocket mice is so varied and poorly defined or recognizable, we conclude that it is likely the species would be encountered during the project. This can only be verified by live-trapping efforts at areas where specific impacts are expected in suitable habitat for the species. A pre-construction clearance survey where suitable habitat is present would be conducted by a qualified expert on the species. Recommendations would identify where trapping should be conducted to help identify presence/absence. If trapping or other indications suggest the species' presence, a biological monitor would be present during ground-disturbing activities to minimize potential impacts to this species.

Potential Project-Related Impacts

Some temporary and permanent impacts in the form of habitat loss are likely to occur, because of the proposed project. Permanent impacts may occur where facilities are constructed and where the species' occurrence is documented. A pre-construction clearance survey where suitable habitat is present would be conducted by a qualified expert on the species. Recommendations would identify where trapping should be conducted to help identify presence/absence. If trapping or other indications suggest the species' presence, a biological monitor would be present during ground-disturbing activities to minimize potential impacts to this species.

4.5.3.2.24 Bat Species. Several bat species that are listed by state and federal agencies as rare, threatened, or endangered are known to occur in the region, and probably in the project area. These include: Yuma myotis bat (*Myotis yumanensis*), spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), western red bat (*Lasiurus blossevillii*) and western mastiff bat (*Eumops perotis*). All are wide-ranging, migratory species that may be within the project area at some period in their life cycle.

Pallid bats, Townsend's big-eared bats, and western red bats are Forest Service Sensitive species on the Angeles National Forest.

Some species may use cracks or niches on transmission towers for resting sites. All are aerial predators that fly over many diverse habitats and environmental conditions in search of insect prey.

No impacts to bats are expected because of the proposed project in terms of habitat loss or loss of maternity sites for bats. No trees are expected to be removed because of the proposed project. Therefore, no field surveys specifically intended to locate bats were conducted as part of this effort and no pre-construction surveys are warranted.

4.5.3.2.25 Fish Species. Three special-status fish species may occur in streams in the project area of Segment 1. These are: Santa Ana sucker (*Castostomus santaanae*), unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), and arroyo chub (*Gila orcutti*). The latter two species are Forest Service Sensitive species.

The CNDDDB contains two Occurrence Records for Southern California Threespine Stickleback Stream habitat (Nos. 3 and 4). No. 3 refers to Upper San Francisquito Creek, which is a tributary to Santa Clara River, Los Angeles County. Portions of this creek are

located in the project area. No. 4 refers Santa Clara River about 3 miles east of Piru and upstream from the Interstate 5 Bridge. This area is not in the proposed project area.

It is highly unlikely that any of the three special-status fish species would be impacted by the project since streams and rivers would be spanned by the transmission lines and no construction in streambeds they might inhabit would occur. Appropriate BMPs would be applied where appropriate to ensure that no impacts occur such as sedimentation and erosion that might affect water quality.