# 6. Alternative 2 (SCE's Proposed Project): Impacts and Mitigation Measures

For purposes of this section, many ground-disturbing Project activities are likely to result in permanent impacts to habitats for native plants and wildlife species. Examples of permanent impacts include construction of structures such as new towers or substations, and improvements to existing roads as well as construction of new roads that will be maintained throughout the Project. Other ground disturbance activities restricted solely to the construction phase, such as grading roads and clearing vegetation within staging and pulling areas, are considered temporary provided that native vegetation is not replaced with infrastructure or the area is not maintained free of vegetation, and that restoration is deemed feasible prior to Project implementation. However, it is important to note that impacts to some vegetation communities that are considered in this analysis to be temporary due to the fact that restoration would occur post-construction, would actually take years to recover the functional values they provided prior to disturbance. Examples of these communities include woodlands, communities in xeric environments such as those that occur in the Northern Region, and mature riparian habitats. Some of these communities can take up to 50 to 100 years to fully recover. These habitat types would be mitigated at higher ratios than communities that are expected to recover within the 10-year restoration period.

Impacts are discussed and mitigations prescribed, where appropriate, for each vegetation type taking into consideration its ecological condition, floristic composition, and relative rarity on a local and regional basis. The same vegetation types are also analyzed as habitat capable of supporting special-status wildlife species, and for compliance with local and regional policies.

## 6.1 Direct and Indirect Effects Analysis

### Impacts to Riparian or Natural Communities (Criterion BIO1)

Construction impacts to vegetation communities may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers, construction of helicopter staging areas, and the construction and widening of access and spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support native vegetation is impaired. Construction may also result in the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Desert ecosystems in the Antelope Valley and some plant communities within the San Gabriel Mountains are especially sensitive to ground disturbance and may take decades to recover, if at all.

#### Plant Communities

***Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation.***

Implementation of the proposed Project would require construction to occur within a broad array of habitat types. While SCE intends to avoid special-status plant communities to the maximum extent possible and would

flag these resources for avoidance, construction of the proposed Project would still result in disturbance to a variety of plant communities (see Tables 6-1 and 6-2).

**Table 6-1. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area Excluding NFS Lands***

| Vegetation Communities | Permanent Impacts (acres) | | | Temporary Impacts (acres) | | | | Total Mitigation (acres) |
|---|---|---|---|---|---|---|---|---|
| | Impact | Ratio | Off-site Mitigation | Impact | Ratio | On-site Restoration | Off-site Mitigation | |
| **Woodland Vegetation** | | | | | | | | |
| Bigcone Douglas fir-Canyon Oak Forest | 0 | 2:1 | 0 | 0.08 | 1:1 | 0.08 | 0 | 0.08 |
| California Walnut Woodland | 1.4 | 1.5:1 | 2.10 | 4.57 | 1:1 | 4.57 | 0 | 6.67 |
| Coast Live Oak Woodland | 0.68 | 1.5:1 | 1.02 | 13.27 | 1:1 | 13.27 | 0 | 14.29 |
| Joshua Tree Woodland | 0.76 | 2:1 | 1.52 | 5.81 | 1:1 | 5.81 | 0 | 7.33 |
| Mojavean Pinyon Woodland | 0 | 2:1 | 0 | 0.28 | 1:1 | 0.28 | 0 | 0.28 |
| Non-native Woodland | 4.63 | 1:1 | 4.63 | 6.27 | 1:1 | 6.27 | 0 | 10.90 |
| Subtotal | 7.47 | | 9.27 | 30.28 | | 30.28 | 0 | 39.55 |
| **Shrub-dominated Vegetation** | | | | | | | | |
| Big Sagebrush Scrub | 0.87 | 1:1 | 0.87 | 2.43 | 1:1 | 2.43 | 0 | 3.30 |
| Coastal Sage Scrub | 7.01 | 1.5:1 | 10.52 | 30.85 | 1:1 | 30.85 | 0 | 41.37 |
| Desert Saltbush Scrub | 0 | 1:1 | 0 | 138.1 | 1:1 | 138.1 | 0 | 138.1 |
| Mixed Chaparral | 2.21 | 1:1 | 2.21 | 7.22 | 1:1 | 7.22 | 0 | 9.43 |
| Mojave Creosote Bush Scrub | 2.82 | 1:1 | 2.82 | 140.42 | 1:1 | 140.42 | 0 | 143.24 |
| Mojave Mixed Woody Scrub | 0 | 1:1 | 0 | 8.61 | 1:1 | 8.61 | 0 | 8.61 |
| Mojavean Juniper Woodland and Scrub | 29.33 | 1.5:1 | 44.0 | 82.73 | 1:1 | 82.73 | 0 | 126.73 |
| Mulefat Scrub | 0 | 3:1 | 0 | 0.04 | 1:1 | 0.04 | 0 | 0.04 |
| Rabbitbrush Scrub | 0 | 1:1 | 0 | 15.04 | 1:1 | 15.04 | 0 | 15.04 |
| Riversidean Alluvial Fan Sage Scrub | 0 | 3:1 | 0 | 1.1 | 1:1 | 1.1 | 0 | 1.1 |
| Subtotal | 42.24 | | 60.41 | 426.54 | | 426.54 | 0 | 486.95 |
| **Riparian Vegetation** | | | | | | | | |
| Desert Wash | 0.12 | 3:1 | 0.36 | 5.1 | 1:1 | 5.1 | 0 | 5.46 |
| Ruderal Wetland | 0.38 | 1:1 | 0.38 | 0.96 | 1:1 | 0.96 | 0 | 1.34 |

**Table 6-1. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area Excluding NFS Lands***

| Vegetation Communities | Permanent Impacts (acres) | | | Temporary Impacts (acres) | | | | Total Mitigation (acres) |
|---|---|---|---|---|---|---|---|---|
| | Impact | Ratio | Off-site Mitigation | Impact | Ratio | On-site Restoration | Off-site Mitigation | |
| Exotic-Giant Reed | 0 | 1:1 | 0 | 0.02 | 1:1 | 0.02 | 0 | 0.02 |
| Southern Arroyo Willow Riparian Forest | 0 | 3:1 | 0 | 0.77 | 1:1 | 0.77 | 0 | 0.77 |
| Southern Coast Live Oak Riparian Forest | 0 | 3:1 | 0 | 0.42 | 1:1 | 0.42 | 0 | 0.42 |
| Southern Cottonwood Willow Riparian Forest | 0 | 3:1 | 0 | 0 | 1:1 | 0 | 0 | 0 |
| Southern Sycamore – Alder Riparian Forest | 0.1 | 3:1 | 0.3 | 0.79 | 1:1 | 0.79 | 0 | 1.09 |
| Southern Willow Scrub | 0.85 | 3:1 | 2.55 | 0.73 | 1:1 | 0.73 | 0 | 3.28 |
| Sparsely Vegetated Streambed | 0.3 | 3:1 | 0.9 | 0.02 | 1:1 | 0.02 | 0 | 0.92 |
| Subtotal | 1.75 | | 4.49 | 8.81 | | 8.81 | 0 | 13.30 |
| Herbaceous Vegetation | | | | | | | | |
| Bunchgrass Grassland | 1.32 | 1.5:1 | 1.98 | 0.01 | 1:1 | 0.01 | 0 | 1.99 |
| California Annual Grassland | 19.32 | 1:1 | 19.32 | 97.25 | 1:1 | 97.25 | 0 | 116.57 |
| Deerweed and Chia Herbaceous Field, Recently Burned | 0 | 1:1 | 0 | 0 | 1:1 | 0 | 0 | 0 |
| Desert Bunchgrass Grassland | 0 | 1.5:1 | 0 | 64.69 | 1:1 | 64.69 | 0 | 64.69 |
| Ruderal Grassland | 22.66 | 1:1 | 0 | 37.91 | 1:1 | 0 | 0 | 0 |
| Wildflower Field | 1.84 | 1:1 | 1.84 | 3.46 | 1:1 | 3.46 | 0 | 5.3 |
| Subtotal | 45.14 | | 23.14 | 203.32 | | 165.41 | 0 | 188.55 |
| Anthropogenic Vegetation | | | | | | | | |
| Agriculture | 9.71 | 0:1 | 0 | 163.5 | 0:1 | 0 | 0 | 0 |
| Barren/developed | 84.22 | 1:1 | 0 | 187.44 | 1:1 | 0 | 0 | 0 |
| Subtotal | 93.93 | | 0 | 350.94 | | 0 | 0 | 0 |
| Other** | 49.21 | - | - | 84.86 | - | - | - | - |
| GRAND TOTAL | 239.74 | | 97.31 | 1,104.75 | | 631.04 | 0 | 728.35 |

*Disturbance acreages were developed based on GIS information provided by SCE and the FS. Not all areas of potential disturbance were included in the GIS information. See Chapter 2 for disturbance calculations.

**This category includes disturbance acreages reported in Chapter 2 for which location information, and therefore specific vegetation communities impacted, is unknown at this time.

Vegetation communities listed in **bold** are considered rare and worthy of consideration by the CDFG. (CDFG, 2003a)

**Table 6-2. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area within the Angeles National Forest***

| Vegetation Communities | Permanent Impacts (acres) | | | Temporary Impacts (acres) | | | | Total Mitigation (acres) |
|---|---|---|---|---|---|---|---|---|
| | Impact | Ratio | Off-site Mitigation | Impact | Ratio | On-site Restoration | Off-site Mitigation | |
| **Woodland Vegetation** | | | | | | | | |
| Bigcone Douglas fir-Canyon Oak Forest | 1.48 | 5:1 | 7.4 | 4.11 | 2:1 | 8.22 | 0 | 15.62 |
| Canyon Oak Forest | 3.57 | 5:1 | 17.85 | 4.73 | 1:1 | 4.73 | 0 | 22.58 |
| Coast Live Oak Woodland | 0 | 5:1 | 0 | 0.29 | 1:1 | 0.29 | 0 | 0.29 |
| Coulter Pine Forest | 0.27 | 3:1 | 0.81 | 1.20 | 1:1 | 1.20 | 0 | 2.01 |
| Mojavean Pinyon Woodland | 0.46 | 5:1 | 2.30 | 0.67 | 2:1 | 1.34 | 0 | 3.64 |
| Nonnative Woodland | 0 | 1:1 | 0 | 10.46 | 1:1 | 10.46 | 0 | 10.46 |
| Yellow Pine Forest (Plantation) | 0 | 3:1 | 0 | 0 | 1:1 | 0 | 0 | 0 |
| Subtotal | 5.78 | | 28.36 | 21.46 | | 26.24 | 0 | 54.60 |
| **Shrub-dominated Vegetation** | | | | | | | | |
| Big Sagebrush Scrub | 0 | 3:1 | 0 | 0 | 1:1 | 0 | 0 | 0 |
| Chamise Chaparral | 3.16 | 3:1 | 9.48 | 10.85 | 1:1 | 10.85 | 0 | 20.33 |
| Coastal Sage Scrub | 0.02 | 5:1 | 0.10 | 0 | 2:1 | 0 | 0 | 0.10 |
| Interior Live Oak Scrub | 1.22 | 5:1 | 6.10 | 1.27 | 1:1 | 1.27 | 0 | 7.37 |
| Mixed Chaparral | 16.79 | 3:1 | 50.37 | 58.44 | 1:1 | 58.44 | 0 | 108.81 |
| Mojavean Juniper Woodland and Scrub | 0.20 | 5:1 | 1.00 | 0.50 | 2:1 | 1.00 | 0 | 2.00 |
| Mojavean Pinyon and Juniper Woodland, Recently Burned | 0.82 | 5:1 | 4.10 | 3.50 | 2:1 | 7.00 | 0 | 11.10 |
| Restoration – California Buckwheat | 0 | 1:1 | 0 | 7.46 | 1:1 | 7.46 | 0 | 7.46 |
| Scrub Oak Chaparral | 1.09 | 5:1 | 5.45 | 3.10 | 1:1 | 3.1 | 0 | 8.55 |
| Subtotal | 23.30 | | 76.60 | 85.12 | | 89.12 | 0 | 165.72 |
| **Riparian Vegetation** | | | | | | | | |
| California Bay Woodland | 0.09 | 5:1 | 0.45 | 0 | 1:1 | 0 | 0 | 0.45 |
| Desert Wash | 0 | 5:1 | 0 | 0 | 2:1 | 0 | 0 | 0 |
| Southern Arroyo Willow Riparian Forest | 0 | 5:1 | 0 | 0 | 2:1 | 0 | 0 | 0 |
| Southern Coast Live Oak Riparian Forest | 0.02 | 5:1 | 0.10 | 0 | 2:1 | 0 | 0 | 0.10 |

**Table 6-2. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area within the Angeles National Forest***

| Vegetation Communities | Permanent Impacts (acres) | | | Temporary Impacts (acres) | | | | Total Mitigation (acres) |
|---|---|---|---|---|---|---|---|---|
| | Impact | Ratio | Off-site Mitigation | Impact | Ratio | On-site Restoration | Off-site Mitigation | |
| Southern Cottonwood-Willow Riparian Woodland | 0.06 | 5:1 | 0.30 | 0 | 2:1 | 0 | 0 | 0.30 |
| Southern Sycamore – Alder Riparian Forest | 0.06 | 5:1 | 0.30 | 0.30 | 2:1 | 0.60 | 0 | 0.90 |
| Southern Willow Scrub | 0.06 | 5:1 | 0.30 | 0 | 2:1 | 0 | 0 | 0.30 |
| Sparsely Vegetated Streambed | 0 | 5:1 | 0 | 0.02 | 2:1 | 0.04 | 0 | 0.04 |
| Subtotal | 0.29 | | 1.45 | 0.32 | | 0.64 | 0 | 2.09 |
| Herbaceous Vegetation | | | | | | | | |
| California Annual Grassland | 0.07 | 3:1 | 0.21 | 6.30 | 1:1 | 6.30 | 0 | 6.51 |
| Deerweed and Chia Herbaceous Field, Recently Burned | 1.38 | 3:1 | 4.14 | 10.35 | 2:1 | 20.70 | 0 | 24.84 |
| Subtotal | 1.45 | | 4.35 | 16.65 | | 27.00 | 0 | 31.35 |
| Anthropogenic Vegetation | | | | | | | | |
| Barren/Developed | 79.04 | 1:1 | 79.04 | 9.79 | 1:1 | 9.79 | 0 | 88.83 |
| Ruderal Grassland | 0 | 1:1 | 0 | 0 | 1:1 | 0 | 0 | 0 |
| Subtotal | 79.04 | | 79.04 | 9.79 | | 9.79 | 0 | 88.83 |
| Other** | 0 | - | - | 24.96 | - | - | - | - |
| GRAND TOTAL | 109.86 | | 189.80 | 158.30 | | 152.79 | 0 | 342.59 |

*Disturbance acreages were developed based on GIS information provided by SCE and the FS. Not all areas of potential disturbance were included in the GIS information. See Chapter 2 for disturbance calculations.

**This category includes disturbance acreages reported in Chapter 2 for which location information, and therefore specific vegetation communities impacted, is unknown at this time.

Vegetation communities listed in **bold** are considered rare and worthy of consideration by the CDFG. (CDFG, 2003a)

Project impacts are considered permanent if they involve the conversion of land to a new use, such as with the construction of new roads or the footings of towers. Temporary project impacts are those effects that do not result in a permanent land use conversion. Temporary effects to vegetation communities or other ground disturbance activities restricted solely to the construction phase, such as grading roads and clearing vegetation within staging and pulling areas, are considered temporary provided that native vegetation is not replaced with infrastructure or the area is not maintained free of vegetation, and that restoration is deemed feasible prior to project implementation.

Direct impacts to native vegetation communities would occur as a result of the removal of vegetation during construction activities. These ground-disturbing construction activities would include clearing and grading for tower pad preparation, tower removal sites, pulling and tensioning sites, helicopter staging areas, and construction, grading, and widening of new spur roads and existing access roads. Tables 6-1 and 6-2 present the approximate temporary and permanent impacts to vegetation communities that would occur from implementation of the proposed Project. It is important to note that acreages presented in these tables were

determined using only GIS information provided by SCE and the FS. This information slightly differs from the disturbance acreages presented in Chapter 2 (Description of Alternatives), which were determined using the more detailed land disturbance information provided in SCE's PEA (SCE, 2007) with some modifications based on the GIS data, specifically with respect to tower counts and road information. However, the GIS method was necessary to spatially map impact areas to determine vegetation communities affected by the Project. Some areas of disturbance that were included in the calculations provided in Chapter 2 but were not available as GIS information include turning radii from access to spur roads and guard pole structures. In addition, the locations of many staging areas, pulling and stringing locations, and towers have not been determined yet, especially on non-NFS lands, and are not included in the GIS information. Therefore, the total disturbance acreages to vegetation communities that were determined using GIS are lower than what is reported in Chapter 2 as total land disturbance. The acreages associated with temporary and permanent disturbances for which location information is currently unknown have been quantified in Tables 3.4-17 and 3.4-18 as "Other", meaning that these acreages are associated with the development of the proposed Project, but information regarding the locations, and therefore the specific vegetation communities impacted, is unknown at this time as final engineering has not yet been conducted. In total, the proposed Project would permanently disturb a minimum of approximately 48 acres of vegetation identified as rare and worthy of consideration by the CDFG (253 acres of non-rare vegetation) and would temporarily impact a minimum of approximately 221 acres of rare vegetation (932 acres of non-rare vegetation). Additional acreages of land disturbance would occur, but the vegetation communities impacted are unknown at this time as final engineering has not been conducted. This includes approximately 128 acres of permanent disturbance and 110 acres of temporary disturbance. Appendix G includes detailed vegetation maps of the entire proposed Project and alternatives transmission line routes.

Indirect impacts to native vegetation communities could include alterations in existing topography and hydrology regimes, the accumulation of fugitive dust, disruptions to native seed banks from ground disturbance, and the colonization of non-native, invasive plant species.

Operational impacts would occur during routine inspection and maintenance of the proposed Project facilities or as a result of facilitated public access. These impacts would include trampling or crushing of native vegetation by vehicular or foot traffic, alterations in topography and hydrology, increased erosion and sedimentation, and the introduction of non-native, invasive plants due to increased human presence.

Within the ANF permanent disturbance to vegetation totals approximately 110 acres, and temporary impacts to vegetation total approximately 158 acres. Specific impacts to each major plant community are discussed below.

#### Ruderal Grasslands, California Annual Grasslands, Agricultural Communities, Barren/Developed, and Non-native Woodlands

Construction of the proposed Project would result in the loss of approximately 123 acres of California annual grassland habitat, 61 acres of ruderal grassland habitat, 21 acres of non-native woodland habitat, 173 acres of agricultural land, and 360 acres of barren/developed areas as a result of the Project-related activities (Tables 6-1 and 6-2). On the ANF, project activities would result in the temporary loss of 27 acres and permanent loss of 79 acres to these communities (Table 6-2). As a relative index of availability, within the ANF there are approximately 28,009 acres of annual grassland habitat, 238 acres of non-native woodland habitat, and 241 acres of agricultural land. Within mapped areas of the entire proposed Project there are approximately 2,197 acres of California annual grassland habitat; 740 acres of ruderal grassland habitat; 245 acres of non-native

woodland habitat; 879 acres of agricultural land; and 5,442 acres of barren/developed areas occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their overall availability in the Project area ranges from 7 percent for barren/developed areas to 20 percent for agricultural land. Impacts of this magnitude to ruderal grassland, non-native woodland, agricultural, and barren/developed areas do not typically result in adverse effects to biological resources as they are not rare. These habitats are common within the local and regional landscape, and the relative quality of these habitat types is low due to on-going anthropogenic disturbances, including the introduction of intensive agricultural activities and road construction. Many grasslands in the state and within the proposed Project have been subjected to ground disturbance and are heavily colonized by exotic grasses. Such disturbed grasslands provide only marginal habitat for most native plants. However, other less disturbed grassland areas appearing to be dominated by exotic grasses for most of the year may be dominated by numerous species of native annual wildflowers in the spring (Sawyer and Keeler-Wolf 1995). These "wildflower fields" (Holland 1986), which are abundant within the proposed Project in the Antelope Valley, are often difficult to distinguish from disturbed, low diversity grasslands in surveys conducted outside of the spring blooming period. Both types of annual grassland communities are important foraging areas for raptors and other wildlife. The clearance of these areas would require restoration after construction to ensure that type changes from annual grassland to ruderal or barren habitat does not occur, to ensure storm water runoff does not lead to off-site sediment transport, and to reduce or limit the effects of wildfire on adjacent communities.

As described above with the exception of agricultural or barren/developed land, construction activities that result in disturbance to non-native or annual grasslands could lead to the spread or colonization of exotic weeds and could lead to type changes to more ruderal or disturbed habitats. While SCE proposes to implement APM BIO-2 which indicates that a Revegetation Plan would be prepared for native habitats, the APM does not address impacts to annual grasslands or ruderal habitats and does not provide details as to the contents of the Revegetation Plan.

#### Mojave Creosote Bush Scrub, Mojave Mixed Woody Scrub, Big Sagebrush Scrub, Deerweed and Chia Herbaceous Field (recently burned), Rabbitbrush Scrub, and Desert Saltbush Scrub Habitat

These xeric plant communities occur primarily within the Northern Region of the proposed Project between the proposed wind farm areas and the Vincent Substation. Many of these areas, particularly areas mapped as Mojave creosote bush scrub, are highly degraded by intensive, yearly sheep grazing. Construction of the proposed Project would result in the loss of approximately 143 acres of Mojave creosote bush scrub habitat, 9 acres of Mojave mixed woody scrub habitat, 3 acres of big sagebrush scrub, 12 acres of deerweed and chia herbaceous field (recently burned) habitat, 15 acres of rabbitbrush scrub habitat, and 138 acres of desert saltbush scrub habitat. Approximately 2,793 acres of Mojave creosote bush scrub habitat, 350 acres of Mojave mixed woody scrub habitat, 273 acres of deerweed and chia herbaceous field (recently burned), 408 acres of rabbitbrush scrub habitat, and 292 acres of desert saltbush scrub habitat occur within mapped areas along the proposed Project. This approximate loss of these habitats relative to this index of their availability ranges from 4 percent for rabbitbrush scrub habitat to 47 percent for desert saltbrush scrub. In addition to being abundant within the proposed Project, these habitats are regionally abundant: the West Mojave Plan (WMP), which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project, lists 5,683,646 acres of Mojave creosote scrub habitat; 114,982 acres of big sagebrush scrub habitat; 7,842 acres of rabbitbrush scrub habitat; and 802,701 acres of desert saltbush scrub as occurring within the WMP planning area (BLM 2005). Furthermore, much of these habitats are less likely to be developed as they are under BLM, NPS, FS, or Department of Defense (DOD) ownership. However, 32 percent of the lands

within the WMP planning area are privately owned and one percent is owned by the State of California. A portion of these areas is likely to be developed as ongoing urbanization in the planning area continues. Recently burned areas are in an early successional state, and may currently support numerous species of ephemeral fire-following native wildflowers.

### Chamise Chaparral, Mixed Chaparral, and Scrub Oak Chaparral Habitats

Chaparral-based vegetation types such as those listed above occur in the central and southern portions of the proposed Project. Implementation of the proposed Project would result in the direct removal of approximately 14 acres of chamise chaparral habitat (3.16 permanent and 10.85 temporary on the ANF; 0.03% of the total available on the ANF), 85 acres of mixed chaparral habitat (16.79 permanent and 58.44 temporary on the ANF; 0.03% of the total available on the ANF), and 4 acres of scrub oak chaparral habitat (1.09 permanent and 3.10 temporary on the ANF; 0.01% of the total available on the ANF). These habitats are locally and regionally abundant. As a relative index of availability, approximately 357 acres of chamise chaparral habitat, 3,304 acres of mixed chaparral habitat, and 183 acres of scrub oak chaparral habitat occur within mapped areas along the proposed Project and approximately 40,424 acres of chamise chaparral habitat, 240,230 acres of mixed chaparral habitat, and 36,613 acres of scrub oak chaparral habitat occur within the entire Angeles National Forest. Thus, the approximate loss of these habitats relative to their overall availability in the Project area ranges from two percent for scrub oak chaparral to four percent for chamise chaparral. Much of this habitat in the region is not likely to be developed as it is under state or federal ownership. As described above, while relatively common, the loss of these habitats can result in the spread of noxious or invasive weeds, alter the fire regime of a given area, or have the potential to support rare species of plants and wildlife. Specific discussions regarding the loss of foraging or nesting habitat and impacts to special-status species are located below.

### Joshua Tree Woodland, Mojave Juniper Woodland and Scrub, and Mojave Pinyon Woodland Habitat, Including Mojavean Juniper and Pinyon Woodland (recently burned), and Removal of Joshua trees and Juniper Trees

These plant communities occur primarily within the Northern Region of the proposed Project between the proposed wind farm areas and the Vincent Substation. Construction of the proposed Project would result in the loss of approximately 7 acres of Joshua tree woodland habitat (0% on the ANF), 113 acres of Mojave juniper woodland and scrub habitat (0.20 permanent and 0.50 temporary on the ANF; 0.02% of the total available on the ANF), 1 acre of Mojave pinyon woodland habitat (0.46 permanent and 0.67 temporary; 0.01% of the total available on the ANF), and 4 acres of recently burned Mojavean juniper and pinyon woodland habitat (0.82 permanent and 3.50 temporary on the ANF; 0.03% of the total available on the ANF) (see Tables 6-1 and 6-2). As a relative index of availability, approximately 142 acres of Joshua tree woodland habitat; 1,098 acres of Mojave juniper woodland and scrub habitat; 76 acres of Mojave pinyon woodland habitat; and 212 acres of recently burned Mojavean juniper and pinyon woodland habitat occur within mapped areas along the proposed Project whereas within the entire ANF there are approximately 116 acres of Joshua tree woodland habitat; 3,669 acres of Mojave juniper woodland and scrub habitat; and 12,963 acres of Mojave pinyon woodland habitat. Thus, the approximate loss of these habitats relative to their overall availability in the Project area ranges from one percent for Mojave pinyon woodland and recently burned Mojavean juniper and pinyon woodland habitat to ten percent for Mojave juniper woodland and scrub. The WMP, which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project, states that 28,826 acres of Joshua tree woodland and 62,986 acres of juniper woodland occur within the West Mojave Desert (BLM 2005).

Joshua tree and juniper woodland habitats support unique assemblages of plant and wildlife species, and despite the acreage provided in the WMP for existing habitat, vast acreages of these habitats have been lost over the last several decades due to urbanization and agricultural activities in the Antelope Valley. In general, other desert plant communities lack vertical structure and shade. However, these habitats provide the important structural characteristics for mammals and avian species. Additionally, unlike herbaceous or shrub-dominated habitats, arid woodlands are extremely slow developing, with mature juniper and pinyon woodlands requiring as much as 150 years (Wangler and Minnich, 1996) to reach full maturity. Due to the unique floristic composition and structure of these communities, and due to historic and on-going losses, several local plans, ordinances, and policies have designated Joshua tree woodland and juniper woodland habitats as sensitive. The overall approach to mitigation of impacts to rare or unique habitats is to avoid impacts through redesign of tower locations, spur roads, pulling locations, and staging areas, particularly with regards to habitat types containing large tree species, where individual trees or clumps of trees can be avoided. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing habitats.

#### California Walnut Woodland Habitat

California walnut woodland habitat occurs primarily in the southern portion of the proposed Project area (Appendix G). Loss of approximately 6 acres of California walnut woodland habitat will occur as a result of the proposed Project. The CNDDB (CDFG 1995) estimates that there are approximately 14,579 acres of California walnut woodland habitat present within the State of California, restricted to a highly fragmented range within the southern portion of the state. As California walnut woodland is considered a sensitive habitat by CDFG, and California walnut trees are included on CNPS list 4.2, any Project-related impacts to California walnut woodland or individual trees would be considered adverse. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing California walnut woodland habitats.

#### Bunchgrass Grassland and Desert Bunchgrass Grassland Habitat

Bunchgrass grassland is found within the southern portions of the proposed Project, while desert bunchgrass grassland is restricted to the Northern Region. Loss of approximately one acre of bunchgrass grassland habitat and 65 acres of desert bunchgrass grassland habitat would occur as a result of the proposed Project through construction of roads, the Whirlwind Substation, pulling stations, and staging areas, and the replacement of transmission towers. As a relative index of availability, approximately 29 acres of bunchgrass grassland habitat and 325 acres of desert bunchgrass grassland habitat occur within mapped areas along the proposed Project. Thus, the approximate loss of these habitats relative to their availability is three percent and 20 percent for bunchgrass grassland and desert bunchgrass grassland habitat, respectively. Approximately 1,730 acres of bunchgrass grassland habitat (a.k.a. valley needlegrass grassland habitat) are estimated to occur within the area covered by the WMP, which covers nearly 9,400,000 acres and includes the entire Northern Region of the proposed Project; and 74,132 acres of desert bunchgrass grassland habitat (a.k.a desert stipa habitat) are estimated to be present within the State of California (CDFG 1995, BLM 2005). CDFG considers stands dominated by valley needlegrass or desert stipa rare and worthy of consideration (CDFG 2007).

#### Bigcone Douglas Fir-canyon Oak Forest Habitat

This plant community occurs within the central portion of the proposed Project alignment on NFS lands. Construction of the proposed Project would result in the loss of approximately 6 acres of bigcone Douglas fir-

canyon oak forest habitat. Thus, one percent of the approximately 494 acres of bigcone Douglas fir-canyon oak forest habitat occurring within mapped areas along the central portion of the proposed Project within the ANF would be affected. The CNDDB estimates that there are approximately 84,570 acres of bigcone Douglas fir-canyon oak forest present within the State of California (CDFG 1995), whereas the ANF has an estimated 34,068 acres of Bigcone Douglas fir and of this about 5.67 acres (0.02%) will be affected. Bigcone Douglas fir is endemic to California and only commonly occurs within southern California (CalFlora 2007) in the Transverse, San Jacinto, and southern Coast Ranges.

### Canyon Live Oak Forest, Interior Live Oak Scrub, and Coulter Pine Forest Habitat

These vegetation types are restricted to the Central Region of the proposed Project. Construction activities associated with the proposed Project would result in the loss of approximately 8 acres of canyon live oak forest habitat, 2 acres of interior live oak scrub habitat, and 1 acre of Coulter pine forest habitat. Data compiled from the CNDDB lists 428,975 acres of canyon live oak forest habitat; 669,408 acres of interior live oak scrub habitat; and 100,078 acres of Coulter pine forest habitat as occurring within the State of California (CDFG 2005). In the ANF there are approximately 44,073 acres of canyon live oak forest habitat; 84 acres of interior live oak scrub habitat; and 3,115 acres of Coulter pine forest habitat of which 8.3 acres (0.02%), 2.49 acres (3%), and 1.47 acres (0.05%) respectively, will be affected. In addition, as a relative index of availability, approximately 584 acres of canyon live oak forest habitat, 106 acres of interior live oak scrub habitat, and 105 acres of Coulter pine forest habitat were included in mapping efforts for the proposed Project. The approximate loss of these habitats relative to their overall availability in the project area is 1 percent for Coulter pine forest habitat, 2 percent for interior live oak scrub, and 1 percent for canyon live oak forest habitat. Regionally, much of this habitat is not likely to be developed as it is under State or federal ownership.

### Coast live Oak Woodland Habitat

This habitat is restricted to southern portions of the proposed Project and along the southern border of the ANF. Loss of approximately 14 acres of coast live oak woodland habitat would occur as a result of the proposed Project. This habitat is locally and regionally abundant and only two percent of the approximately 584 acres of coast live oak woodlands mapped within the proposed Project area will be affected. Data compiled from CNDDB lists 289,608 acres of coast live oak woodland habitat as occurring within the State of California (CDFG 1995). While this habitat is regionally abundant, it is important foraging and nesting habitat for a variety of special-status wildlife including spotted owl. In addition, this habitat provides valuable mast (acorn) crops which are important to foraging wildlife, such as quail or squirrels. Coast live oak woodland habitat is very slow growing and even modest impacts may take years to replace.

### California Bay Woodland Habitat

This vegetation type was mapped on the ANF and occurs in riparian areas. Approximately 0.09 acre of California bay woodland would be permanently impacted by the proposed Project. This constitutes approximately 0.9 percent of the 10 acres mapped within the Project area. No California bay woodland would be temporarily impacted. This vegetation type is not regionally abundant, and it is considered rare and worthy of consideration by the CDFG. It is also important foraging and nesting habitat for a number of species. Because this habitat is rare, SCE shall mitigate for the loss of California bay woodland through restoration, enhancement, and/or preservation of existing habitats at a 5:1 (acres mitigated:acres impacted) ratio.

### Restoration – California Buckwheat Habitat

This vegetation type was mapped at helicopter staging area SCE #10 on the ANF. This site was apparently seeded with California buckwheat and perhaps other species for reclamation or erosion control, and California buckwheat dominates the site. The entire 7.46 acres of this habitat mapped in the project area would be temporarily disturbed during the construction of the helicopter staging area, but would be restored once construction in this area is complete.

### Riversidean Alluvial Fan Sage Scrub Habitat

This community type is present on river terraces at the border of the ANF. Implementation of the proposed Project would result in the loss of approximately one acre of rare Riversidean alluvial fan sage scrub habitat. This habitat, while once abundant, has been lost through widespread urbanization and flood control activities in drainages such as the San Gabriel River. Mapping along the proposed Project shows approximately 45 acres of Riversidean alluvial fan sage scrub habitat. Thus, a loss of one acre represents about two percent of this habitat mapped along the proposed Project. Losses within the proposed Project will primarily affect a subset of this habitat type termed the "pioneer zone" (Smith, 1980), which mainly occurs on frequently scoured channel bottoms (see Appendix H of this *Biological Specialist Report*, Vegetation Type Descriptions). CDFG regards Riversidean alluvial fan sage scrub as rare and worthy of consideration (CDFG, 2003a). Because this vegetation type is in decline the loss of even small areas is considered adverse. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing Riversidean alluvial fan sage scrub.

### Coastal Sage Scrub Habitat

Coastal sage scrub is present within southern portions of the proposed Project (e.g., Chino and Puente Hills), as well as on lower elevation slopes within the southern portion of the ANF. Loss of approximately 38 acres of coastal sage scrub habitat would occur as a result of the proposed Project. This habitat is regionally abundant. For reference, only four percent of the approximately 869 acres of coastal sage scrub habitat mapped within the proposed Project would be affected. However, this habitat provides a unique vegetation structure and set of foraging resources that supports certain avian species including the State and federally protected California gnatcatcher, and has experienced rapid decline in the past decade from increasing development of coastal areas within southern California and increased fire intervals causing type conversion to non-native annual grasslands. SCE intends to avoid impacts to this habitat through redesign of tower locations, spur roads, pulling locations, and staging areas. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing habitats.

### Riparian Vegetation

Impacts to riparian vegetation are discussed under Impact B-2 (The Project would result in the loss of desert wash or riparian habitat) below.

### Annosus Root Disease

During the clearing and grading of existing roads, helicopter landing pads, tower locations, staging areas and other locations SCE would cut or remove large native trees. This can expose otherwise healthy trees in adjacent areas to Annosus root disease, or fomes annosus (*Heterobasidion annosum*), a fungus that attacks a wide range of woody plants causing a decay of the roots and butt and the death of sapwood and cambium. All conifer species and many hardwood species in California are susceptible to the fungus. The fungus can become

established in freshly cut tree stumps through airborne spores and then spread to remaining trees nearby through the conifer's root systems. The disease spreads outward, killing trees in a circular pattern until they reach barriers, such as openings or non-susceptible plants. Once fomes annosus is established in an area, it is easily spread from freshly cut stumps to adjacent trees (USDA, 2005). The fungus can remain alive for as long as 50 years in the roots and stumps. Because the disease results in mortality of trees, it can create hazard trees, deplete vegetative cover, and result in adverse effects to wild land ecology (USDA, 2005).

Regional direction states the best form of management for this root disease is prevention, including treatment of freshly-cut conifer stumps with registered products such as Sporax. The Forest Service Manual (FSM 2303.14 R5 supplement 2300-92-1) and Forest Service Handbooks (FSH 2109.14 and FSH 3409.11-94-1) require treatment of all conifer stumps in recreation areas and provide direction and guidance for its use. The application of Sporax to freshly cut stumps significantly reduces the risk of fomes annosus infestation to adjacent conifers.

To reduce the effects of fomes annosus on native trees SCE would implement Mitigation Measure B-1c (Treat cut tree stumps with Sporax). The active ingredient in Sporax is borax, a naturally occurring mineral made of sodium, boron, oxygen, and water. Borax is virtually nontoxic to humans, birds, fish, and to aquatic invertebrate animals. Sporax would be applied in localized treatments, has low toxicity, and would not be used near water or during rain events. Based on this, use of Sporax to prevent the spread of fomes annosus would not result in adverse impacts to plants or wildlife.

Implementation of the proposed Project would result in permanent, temporary, and long-term temporary effects to both native and non-native vegetation communities. SCE has indicated that the APMs, described in Table 4-1, would be implemented as part of the proposed Project to avoid or minimize impacts to native vegetation communities: APM BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, and BIO-7. These APMs include avoiding or compensating for impacts to vegetation communities, personnel training, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes.

As proposed the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, do not identify BMPs, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate, mitigation measures are presented to further reduce impacts of the proposed Project on vegetation communities. Implementation of Mitigation Measure B-1a (Provide Restoration/Compensation for Impacts to Native Vegetation Communities) would reduce impacts of the Project and include mitigation ratios developed in consultation with the FS, USACE, CDFG, and CPUC. This measure also provides more specific information on the required Revegetation Plan, and includes the FS, USACE, CDFG, and CPUC, and Chino Hills State Park (on Park Lands only) as approving agencies. It should be noted that mitigation requirements and mitigation ratios for common habitats located outside of NFS lands are focused primarily on the restoration of temporarily disturbed areas and the control or spread of exotic and noxious weeds. To further reduce impacts of the proposed Project on the plant communities above, SCE shall also implement Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-1

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** The intent of this mitigation measure is to require SCE to restore disturbed sites to pre-construction conditions or the desired future conditions per the Angeles National Forest (ANF), Land Management Plan (LMP). Prior to construction SCE shall have a qualified biologist, where concurrence on the biologist has been provided by the CPUC and FS, document the community type and acreage of vegetation that would be subject to project disturbance. Impacts to all oaks and native trees (with >3 inch diameter at breast height [DBH]) will be documented by identifying the species, number, location, and DBH. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance. Tree removal shall not be permitted until replacement trees have been planted or transplanting sites are approved.

For NFS lands, the FS shall prepare a Habitat Restoration and Revegetation Plan in discussion with SCE for the Project, which shall include plans for restoration, enhancement/re-vegetation and/or mitigation banking. For non-Federal lands SCE shall prepare the Habitat Restoration and Revegetation Plan. Both plans shall include at minimum: (a) the location of the mitigation site (off site mitigation may be required); (b) locations and details for top soil storage (c) the plant species to be used; (d) seed and cutting collecting guidelines; (d) a schematic depicting the mitigation area; (e) time of year that the planting will occur and the methodology of the planting; (f) a description of the irrigation methodology for container, bareroot or other planting needing irrigation; (g) measures to control exotic vegetation on site; (h) success criteria; (i) a detailed monitoring program; j) locations and impacts to all oaks and native trees (over 3 inches DBH), k) locations of temporary or permanent gates, barricades, or other means to control unauthorized vehicle access on access and spur roads as deemed necessary by the FS (NFS lands only).

SCE shall utilize a CPUC/FS/USACE-approved locally collected seed mix, locally collected cuttings, bare-root stock, etc. to revegetate areas disturbed by construction activities. All habitats dominated by non-native species prior to Project disturbance shall be revegetated using appropriate native species. FS approval is required for seeding on NFS land. The seed mix shall consist of native, locally occurring species collected from local seed sources. Cuttings and bare-root stock shall be of local origin. Restoration shall include the revegetation of stripped or exposed work sites and/or areas to be mitigated with vegetation native to the area. No commercially purchased seeds, stock, etc will be accepted without the approval of the FS on NFS lands and must be certified to be free of noxious weeds. Revegetation shall include ground cover, grass, shrub, and tree species in order to match disturbed areas to surrounding conditions and to restore or improve wildlife habitat quality to pre-project or higher levels. The Habitat Restoration and Revegetation Plan shall also include a monitoring element. Post seeding and planting monitoring will be yearly from years one to five and every other year from years six to ten, or until the success criteria are met. SCE shall restore temporarily disturbed areas, including existing tower locations that are to be removed by the Project, to pre-construction conditions or the desired future conditions per the LMP. If the survival and cover requirements have not been met, SCE is responsible for replacement planting to achieve these requirements. Replacement plants shall be monitored with the same survival and growth requirements as previously mentioned.

The FS will conduct a preconstruction evaluation of the probable impacts to all oaks and native trees in all construction-related disturbance areas. This evaluation shall be incorporated into the Habitat Restoration Plan and shall include the species and number of individuals, their DBH, location and potential impact type. Construction within the driplines of all native trees and oak trees/shrubs, and incidental trimming or damage to trees along the proposed access/spur routes shall not occur until

the trees are evaluated by an FS botanist or qualified arborist. This person shall identify appropriate measures to minimize tree loss, such as the placement of fence around the dripline, padding vehicles, minimizing soil removal or addition around driplines, and the placement of matting under the existing dripline during construction activities. On the ANF, if a tree must have any construction-related activities such as equipment or soil staging within the drip zone, root pruning, or excessive branch pruning (greater than 25% in one year), then the tree must be monitored for five years for tree mortality. If any of these identified trees dies during the monitoring period, then the tree must be mitigated at the rate appropriate to the DBH.

The replacement ratios (using rooted plants in liners or direct planting of acorns [for oaks]) for native trees or any oaks which are to be removed shall be as follows: trees from 3 to 5 inches DBH shall be replaced at 3:1; trees from 5 to 12 inches shall be replaced at 5:1; trees from 12 to 24 inches shall be replaced at 10:1; trees from 24 to 36 inches shall be replaced at 15:1; and all oaks greater than 36 inches shall be replanted at a ratio of 20:1. The replacement ratio for damaged trees shall be 2:1 for trees with DBH less than 12 inches and a 5:1 ratio for trees with DBH greater than 12 inches. The DBHs for scrub oaks will be measured following DFG guidelines. On the ANF any oak or native tree which must be removed or killed as a result of construction or other Project-related activities shall be replaced in kind or mitigated at a comparable value. Compliance shall be evaluated annually for years one to five and bi-annually for years six to ten (years after tree planting). Trees shall be planted at locations acceptable to the landowner or managing agency. All planting locations, procedures, and results shall be evaluated by a qualified arborist and FS botanist. On non-Federal lands all protection and replacement measures shall be consistent with applicable local jurisdiction requirements, such as the Los Angeles County Oak Tree Ordinance.

Permanent impacts on federal lands shall be determined by the appropriate federal manager (FS and USACE) and on non-federal lands shall be determined by the CPUC at the ratios stated below or at a comparable value. On NFS lands impacts will be considered permanent if they are not likely to recover after ten years post-disturbance. Where onsite restoration is planned for mitigation of temporary impacts to vegetation communities, SCE shall identify a Habitat Restoration Specialist, where concurrence has been provided by the CPUC/FS, to implement the method of restoration outlined by the FS in the Habitat Restoration Plan.

The creation or restoration of habitat shall be monitored annually for years one to five on both FS lands and private/State/USACE lands and bi-annually for years six to ten on FS lands, or until the success criteria are met, after mitigation site construction to assess progress and identify potential problems with the restoration site. Remediation activities (e.g. additional planting, removal of non-native invasive species, or erosion control) shall be taken during the ten-year period if necessary to ensure the success of the restoration effort. If the mitigation fails to meet the established performance criteria after the ten-year maintenance and monitoring period, monitoring and remedial activities shall extend beyond the ten-year period until the criteria are met or unless otherwise specified by the CPUC/FS/USACE (as appropriate). If a fire occurs in a revegetation area within the ten year monitoring period, SCE shall be responsible for a one-time replacement. If a second fire occurs, no replanting is required, unless the fire is caused by SCE activity. Off-site mitigation for NFS and non-NFS lands may be required if mitigation rates exceed what can be achieved on NFS land. This may be in the form of funding for land purchase for inclusion into the Angeles National Forest, mitigation banking, removing existing structures, or comparable restoration efforts.

During and after construction, FS-identified entrances to access roads on NFS lands shall be gated or blockaded in some manner and maintained to prevent the unauthorized use of these roads by the general public. Signs prohibiting unauthorized use of the access roads shall be posted on these gates.

| Mitigation Ratios for Impacts to Vegetation Communities | | | | |
|---|---|---|---|---|
| Vegetation Community | Mitigation Ratios – Non-NFS Lands | | Mitigation Ratios – NFS/Federal Lands | |
| | Temporary Impacts | Permanent Impacts | Temporary Impacts | Permanent Impacts |
| Woodland Vegetation | | | | |
| Bigcone Douglas Fir-Canyon Oak Forest | 1:1 | 2:1 | 2:1 | 5:1 |
| Canyon Oak Forest | - | - | 1:1 | 5:1 |
| California Bay Forest | 1:1 | 2:1 | 1:1 | 5:1 |
| California Walnut Woodland | 1:1 | 1.5:1 | - | - |
| Coast Live Oak Woodland | 1:1 | 1.5:1 | 1:1 | 5:1 |
| Coulter Pine Forest | - | - | 1:1 | 3:1 |
| Joshua Tree Woodland | 1:1 | 2:1 | - | - |
| Mojavean Pinyon Woodland | 1:1 | 2:1 | 2:1 | 5:1 |
| Non-native Woodland | 1:1* | 1:1* | 1:1* | 1:1* |
| Yellow Pine Forest (Plantation) | - | - | 1:1 | 3:1 |
| Shrub-dominated Vegetation | | | | |
| Big Sagebrush Scrub | 1:1 | 1:1 | 1:1 | 3:1 |
| Coastal Sage Scrub | 1:1 | 1.5:1 | 2:1 | 5:1 |
| Desert Saltbush Scrub | 1:1 | 1:1 | - | - |
| Chamise Chaparral | - | - | 1:1 | 3:1 |
| Mixed Chaparral | 1:1 | 1:1 | 1:1 | 3:1 |
| Scrub Oak Chaparral | - | - | 1:1 | 5:1 |
| Interior Live Oak Scrub | - | - | 1:1 | 5:1 |
| Mojave Creosote Bush Scrub | 1:1 | 1:1 | - | - |
| Mojave Mixed Woody Scrub | 1:1 | 1:1 | - | - |
| Mojavean Juniper Woodland and Scrub | 1:1 | 1.5:1 | 2:1 | 5:1 |
| Mojavean Pinyon and Juniper Woodland, Recently Burned | - | - | 2:1 | 5:1 |
| Mulefat Scrub | 1:1 | 3:1 | 2:1 | 5:1 |
| Rabbitbrush Scrub | 1:1 | 1:1 | - | - |
| Restoration – California Buckwheat Scrub | - | - | 1:1 | 1:1 |
| Riversidean Alluvial Fan Sage Scrub | 1:1 | 3:1 | 2:1 | 5:1 |
| Riparian Vegetation | | | | |
| Desert Wash | 1:1 | 3:1 | 2:1 | 5:1 |
| Ruderal Wetland | 1:1* | 1:1* | - | - |
| Exotic-Giant Reed | 1:1* | 1:1* | 1:1* | 1:1* |
| Southern Arroyo Willow Riparian Forest | 1:1 | 3:1 | 2:1 | 5:1 |
| Southern Coast Live Oak Riparian Forest | 1:1 | 3:1 | 2:1 | 5:1 |
| Southern Cottonwood Willow Riparian Forest | 1:1 | 3:1 | 2:1 | 5:1 |
| Southern Sycamore-Alder Riparian Forest | 1:1 | 3:1 | 2:1 | 5:1 |
| Southern Willow Scrub | 1:1 | 3:1 | 2:1 | 5:1 |
| Sparsely Vegetated Streambed | 1:1 | 3:1 | 2:1 | 5:1 |
| Herbaceous Vegetation | | | | |
| Bunchgrass Grassland | 1:1 | 1.5:1 | - | - |
| California Annual Grassland | 1:1 | 1:1 | 1:1 | 3:1 |
| Deerweed and Chia Herbaceous Field, Recently Burned | 1:1 | 1:1 | 2:1 | 3:1 |
| Desert Bunchgrass Grassland | 1:1 | 1.5:1 | - | - |
| Wildflower Field | 1:1 | 1:1 | 2:1 | 3:1 |

| Mitigation Ratios for Impacts to Vegetation Communities | | | | |
|---|---|---|---|---|
| Vegetation Community | Mitigation Ratios – Non-NFS Lands | | Mitigation Ratios – NFS/Federal Lands | |
| | Temporary Impacts | Permanent Impacts | Temporary Impacts | Permanent Impacts |
| Anthropogenic Vegetation | | | | |
| Agriculture | 0:1 | 0:1 | - | - |
| Barren/developed | 1:1* | 1:1* | 1:1* | 1:1* |
| Ruderal Grassland | 1:1* | 1:1* | 1:1* | 1:1* |
| Ratios on Non-NFS Lands may be adjusted based on existing site conditions and disturbance levels with approval of the CPUC. Ratios could range from 0.5 to maximum as noted based on site evaluation.<br>*Non-native habitats will be reseeded with a native seed mix. Barren areas will be mitigated at a 1:1 ratio if they are determined to support sensitive wildlife (i.e. burrowing owls, etc.) | | | | |

**B-1b** **Implement a Worker Environmental Awareness Program.** A Worker Environmental Awareness Program (WEAP) shall be implemented for construction crews by a qualified biologist(s) provided by SCE, where concurrence has been provided by the CPUC/FS prior to the commencement of construction activities. Training materials and briefings shall include but not be limited to: discussion of the Federal and State Endangered Species Acts, Bald and Golden Eagle Protection Act, and the Migratory Bird Treaty Act; the consequences of non-compliance with these acts; identification and values of plant and wildlife species and significant natural plant community habitats; fire protection measures; sensitivities of working on NFS lands and identification of FS sensitive species; hazardous substance spill prevention and containment measures; a contact person in the event of the discovery of dead or injured wildlife; and review of mitigation requirements. The WEAP shall also include the protocol to be followed when road kill is encountered in the work area or along access roads to minimize potential for additional mortality of scavengers, including listed species such as the California condor. On NFS lands, road kill shall be reported to the FS or other applicable agency within 24 hours. On non-NFS lands, road kill shall be reported to the appropriate local animal control agency within 24 hours. Training materials and a course outline shall be provided to the CPUC and FS for review and approval at least 30 days prior to the start of construction. Maps showing the location of special-status wildlife, fish, or populations of rare plants, exclusion areas, or other construction limitations (i.e., limited operating periods) will be provided to the environmental monitors and construction crews prior to ground disturbance. SCE shall provide to the CPUC and FS a list of construction personnel who have completed training prior to the start of construction, and this list shall be updated by SCE as required when new personnel start work. No construction worker may work in the field for more than 5 days without participating in the WEAP.

**B-1c** **Treat cut tree stumps with Sporax.** All stumps of trees (conifers and hardwoods) 3 inches DBH or greater resulting from activities associated with construction of the Project shall be treated with Sporax according to product directions to prevent the spread of annosus root disease. Only licensed applicators shall apply Sporax. Sporax shall not be used during rain events unless otherwise approved by the CPUC/FS/USACE.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** SCE shall develop a Fugitive Dust Emission Control Plan (FDECP) for construction work. The Plan shall be completed prior to construction and approved by the CPUC and FS. This Plan is in addition to any fugitive dust control plan required by the South Coast Air Quality Management District (SCAQMD). Measures to be incorporated into the plan shall include, but are not limited to the following:

- Non-toxic soil binders, equivalent or better in efficiencies than the CARB approved soil binders, shall be applied per manufacturer recommendations to active unpaved roadways, unpaved staging areas, and

unpaved parking area(s) throughout construction to reduce fugitive dust emissions. On NFS lands, SCE shall obtain FS approval of any soil binders to be used.

- Unpaved road travel will be limited to the extent possible by limiting the travel of heavy equipment in and out of the unpaved areas (move from construction site to construction site rather than back to marshalling or staging areas daily); through carpooling/busing construction workers to the maximum feasible extent; and by developing travel routes to each construction site that minimize unpaved road travel to the extent possible, according to USFS or other regulatory agency road use restriction. The FDECP will include a road travel plan applicable for construction sites with unpaved access greater than one mile.
- Water the disturbed areas of the active construction sites at least three times per day and more often if uncontrolled fugitive dust is noted.
- Enclose, cover, water twice daily, and/or apply non-toxic soil binders according to manufacturer's specifications to exposed piles with a five percent or greater silt content.
- Maintain unpaved road vehicle travel to the lowest practical speeds, and no greater than 15 miles per hour (mph), to reduce fugitive dust emissions.
- All vehicle tires shall be inspected, are to be free of dirt, and washed as necessary prior to entering paved roadways.
- Install wheel washers or wash the wheels of trucks and other heavy equipment where vehicles exit unpaved access to the construction sites.
- Cover all trucks hauling soil and other loose material, or require at least two feet of freeboard.
- Establish a vegetative ground cover (in compliance with biological resources impact mitigation measures) or otherwise create stabilized surfaces on all unpaved areas at each of the construction sites within 21 days after active construction operations have ceased.
- Increase the frequency of watering, if water is used as a soil binder for disturbed surfaces, or implement other additional fugitive dust mitigation measures, to all active disturbed fugitive dust emission sources when wind speeds (as instantaneous wind gusts) exceed 25 mph.

SCAQMD Rule 403 Best Available Control Measures (BACM) are required to be proposed in the FDECP and implemented when and if the BACM are as strict or stricter than the control measures listed above. Additionally, mitigation measures provided on the SCAQMD CEQA website Tables XI-A through XI-E (http://www.aqmd.gov/ceqa/handbook/mitigation/fugitive/ MM_fugitive.html or as updated by SCAQMD) must be implemented in the FDECP were applicable. This mitigation measure covers construction work performed within all three local air quality jurisdictions.

**H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** SCE shall develop and submit to the CPUC and FS for approval 30 days prior to construction an Erosion Control Plan, and implement Best Management Practices (BMPs), as described below. (Note: The Erosion Control Plan may be part of the same document as the Stormwater Pollution Prevention Plan.) Within the Erosion Control Plan, the applicant shall identify the location of all soil-disturbing activities, including but not limited to new and/or improved access and spur roads, the location of all streams and drainage structures that would be directly affected by soil-disturbing activities (such as stream crossings by access roads), and the location and type of all BMPs that would be installed to protect aquatic resources. The Erosion Control Plan shall include a proposed schedule for the implementation and maintenance of erosion control measures and a description of the erosion control practices, including appropriate design details. As part of the Erosion Control Plan, SCE shall maintain a logbook of all precipitation events within the Project area that produce more than one inch of precipitation within a 24-hour period. The logbook shall contain the date of the precipitation event, the approximate duration of the event, and the amount of precipitation (measured as the largest amount recorded by a rain gage or weather station within one mile of the Project). Additionally, the logbook shall include a narrative evaluation (and/or a numerical

evaluation, if required by the FS or other jurisdictional agency) of the erosion-prevention effectiveness of the existing BMPs, as well as a description of any post-storm modifications to those BMPs. The logbook shall be submitted to the CPUC and FS for review within 30 days following the first storm event (after construction has begun) that produces greater than one inch of precipitation within a 24-hour period. SCE shall re-submit the logbook annually after the first storm of the rainy season that produces more than one inch of precipitation within a 24-hour period. The logbook shall be retired 5 years after completion of construction.

In addition to the Erosion Control Plan, the applicant shall submit to the CPUC and the FS evidence of possession of all required permits before engaging in soil-disturbing construction/demolition activities, before entering flowing or ponded water, or before constructing a crossing at flowing or ponded water. Such permits may include, but are not limited to, a Streambed Alteration Agreement from the California Department of Fish and Game, a Clean Water Act (CWA) Section 404 permit from the USACE, a CWA Section 402 NPDES General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) from the applicable Regional Water Quality Control Board(s) (RWQCBs), and/or a CWA Section 401 certification from the applicable RWQCBs. In addition, if construction-related excavation activities on National Forest System (NFS) lands encounter perched groundwater, triggering the need for dewatering activities to occur in compliance with Applicant-Proposed Measure HYD-6 (Drilling and Construction Site Dewatering Management), SCE shall notify the Forest Service at the onset of dewatering and, upon the completion of dewatering activities at the affected site(s), SCE shall submit to the Forest Service written description of all executed dewatering activities, including steps taken to return encountered groundwater to the subsurface.

### CEQA Significance Conclusion

Implementation of the proposed Project would result in the direct and permanent loss of both common and rare plant communities. Some of the plant communities in the Project area have widespread distributions, are common, and are both locally and regionally abundant. These include:

- Mojave creosote bush scrub
- Mojave mixed woody scrub
- Big sagebrush scrub
- Deerweed and chia herbaceous fields
- Rabbitbrush scrub
- Desert saltbush scrub
- Chamise habitats
- Scrub oak chaparral habitat
- Oak woodlands
- Canyon live oak forest
- Interior live oak scrub
- Coulter pine forest

The loss of non-rare plant communities including California annual grassland, ruderal grassland, non-native woodland, agricultural, and Barren/developed habitats would typically be considered an adverse but less-than-significant impact (Class III). These communities are not rare, are locally and regionally abundant, and are typically dominated by exotics. Generally, additional mitigation would not be required unless these communities occur within designated critical habitat for a federally listed species (i.e., only critical habitat with constituent elements of the species' habitat, and not developed land, for example) or are known to support special-status plant species or wildlife that utilize these areas for foraging or nesting.

The native plant communities identified above, while not regionally unique and still fairly abundant in the region, still provide valuable foraging and nesting habitat for a suite of wildlife species. Therefore, construction activities that result in the loss of these communities would be considered significant absent mitigation (Class II).

Other communities have more restrictive ranges (e.g., California walnut woodland habitat) or are of limited distribution in the project region such as Riversidean coastal sage scrub and bigcone Douglas fir. Due to the limited distribution of bigcone Douglas fir and the historic and on-going losses to this community, the CDFG has designated bigcone Douglas fir habitat as vulnerable to extirpation or extinction (2007). Other communities consist of unique and or important habitats for special-status wildlife (Joshua tree woodland and Mojave juniper woodland and scrub), or have been subject to historic and on-going losses due to grazing, agriculture, and urbanization (e.g., bunchgrass grassland and desert bunchgrass grassland). In addition, some of these communities respond poorly to disturbance and may take decades to recover (e.g., Joshua tree woodland, desert communities, oak woodlands). These include:

- Joshua tree woodland
- Mojave juniper woodland and scrub
- Mojave pinyon woodland
- Mojavean juniper
- Pinyon woodland
- California walnut woodland
- Bunchgrass grassland
- Desert bunchgrass grassland
- Bigcone Douglas fir
- Canyon live oak
- Riversidean coastal sage scrub
- Coastal sage scrub

As described above, with the exception of agricultural or Barren/developed land, construction activities that result in the disturbance to the plant communities identified above would be considered a significant impact absent mitigation **(**Class II**)**. While SCE proposes to implement APM BIO-2 which indicates that a Revegetation Plan would be prepared for native habitats, the APM does not address impacts to annual grasslands or ruderal habitats.

SCE has indicated that the APMs, described in Table 4-1, would be implemented as part of the proposed Project to avoid or minimize impacts to native vegetation communities: APM BIO-1, BIO-2, BIO-3, BIO-4, BIO-5, BIO-6, and BIO-7. These APMs include avoiding or compensating for impacts to vegetation communities, personnel training, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes.

As proposed the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, do not identify BMPs, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate, mitigation measures are presented to further reduce impacts of the proposed Project on vegetation communities. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts of the Project to less-than-significant levels **(**Class II**)** and include mitigation ratios developed in consultation with the FS, CDFG, USACE, and CPUC. These measures also provide more specific information on the required Revegetation Plan, and include the FS, USACE, CDFG, and CPUC, and Chino Hills State Park (on Park Lands Only) as approving agencies. It should be noted that mitigation requirements and mitigation ratios for common habitats located outside of NFS lands are focused primarily on the restoration of temporarily disturbed areas and the control or spread of exotic and noxious weeds. For some habitats there is no requirement for SCE to obtain additional habitat to offset the permanent impact.

### *Impact B-2: The Project would result in the loss of desert wash or riparian habitat.*

Riparian and wash communities occur in a variety of the surface water resources that are present in the proposed Project area. Riparian and wash habitat within the proposed Project is highly diverse and encompasses several stand types. These include:

- Desert wash
- California bay forest
- Southern coast live oak riparian forest
- Southern arroyo willow riparian forest
- Southern cottonwood willow riparian forest
- Southern sycamore-alder riparian woodland
- Southern willow scrub

These communities occur in desert washes and other streams, the majority of which support flow only after seasonal rains. However, several large perennial waterways are also present, particularly in the central portion of the project area on NFS lands. Specific impacts to State and federally protected waters (jurisdictional resources) are discussed in Impact B-39 below.

The primary main drainages within the Northern Region of the proposed Project include: Amargosa Creek, Oak Creek, Cottonwood Creek, and the Santa Clara River. The mountainous watersheds of the Central Region, which occurs primarily on NFS lands, support both rivers and creeks, including Big Tujunga Creek, the San Gabriel River, the Santa Clara River, and the Arroyo Seco Creek. The primary drainage feature in the Southern Region is the San Gabriel River, which parallels Segment 7 through the San Gabriel Valley, and Aliso Creek which drains into the Santa Ana River.

In addition, the project area supports riparian habitat at numerous tributaries and small creeks which run through the Southern and Central regions of the Project area. These include but are not limited to Monte Cristo Creek, an intermittent creek east of Monrovia Peak; drainages near Cold Springs, Upper Big Tujunga, Aliso, Turnbull, and Powder Canyons; in several areas along the Whittier Narrows in the Southern Region; near little Chino Creek; along Amargosa Creek and its unnamed tributaries in the Leona Valley in the Northern Region of the Project; and along unnamed tributaries to Anaverde Creek near Pelona Ridge. In addition, the proposed Project spans a number of small, unnamed drainages that support remnant riparian habitat in the foothill regions of the proposed Project.

Direct impacts to desert wash and riparian habitat would include the temporary disturbance and permanent removal of native vegetation within these communities. The proposed Project will result in the direct loss of approximately 5.2 acres of desert wash habitat, 0.1 acre of southern cottonwood willow riparian forest, 1.3 acres of southern sycamore-alder riparian forest, and 1.6 acres of southern willow scrub habitat. The loss of approximately 0.1 acre of California bay forest, 0.4 acre of southern coast live oak riparian forest, 0.8 acre of southern arroyo willow riparian forest, and 0.3 acre of sparsely vegetated streambed would also occur during the course of access road widening, spur road construction, and grading for helicopter staging areas. In addition, riparian habitat would be impacted by the reconstruction of the crossing of the Segment 11 access road 3N27 and Big Tujunga Creek on the ANF. This area supports a mosaic of riparian vegetation dominated by southern sycamore – alder riparian forest. Because final engineering has not yet been conducted, actual impacts at this location cannot be quantified; however, it is estimated that approximately one acre of riparian habitat would be impacted during the reconstruction of the crossing. On non-NFS lands, approximately 1.3 acres of ruderal wetland and 0.02 acre of exotic – giant reed habitat would be impacted, but would be restored with native riparian vegetation.

Indirect impacts to these communities would be similar to those discussed for native vegetation communities (Impact B-1), above. These would include increased sediment transport, alterations to existing topographical

and hydrological conditions, fugitive dust accumulation, and the introduction of non-native, invasive plant species.

During the construction and operation of the proposed Project, impacts could include trampling and crushing of native plants by increased vehicular and human traffic, increased erosion and sediment transport, and the introduction of noxious and exotic weeds due to increased human presence. Although the amount of sediment anticipated from construction of this project is negligible, (see Appendix A [GIS-Based Soil Erosion & Sedimentation Analysis Report] of the Hydrology and Water Quality Specialist Report for the TRTP), if BMPs are not implemented localized sediment could affect riparian vegetation.

Desert wash habitat occurs primarily within the Northern Region of the proposed Project (Segment 10) and is a relatively common resource in parts of the Antelope Valley. This resource is also present in the Kentucky Springs Canyon region north of and transitioning into the ANF. Approximately 269 acres of desert wash was mapped in the Project area and the loss from construction of the proposed Project represents a reduction of approximately two percent of the mapped resource. Activities associated with the construction of transmission line towers and roads, pulling stations, and staging areas could substantially degrade and remove desert wash habitat within the Project footprint. Although this unique hydrogeomorphic landform is relatively common in parts of the Antelope Valley, much of this habitat has been lost over the last several decades due to development and agricultural practices, particularly in undeveloped portions of the Project area where off-road vehicle paths and paved roads transect desert washes. Desert wash habitats play an important role in conveying surface flows during the rainfall season to other habitats located down slope that support special-status plants such as the alkali mariposa lily.

Approximately 10 acres of California bay forest habitat, 69 acres of southern coast live oak riparian forest habitat, 39 acres of southern arroyo willow riparian forest habitat, 29 acres of southern cottonwood willow riparian forest habitat, 72 acres of southern sycamore-alder riparian woodland habitat, and 90 acres of southern willow scrub habitat occurs in several areas of the proposed Project. Project impacts would represent less than one percent for southern cottonwood willow riparian forest, California bay forest, southern coast live oak riparian forest, and southern arroyo willow riparian forest. Due to its ability to support wildlife and the ongoing loss of riparian habitat state wide, CDFG considers riparian habitat to be worthy of consideration, both in general and within each of the specific habitats listed above (CDFG, 2003a).

Some riparian habitat would be impacted from the expansion of the existing access roads. Direct impacts could include removal of wetland/riparian vegetation and/or filling of jurisdictional areas to create stream crossings, particularly in the ANF. Examples of indirect impacts to jurisdictional resources include stream bank erosion and stream sedimentation. Any activities that involve modification of the bed or bank of a State or U.S.-jurisdictional waterway would be regulated by the CDFG, Regional Water Quality Control Board (RWQCB), and USACE. On NFS lands no activities can occur within designated Riparian Conservation Areas (RCAs) without approval from the FS.

**Riparian Conservation Areas (RCAs)**

An RCA is defined as “an area delineated next to water features requiring special management practices to maintain and/or improve watershed and riparian-dependent resource conditions” (USDA, 2005). Therefore, any riparian areas having important biological and/or hydrologic riparian characteristics within the Project area were identified by the FS as RCAs using the Five-Step Project Screening Process for Riparian Conservation Areas (a detailed description of the Five-Step Process and methods utilized to assess affects to RCAs is presented in the *Riparian Conservation Area Report for the Tehachapi Renewable Transmission Project*).

In general, RCAs include areas containing both aquatic and terrestrial components, and serve as the interface between land and water. Specifically, RCAs can include lands adjacent to perennial, intermittent, or ephemeral streams as well as in and around meadows, lakes, reservoirs, ponds, wetlands, vernal pools, seeps, springs, and other water bodies. These areas are especially important as they are where terrestrial and aquatic systems interact and slope and fluvial processes are tightly interconnected. Water is a limited resource on the ANF and plays an important role in the life histories of many forest dependant species, especially in the semi-arid setting of southern California. As such RCAs are unique areas that support a high diversity of plant and animal species and typically have a high degree of endemism including threatened and endangered species. The variety of wildlife species associated with RCAs on the ANF is high and these species use these areas for breeding, aestivation, foraging, refugia, and as movement corridors (USDA, 2005).

To provide for the management of species that use riparian areas, each RCA has a buffer area of associated upland habitat which corresponds to the unique life history of the species. The size of an RCA is determined by characteristics such as topography, species present, and connectivity to other RCAs. For example, large intermittent and perennial streams dominated by riparian vegetation may support numerous special-status plants and wildlife. These buffers may extend from 30 m to over a mile depending on the species that inhabit the RCA. However, even small drainages that may have water for only a short period of time can be crucial resources for breeding (i.e., amphibians and birds), foraging, or wildlife movement corridors. Within the Project area several RCAs support threatened and endangered species including the arroyo toad.

Actions conducted within an RCA must meet specific criteria defined by the FS which include both biological and watershed goals and functions. In addition, actions that result in effects considered other than neutral or beneficial may not be conducted without an amendment to the existing Forest Plan (USDA 2005).

Over 265 RCAs were identified during field assessments for the proposed Project on NFS lands. These RCAs fall within the transmission line ROW or along access roads that would be used and upgraded during construction of the proposed Project. Approximately 96 RCAs occur where the transmission line crosses a substantial stream or drainage. One hundred and seventy-one occur where access or spur roads cross ephemeral, intermittent, or perennial drainages. While riparian areas are considered on both NFS lands and non-NFS lands, RCAs are defined only for the ANF as required by the Forest LRMP. Of the 267 RCAs that occur on NFS lands, 95 would be subject to Project impacts that would not conform to the Forest Plan. These impacts would occur from road grading, tree removal, stream diversion, or similar actions. Any action that does not have neutral or beneficial impacts to these resources is not considered to be consistent with the existing Forest Plan (USDA 2005) and would require the completion of a Forest Plan Amendment.

RCAs that could be impacted by the proposed Project include a wide range of riparian areas, from ephemeral drainages high in a watershed that contain chaparral or other xeric plant communities to perennial streams surrounded by mature riparian forest. The single largest impact to RCAs from the proposed Project would occur from the widening of the access roads to 16 feet and the construction of new spur roads. Widening of the access roads in some cases would remove riparian vegetation, including mature oak trees, alders and other riparian trees. In some areas only limited riparian vegetation would be removed where an RCA supports only ephemeral or intermittent flows such as portions of Mill or Alder Creeks. However, in other areas including Monte Cristo Creek, Big Tujunga, Alder, and Lynx Gulch large areas of riparian habitat within designated RCAs would be removed to support vehicle traffic, water crossing construction, and heavy equipment. Currently SCE has proposed to construct a new all-weather crossing at the washed-out structure on Big Tujunga River near the Falls Creek crossing. This action would involve major construction activities within a perennial waterway, but the acreage associated with this disturbance is unknown pending final engineering

plans. However, it is estimated that approximately one acre of riparian vegetation would be impacted at this location. The removal of vegetation in these areas would conflict with FS guidelines for the protection of RCAs.

Road expansion could also result in the mobilization of large quantities of sediment that could enter nearby or adjacent RCAs. However, sediment analysis shows that the amount of sediment anticipated from construction of this project is negligible (see Appendix A [GIS-Based Soil Erosion & Sedimentation Analysis Report] of the Hydrology and Water Quality Specialist Report for the TRTP). These impacts would continue to occur throughout the construction phase of the proposed Project, as the dirt access roads that would be utilized are often adjacent to scree-covered slopes that drop debris across the road, are blocked by fallen trees, or are subject to landslides that prevent access. Therefore, road maintenance including periodic grading would occur throughout construction. As RCAs consist of riparian areas and their adjacent upland habitats, these areas support a wide variety of both plants and wildlife.

A formal delineation of each riparian area would be conducted and SCE would apply for permits from the USACE, RWQCB, and CDFG for activities in riparian habitat. In addition, no activities would be allowed within any RCA without the concurrence of the Forest. In accordance with the Clean Water Act, there would be no net loss of wetlands from the implementation of the proposed Project. As such, SCE would mitigate permanent and temporary impacts at a minimum 1:1 ratio for riparian vegetation (Mitigation Measure B-1a). Mitigation would include restoration, enhancement, and/or compensation, as appropriate.

Where avoidance of impacts is not feasible SCE shall mitigate through the restoration, enhancement, and/or preservation of existing riparian corridors. SCE has indicated that impacts to jurisdictional waters and wetlands would be minimized or avoided through the implementation of APMs, identified in Table 4-1. These include APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to habitats. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not provide defined mitigation ratios, and defer the analysis to a later date. As such, to reduce impacts of the proposed Project on riparian and wash habitats, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-2

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat without the appropriate permits from regulatory agencies. SCE shall not construct or modify any structure, culvert, or bridge or modify any habitat on NFS lands in Riparian Conservation Areas (RCAs) without the authorization of the FS. Vegetation removal or road construction shall not occur in RCAs during the breeding season for nesting birds (February 1-August 15) unless otherwise approved by the FS. SCE shall prepare and implement a FS RCA

Treatment Plan for the Project. This Plan shall include the specific activities that will occur at each of the RCA points crossed by the Project including the amount and type of vegetation to be cleared, the type of road crossing or improvement allowed for wet and dry crossings, and the methods that would be employed to reduce the effects of the Project on water quality. The Plan shall include timing restrictions for vehicle or equipment passage, restrictions on what activities may occur such as grading, vegetation removal or tree trimming, monitoring requirements, seasonal restrictions, and restoration requirements. This Plan shall be submitted to the FS for approval prior to construction or the grading of any access road. The Plan shall also be submitted to the CPUC for review.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

In California more than 95 percent of riparian habitats that were present prior to European settlement have been severely degraded or destroyed (Smith, 1977; Katibah, 1984). While these habitats constitute only a small fraction of the proposed project area and a low percentage of the total landscape (often less than one percent), they typically accommodate a disproportionately high number of species and provide a larger degree of ecological function than surrounding upland areas (Fischer and Fischenich, 2000). Many aquatic and semi-aquatic species rely on adjacent terrestrial habitats to complete their life cycles (Semlitsch and Bodie, 2003; Spinks et al., 2003; Burke and Gibbons, 1995) and riparian vegetation provides necessary foraging and nesting habitat for many bird species (Rottenborn, 1999; Bolger et al., 1997). In arid regions such as Southern California, riparian habitats play a particularly crucial role in maintaining biodiversity because up to 80 percent of vertebrate species rely on them for at least part of their lifecycle (Knopf et al., 1988) and because of the central role riparian habitats play in a variety of ecological functions (Fischer and Fischenich, 2000; Rottenborn, 1999). In the Antelope Valley, large areas of desert wash habitat have been subject to ongoing development. Therefore, because of the overall loss of desert wash and riparian habitat within California, its role in the functional hydrological connectivity of habitats, and its suitability to support several special-status species, the loss of this habitat associated with the proposed Project is significant without mitigation. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts to less than significant **(**Class II**)**. Adequate mitigation would be achieved through the restoration of disturbed areas and acquiring lands to replace functional habitat values.

### Noxious and Invasive Weeds

The term “noxious weeds” includes all plants formally designated by the U.S. Secretary of Agriculture or other responsible State official as such, and these species usually possess one or more of the following characteristics: “aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being not native or new to or not common to the United States or parts thereof” (FS Manual 2080.5, 1995).

The introduction of noxious and invasive weeds species is a special concern for native plant communities and is recognized by the FS as a threat to native vegetation communities and wildlife. Noxious and invasive weeds

pose a threat to the natural processes of plant community succession, fire frequency, biological diversity and species composition. Noxious and invasive weeds can affect the persistence of some populations of special-status species by replacing the foraging base, altering habitat structure, or excluding a species by vegetative growth.

Several noxious weeds, as defined by the California Invasive Plant Council (Cal-IPC) or the FS, already exist within or near the proposed Project in well-established populations, often clearly associated with a source of disturbance. The Northern Region contains large areas of nonnative annual grasslands, especially where historic and current grazing occurs. In the Central Region of the Project site, and especially within the ANF, the non-native species Spanish broom forms dense colonies along roadsides and other disturbed areas. In the Southern Region of the proposed Project, black mustard (*Brassica nigra*) dominates large areas of grasslands, forming large monocultural stands that affect native species. Other major stands of noxious weeds identified in surveys of the proposed Project included, but were not limited to, castor bean (*Ricinus communis*), giant reed (*Arundo donax L.*), and cheat grass (*Bromus tectorum*). A detailed inventory of the noxious and invasive weeds that occur in the vicinity of the proposed transmission line upgrade on the ANF is presented in Appendix A, Noxious Weed Assessment.

### *Impact B-3: The Project would result in the establishment and spread of noxious weeds.*

As described in Section 6.1 (Vegetation), the proposed Project would result in both temporary and permanent loss to a variety of native and non-native plant communities (Tables 6-1 and 6-2). In total the proposed Project would result in the permanent loss of approximately 350 acres of habitat. On NFS lands approximately 110 acres would be permanently lost through the placement of transmission towers and spur roads. The potential introduction or spread of noxious and invasive weeds would occur primarily during construction activities, but would also continue to occur during operation and maintenance phases of the proposed Project. The introduction of noxious and invasive weeds would be related to ground disturbance from clearing and grading, expansion of access roads, construction of spur roads, and road maintenance; the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed; use of straw bales or wattles that contain seeds of non-native plant species; and enhanced public access to the project corridor during and after construction. Additionally, weed seeds are often spread on equipment or clothing by construction or maintenance personnel. This would provide many avenues for new propagules (any part of a plant that may generate a new individual plant) to be carried into areas that previously were isolated from sources of noxious weed seeds.

For the purpose of this discussion, project-related disturbance or impacts to all habitats, even disturbances such as grading for temporary road construction, were treated as permanent in large part due to the foreseeable establishment and spread of noxious weeds and the conversion of native habitats to ruderal habitats (or expansion of existing ruderal habitats) following disturbance. Noxious weeds often become established following disturbance. For example, in arid sites or in sites with poor nutrient availability noxious weeds may become established following water and/or nutrient addition such as may occur along roadways as a result of increased runoff or nitrogen deposition.

Typically in areas where few exotic species occur, the characteristics of the existing topsoil structure, cryptogammic crusts, or the existing native vegetation prevent weed seeds from germinating. Once soil disturbance has occurred, the soil structure or native biotic components are affected such that these factors no longer preclude the establishment of noxious or invasive weeds. Following establishment, new populations of weeds are often extremely difficult to eradicate. It may take several years or decades to re-establish the native soil structure and biota.

As many noxious weeds occurring in southern California are fast-growing plants adapted to high light conditions, removal of canopy vegetation, either in forests and woodlands or in chaparral and scrub habitats, may release weed seeds present in the seed bank from dormancy and allow them to germinate and establish.

Direct impacts associated with the introduction of noxious weeds could occur when noxious weeds become established in an area. These invasive plant species can cause a permanent or long-lasting change to the environment by increasing vegetative cover, creating a dense layer that prevents native vegetation from germinating, altering the edaphic and hydrological conditions through nitrogen fixation (as in Spanish broom [*Spartium junceum*]), or may drain the water table (as in giant reed [*Arundo donax*]). Noxious weeds can create such an unfavorable environment for wildlife that associate, mutualistic species necessary for native plant life cycles, such as seed dispersers, fossorial mammals, or pollinators, are lost from the area.

Indirect impacts attributed to the colonization of noxious weeds could include a gradual decrease in natural biodiversity as noxious weed infestations may extirpate native plant populations. The lingering effects of herbicide use to remedy noxious weed infestations could adversely impact native plants and wildlife and are discussed in further detail below (Table 6-3). Operational impacts could include the facilitation of noxious weed establishment and spread as a result of increased vehicular and human traffic.

Currently SCE does not have a specific APM intended to reduce the spread or establishment of noxious weeds in the proposed Project area. Measures proposed by SCE that would reduce this impact include APM BIO-2, APM BIO-4, APM BIO-5, and APM BIO-6. These APMs include minimizing vegetation removal at construction sites, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to habitats. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not clearly address impacts from the spread or establishment of noxious weeds, and do not provide defined mitigation ratios for vegetation loss. Therefore to further reduce impacts of the proposed Project from the spread or establishment of noxious weeds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-2 (Implement RCA Treatment Plan), and Mitigation Measures B-3a through B-3c (Prepare and implement a Weed Control Plan, Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) to minimize the potential spread of noxious weeds as required by Forest Service Manual 2080.

The rationale for the success of the proposed mitigation strategy for impacts associated with noxious weeds contains a three-part approach. First, SCE shall implement restoration of all areas subject to project disturbance as defined in Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities). Second, SCE shall implement Mitigation Measure B-3a (Prepare and implement a Weed Control Plan) which requires SCE to adhere to the FS management guidelines for reducing the potential for the introduction of invasive, non-native plant species in the ANF by implementation of the FS Best Management Practices (BMPs) to reduce the potential spread of noxious weed propagules into remote, natural areas, or from roadsides into habitat interiors. The restoration of disturbed areas and general weed management practices such as vehicle cleaning would reduce the spread of noxious weeds on non-NFS lands. The final mitigation components identified in B-3b and B-3c (Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) are intended to monitor and control the spread of noxious weeds, as it cannot be assumed that any suite of BMPs will be 100 percent effective in preventing all invasive propagule spread or

release of existing noxious weed seed banks from dormancy. This will be required on NFS lands as identified in the USDA Forest Service Guidelines for Noxious Weeds.

### Mitigation Measures for Impact B-3

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** SCE shall prepare and implement a comprehensive, adaptive Weed Control Plan on NFS lands for pre-construction and construction invasive weed abatement. The long term Weed Control Plan, including monitoring and eradication, will be defined as part of the 50 year Operations and Maintenance Permit. On the ROW easement lands administered by the FS, the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the FS for final authorization of weed control methods, practices, and timing prior to implementation of the Weed Control Plan on public lands. ROW easements located on private lands shall include adaptive provisions such as wheel and equipment washing for the implementation of the Weed Control Plan. The Weed Control Plan shall include the following:

- A pre-construction weed inventory shall be conducted by surveying all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new or improved access and spur roads. Weed populations that: (1) are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006); and (2) aid and promote the spread of wildfires (such as cheatgrass, Saharan mustard, and medusa head); and (3) are considered by the FS as species of priority (for NFS lands only) shall be mapped and described according to density and area covered. In areas subject to ground disturbance, weed infestations shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the FS. The Weed Control Plan shall be updated and utilized for eradication and monitoring post construction.

- Weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods applied with the authorization of the FS. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the CPUC/FS, and implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Herbicides shall not be used within Riparian Conservation Areas (RCAs) on the ANF without approval of the FS. In riparian areas only water-safe herbicides shall be used. Herbicides shall not be applied when wind velocities exceed 6 mph. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the FS. The timing of the weed control treatment shall be determined for each plant species in consultation with the FS (on NFS lands) with the goal of controlling populations before they start producing seeds.

For the preconstruction and construction of the Project, measures to control the introduction and spread of noxious weeds in the Project work area shall be taken as follows.

- On the ANF, from the time construction begins until ten years after construction is complete, surveying for new invasive weed populations and the monitoring of identified and treated

populations shall be required at all sites impacted by construction (tower pads, staging areas, landing zones, etc.), including access/spur roads disturbed during the Project. Surveying and monitoring for weed infestations shall occur annually for years one to five and bi-annually for years six to ten. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or resprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

- During Project preconstruction and construction, all seeds and straw materials shall be weed-free rice straw, and all gravel and fill material shall be certified weed free by the county Agriculture Commissioners' Offices. Any deviation from this will be approved by a FS botanist. All plant materials used during restoration shall be native, certified weed-free, and approved by the CPUC and FS.

- During Project preconstruction and construction, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering FS identified areas. On non-NFS lands vehicles and equipment shall be washed prior to commencing work in off road areas. Vehicles shall be cleaned at existing construction yards or legally operating car washes. SCE shall document that all vehicles have been washed prior to commencing project work. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all Project work areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill, unless otherwise approved by the FS. A written daily log shall be kept for all vehicle/equipment/tool washing that states the date, time, location, type of equipment washed, methods used, and staff present. The log shall include the signature of a responsible staff member. Logs shall be available to the CPUC and FS for inspection at any time and shall be submitted to the CPUC and FS on a monthly basis.

- During Project operation and maintenance activities, clear and dispose of weeds in assembly yards, helicopter landing areas, tower pads, spur roads, staging areas, and any other disturbance areas in a FS-approved method.

**B-3b** **Remove weed seed sources from construction access routes.** Prior to construction, SCE shall initiate invasive species eradication identified in the Table below. These populations were identified as small and isolated but having the potential to spread aggressively during construction. Post construction, these isolated populations will be included and treated according to the restoration plan. Per the FSM 2080 BMP guideline, SCE shall also remove or reduce sources of weed seed along the travel routes associated with Project construction identified in Figures A-2 through A-4 of Appendix A of the *Biological Specialist Report* (Aspen, 2008) to prevent the introduction or control the spread of noxious weeds by mowing or other control methods to substantially reduce seed production in these infestations during Project construction. Following Project approval and during the time of year when weed species can be observed and identified, SCE shall identify, using a qualified plant ecologist, any other weed seed sources that could contribute to Project-related weed spread on the ANF. The following weed populations, and any other target infestations identified by Project surveys, should be controlled prior to construction. SCE shall initiate eradication of the following weed populations and any other isolated, target infestations discovered during pre-construction surveys along construction routes.

| **Weed Populations Along Construction Routes*** | |
|---|---|
| ANF Road Location | Noxious Weeds Identified |
| 4N41 | Isolated patch of Spanish broom |
| 3N20 | Isolated patches of Spanish broom, Scotch broom, and rockrose |
| 3N23 | Giant reed population in creek adjacent to road |

| Weed Populations Along Construction Routes* | |
|---|---|
| ANF Road Location | Noxious Weeds Identified |
| 2N23 | Scattered Spanish broom infestations of a range of population sizes and densities. Some of the large populations along these routes observed during project surveys had been recently brushed for weed control by SCE contractors, but these populations should be rechecked and control efforts reapplied as necessary. Also isolated patches of tree tobacco, rockrose, horehound, and tocalote. |
| 2N24 | Scattered, isolated patches of Spanish broom and rockrose |
| 2N25.2 | Scattered, isolated patches of Spanish broom, rosemary, rockrose, and horehound |
| 2N30.1 | One isolated patch of Spanish broom |
| 2N30.2 | Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, eupatory, horehound, smilo grass, and tree tobacco infestations of a range of population sizes and densities. |
| 3N27 north of Big Tujunga Creek to Mt. Gleason Rd | Scattered, isolated patches of Spanish broom |
| 2N45 | Moderate patch of giant reed and tree of heaven |
| 2N65.1 | Moderate infestation of tree spurge |
| 2N65.2 | Moderate infestation of Spanish broom and thoroughwort |
| 2N66 | Moderate patch of Spanish broom and tree of heaven |
| 2N75 | Moderate patch of Spanish broom |
| 2N79 | Isolated patch of Spanish broom |
| 1N36 | Scattered Spanish broom, bull thistle, tree of heaven, black locust, tocalote, rockrose, Canadian thistle, hairy vetch, smilo grass, and tree tobacco infestations of a range of population sizes and densities. |
| Road west out of Shortcut Station | Isolated patches of Spanish broom |
| *Specific locations are found in Figures A-2 through A-4 of Appendix A of the Biological Specialist Report Noxious Weed Assessment. [Aspen, 2008] | |

**B-3c** **Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads.** Prior to construction and during each year of use for construction at all assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads within the ANF, weed infested areas should be mowed and/or treated as appropriate for the individual weed species under the guidance of a qualified plant ecologist or restoration ecologist, where concurrence on the ecologist has been provided by the FS. Unless otherwise authorized by the FS, weed control efforts in these areas shall be timed annually to reduce shortpod mustard, tocalote, and other noxious weed seed production, by mowing or weed-whacking infestations when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at a FS/CPUC-approved location. Weed control efforts shall commence in early spring (February – March), as indicated annually by a qualified plant ecologist or restoration ecologist in coordination with a FS botanist or Forest Weed Specialist.

### Use of Herbicides to Control Exotic Weeds for Mitigation Measure B-3a

As described under Impact B-3 (The Project would result in the establishment and spread of noxious weeds) several invasive plant species have been detected along the project ROW. As part of a comprehensive Weed Control Program, several options may be utilized to limit or reduce impacts from invasive plants. To date several methods exist and are regularly prescribed for the eradication of existing weed populations depending on their location and the habitat type they infest. Some of these include herbicide application, mechanical removal, biocontrol methods, prescribed burns or floods, and shading. The removal of established noxious weed populations is best accomplished by species-specific methodologies, which may include a combination of the above removal procedures or precise timing of specific actions. Due to typically large seed banks and the ability of some weed species to vigorously resprout following removal methods, most species require more than one round of treatment, or require a differing follow-up treatment method after the initial removal occurs.

A suite of known species-specific control methods is presented in detail in Appendix A (Noxious Weed Report).

Herbicides are any chemical agents, taken from a broader spectrum of pesticides, which target the specific control or removal of plants. Many weed control programs rely heavily or solely on herbicidal methods, as these are often assumed to present the most efficient and cost-effective opportunities for eradication, especially of large populations. However, herbicides may harm or kill desirable native vegetation occurring in close proximity to or even downstream from the targeted weeds. Additionally, herbicides may be detrimental to susceptible wildlife species such as amphibians (Relyea, 2005) or negatively impact water quality. The potential for runoff to streams will need to be determined on a site by site basis according to which biological resources are within each area. To minimize potential impacts, weed control treatments shall include all legally permitted herbicide, manual, and mechanical methods applied with the authorization of the FS. The application of herbicides shall be in compliance with all state and federal laws and regulations under the prescription of a Pest Control Advisor (PCA), where concurrence has been provided by the CPUC/FS, and implemented by a Licensed Qualified Applicator who has been clearly informed of the nature of surrounding native vegetation. Herbicides shall not be applied during or within 72 hours of a scheduled rain event. Herbicides shall not be used within Riparian Conservation Areas (RCAs) on the ANF without approval of the FS. In riparian areas only herbicides specifically approved for use in wetland environments should be used in any area where overspray could potentially be washed into watersheds. Herbicides shall not be applied when wind velocities exceed 6 mph.

Noxious weed control measures prescribed as mitigation for project impacts should be species specific, and herbicides should be applied only if necessary after considering alternate methods or as part of a proven eradication strategy for that weed species. Many weed species require specific timing or methods of herbicidal application (i.e., disturbing a protective waxy cuticle to allow uptake, applying herbicide after the plant has bolted but before seed set, etc.), and if such methods are not followed, it is likely native vegetation will be harmed by herbicidal contamination while the target weed species are left unaffected.

Because the terrain in several locations throughout the proposed alignment is steep and difficult to access, and several of the weed species present in the ROW and access roads are typically controlled through the use of herbicides, SCE may opt to use herbicides as one component of the Weed Control Program.

While the overall benefits of herbicide use are generally straightforward, herbicide use may have detrimental effects on ecosystem values and functions. As noted in the CNPS Policy on the use of herbicides in situations where native vegetation may be affected, the tradeoff between the benefits and costs of using herbicide – either proven or alleged – has made it difficult for the public at large, CNPS members, other organizations, and public agencies to evaluate whether or not to use herbicides (CNPS, 2008). It is generally desirable to select an herbicide that has low toxicity, will not move from its target or leach into groundwater (low water solubility), and will not remain in the environment for a long period of time (low persistence). Furthermore, the application method selected depends on the type of control needed, the type of vegetation, and the site situation (site conditions and locations). Not all herbicides or application methods are equally appropriate, effective, or safe, given different site conditions and weed species.

There are several exposure scenarios possible for herbicides and wildlife. These include direct spray; indirect contact through grooming or contact with affected vegetation; and, ingestion of contaminated media, including vegetation, prey species, and water. Because of the relationship of body weight to surface area and to the consumption of food and water, small animals will generally receive a higher dose, in terms of body weight, than large animals will receive for a given type of exposure (Durkin, 2007). However with the measures

prescribed as mitigation, the potential for impacts to aquatic fauna will be minimized. For non-target terrestrial plants, the primary hazard is unintended direct spray or spray drift. Offsite drift typically depends on the droplet size and meteorological conditions. Other offsite exposure scenarios for vegetation include percolation, runoff, sediment transport, and wind erosion.

Table 6-3 contains a list of herbicides, including their potential risks to native vegetation and wildlife, which are proposed for use within the Project area on Forest Service lands. It is important to note that there is an extensive variability related to different types of exposure scenarios and dosages for each herbicide. Furthermore, the effects of certain herbicides can vary exclusively at the species level. Therefore, the information presented in Table 6-3 is intended as a general overview of the possible effects of herbicide use. The application of an herbicide should always be conducted by a licensed herbicide applicator. Full analyses on the effects of these seven listed herbicides on human and ecological health can be found in the Forest Service Risk Assessment Final Reports (http://www.fs.fed.us/foresthealth/pesticide/risk.shtml) and is incorporated by reference.

**Table 6-3. General Effects of Herbicides on Plant and Wildlife Species**

| Herbicide | Effects on Vegetation | Effects on Wildlife |
|---|---|---|
| Chlorsulfuron | • Rate and extent of uptake following foliar application varies by species<br>• Inhibits an enzyme that is essential for plant growth | • Causes weight loss and decreased body weight gain in experimental mammals<br>• Appears to have low toxicity in mammals, birds, fish, and invertebrates |
| Clopyralid | • Highly selective toxicity to terrestrial plants (primarily broadleaf species)<br>• Relatively non-toxic to aquatic plants and grasses<br>• Regulates plant growth by acting as a synthetic auxin, thus altering plant's metabolism and growth characteristics | • Appears to be relatively non-toxic to terrestrial or aquatic wildlife<br>• May adversely affect liver and kidney weights and gastric epithelial tissue<br>• Appears to show no effect on viability of bird eggs and chick immune systems |
| Dicamba | • Mimics plant hormone indole-3 acetic acid<br>• Mechanism appears to involve a stimulation of ethylene production leading to accumulation of abscisic acid and/or cyanide resulting in abnormal growth | • Displays an apparent pattern of interspecies scaling, with smaller animals being less sensitive than larger animals<br>• Relatively non-toxic to mammals, fish, and amphibians<br>• Acute toxicity to birds appears to be generally low<br>• May reduce growth and stunt eye development in pre- and post-hatch birds |
| Glyphosate | • Inhibits shikimic acid pathway, effectively blocking synthesis of certain phenolic compounds and aromatic amino acids<br>• Inhibits photosynthesis, respiration, and nucleic acid synthesis | • May reduce food conversion efficiency leading to loss of body weight in mammals and birds<br>• Certain surfactants used with glyphosate are much more toxic to fish that others<br>• May cause histological changes in gills, kidneys, and liver of some fish |
| Imazapyr | • Inhibits an enzyme that is essential for plant growth<br>• Practically non-toxic to conifers | • Appears to be relatively non-toxic to terrestrial and aquatic animals |
| Picloram | • More toxic to broadleaf plants than grasses<br>• Mimics naturally occurring auxins leading to uncontrollable and abnormal growth | • Appears relatively non-toxic to terrestrial animals<br>• Moderately toxic to aquatic animals, particularly some fish<br>• May affect fry survival and growth in some fish |
| Triclopyr | • Mimics indole auxin plant growth hormones causing uncontrollable growth<br>• At sufficiently high levels of exposure, abnormal growth is so severe that vital functions cannot be maintained and plants die | • May cause developmental effects at levels that cause maternal toxicity in mammals<br>• May have adverse affect on mammalian kidney functions<br>• Higher concentrations may cause mortality or immobility in frog tadpoles<br>• Larger doses may cause a decrease in body length and smaller doses may lead to lethargic behavior in some fish<br>• Relatively non-toxic to birds |

Source: http://www.fs.fed.us/foresthealth/pesticide/risk.shtml

As the proposed Project traverses a wide variety of vegetation communities and supports several different species of noxious weeds, a variety of herbicides may be selected. For example, at locations where aquatic species occur, an herbicide that does not contain added surfactants would be used. Surfactants are materials added to enhance the ability of the herbicide to adhere to the treated surface and have been shown to adversely affect aquatic life, including fish and amphibians (Solomon and Thompson, 2003; Tatum, 2004).

The use of herbicides in the project area would comply with regulations set forth by the U.S. Environmental Protection Agency (EPA) and California Department of Pesticide Regulation (CDPR). Additionally, any herbicide use on NFS lands would be subjected to the review and approval of the appropriate FS personnel. Although overspray may adversely affect some non-target species, the removal of noxious or invasive weeds and the control of existing populations would be considered a beneficial effect. To reduce the effects of herbicides, if used, SCE would implement Mitigation Measure B-3a (Prepare and implement a Weed Control Plan).

### Noise Effects of Mitigation Measures B-3a, B-3b, and B-3c

Mitigation Measures B-3a, B-3b, and B-3c are recommended to minimize the spread of noxious weeds, however the use of mechanical weed control treatments in areas near sensitive receptors may result in additional noise impacts. (Please see Noise Section 3.10 for a description of sensitive receptors. The use of the term in this context does not constitute biological resources). Mitigation Measures B-3a through B-3c would contribute to increased construction noise from operation of motorized equipment such as brush cutters or mowers, which may impact noise sensitive receptors in the Project area. Section 3.10 (Noise) includes an analysis of the use of motorized equipment to clear vegetation from Project work areas. As described in Table 3.10-10 (Noise Policy Compliance Table – Construction), although construction noise would be temporary and would be reduced by implementation of APMs NOI-1, NOI-3, and NOI-4, and Mitigation Measures N-1a (Implement Best Management Practices for construction noise) and N-1b (Avoid sensitive receptors during mobile construction equipment use), the level of construction noise would violate several local noise ordinances and standards.

### CEQA Significance Conclusion

The spread of existing invasive populations or the establishment of new noxious weed populations in previously native areas as a result of Project activities are considered permanent in nature due to the substantial degradation of native habitats within and surrounding the impact areas; and as such, are considered a significant impact without mitigation. Due to the intense effects of noxious weed establishment and spread within California, and the difficulty in controlling existing infestations or restoring arid habitats, Project-related activities that result in the increase in noxious weed populations would have long-lasting consequences for habitats in the proposed Project area and would constitute a significant impact, without implementation of the mitigation measures. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-2 (Implement RCA Treatment Plan), and Mitigation Measures B-3a through B-3c (Prepare and implement a Weed Control Plan, Remove weed seed sources from construction routes, and Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads) will reduce impacts to less-than-significant levels **(**Class II**)**.

## Wildlife

The removal of vegetation from the proposed Project can result in direct and indirect effects to wildlife from the temporary and permanent loss of habitat. In addition, construction activities would result in the displacement and/or potential mortality of resident wildlife species. Construction may also result in the temporary degradation of the value of habitat in and adjacent to the proposed Project area. Noise, dust, and visual disturbances from increased human activity, helicopter operation, and exhaust fumes from heavy equipment used during construction would temporarily result in reduced habitat quality for wildlife adjacent to the construction zone. This section discusses impacts to wildlife in general, particularly non-special-status species. Impacts to special-status species are described under Criteria BIO2 and BIO3.

### *Impact B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality.*

Direct impacts to wildlife associated with construction of the proposed Project could include mortality from trampling or crushing; increased noise levels due to heavy equipment and helicopter use; light impacts from construction during low-light periods; increased vehicular and human presence along existing access roads and riparian areas; displacement due to habitat modifications, including vegetation removal, alterations of existing soil conditions; fugitive dust; and, increased erosion and sediment transport. Indirect effects to wildlife as a result of the proposed Project include the introduction of non-native, invasive plant species, alterations to existing hydrological conditions, and exposure to contaminants.

Direct mortality of small mammals; amphibians and reptiles; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds are discussed under Impact B-5); and other less mobile species would likely occur during construction of the proposed Project. This action would result primarily during habitat clearing, earth removal, grading, digging, and equipment movement. Birds, specifically eggs and nestlings, could be directly impacted by use of helicopters in construction due to startling and increased wind velocity near the nest. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Increased lighting during low-light periods can cause some species to leave the area and can disrupt foraging, breeding, or other activities. Many insects are drawn to lights, and species that prey on insects, such as bats, may be attracted to lighted construction areas which would increase the potential for disturbance and mortality.

Noise from clearing, grading, and helicopter use would generate the greatest construction impacts on wildlife, especially in undisturbed portions of the ANF. Construction could affect wildlife in adjacent habitats by interfering with breeding or foraging activities and movement patterns, causing animals to temporarily avoid areas adjacent to the construction zone. This could disrupt foraging, breeding, sheltering, and other activities. Nocturnal (i.e., active at night) wildlife would be affected less by construction than diurnal (i.e., active during the day) species since construction would occur primarily during daylight hours. However, construction may also occur during dusk, dawn, or nighttime, and if this occurs, impacts to nocturnal species would be similar to impacts described for diurnal species. More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during the land clearing and grading phases associated with tower construction and road construction and widening. Depending on the timing and location of project activities, construction may also result in temporary disruption along terrestrial and riparian wildlife movement corridors crossed by the Project (see Criterion BIO5 for a full discussion of wildlife movement corridors). Disturbance due to helicopter noise and rotor wash would occur in discrete areas, and wildlife would likely temporarily move away from locations where helicopters would be used. However, displacement of individuals could

result in loss of fitness and survivorship if animals are displaced into lower-quality habitat or their breeding or foraging activities are disrupted by the need to move into adjacent areas.

Vehicle and equipment travel on existing access roads may also disturb wildlife. Access to the tower locations varies greatly depending on the project segment. Most of the Northern and Southern segments have clearly defined access roads that run adjacent to the existing tower locations. In many instances vehicle access would be accomplished by traveling on roads within the existing transmission line corridor. In addition, the relatively flat or gently sloping topography in these segments facilitate access, staging, and construction near each tower footing. Vehicles could cause direct mortality or injury to wildlife that are unable to move out of the way of vehicle traffic. In addition, vehicle traffic could cause displacement of wildlife species, which could interfere with breeding, foraging, sheltering, and other activities.

On the ANF the topography consists of sharply rising slopes, deep canyons, and mountainous terrain. Vehicle access to many of the towers is restricted by the terrain and may not be possible in some locations. These areas would likely require the use of helicopter construction techniques. Similarly, the terrain limits the use of access roads that run adjacent to the existing transmission line corridor. However, existing forest roads would be used to access many of the towers; and it is likely that these roads were utilized during the construction of the original transmission line. These roads also support fire personnel, forest staff, and to a limited extent, permitted recreational vehicles. Most of the roads are gated and typically consist of graded dirt tracks approximately 12 feet in width. Depending on the location of the roads these paths cross numerous small drainages, creeks, dense woodlands, chaparral communities, and scree-covered slopes. While some of these roads occur in close proximity to the existing line, vehicle and equipment travel would occur in habitat areas that are important to many species of wildlife. For example, the perennial flow and thick riparian canopy at the West Fork of the San Gabriel River support habitat for several special status species. Populations of Santa Ana sucker, speckled dace and arroyo chub are known to occur in the West Fork of the San Gabriel River. Southwestern pond turtle, coast range newt, two-striped garter snakes, and many raptors and song birds also occur here. While the river would not be directly affected by project construction activities, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir (West Fork Cogswell Road). This road is located immediately adjacent to the river for seven miles and is consistently within the riparian canopy. Numerous small ephemeral and intermittent drainages are also present in the canyon and provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the access road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to Santa Ana suckers and other special status species if present. In addition, the many small drainages and creeks that are crossed provide important riparian habitat and water sources for wildlife. On the ANF some of these areas would also qualify as RCAs that require specific management authorization prior to any action. The number of road crossings of various types within RCAs on the ANF for the proposed Project are identified in Table 6-4. A map of the RCA crossing points on the ANF is included as Appendix L.

The structure of the vegetation communities associated with riparian habitats provides cover and nesting habitat for songbirds and smaller birds of prey. These areas also serve important functions for wildlife movement and dispersal. The linear configuration of riparian areas creates corridors for local animal movement including travel to and from different habitat types. While riparian habitat occurs as linear strips through various vegetation types, the adjacent upland habitat is often different. The edges where riparian habitat meets with upland habitat are known as ecotones, or transitional habitats. Numerous studies have shown that transitional habitats are critical for many animal species. The variety in vegetative structure and species composition

associated with riparian areas is critical for breeding birds, small mammals, reptiles, and amphibian species which have a terrestrial stage in their life history. Vehicle traffic would disrupt wildlife usage in these areas.

**Table 6-4. RCA Crossing Points Summary**

| Drainage Type | Crossing Type | Total | Plan Amendment Required |
|---|---|---|---|
| ROAD CROSSINGS | | | |
| Perennial | Arizona | 2 | 2 |
| | Paved Arizona | 2 | 2 |
| | Washout – No crossing | 1 | 1 |
| Intermittent | Arizona | 44 | 35 |
| | Paved Arizona | 8 | 3 |
| | CMP | 12 | 6 |
| | Concrete Culvert | 1 | 1 |
| Ephemeral | Arizona | 84 | 38 |
| | Paved Arizona | 4 | 2 |
| | CMP | 12 | 5 |
| | Concrete Culvert | 1 | 0 |
| | Subtotal | 171 | 95 |
| LINE CROSSINGS* | | | |
| Perennial | N/A | 7 | 0 |
| Intermittent | N/A | 63 | 0 |
| Ephemeral | N/A | 26 | 0 |
| | Subtotal | 96 | 0 |
| | Total | 267 | 95 |

*Line crossings were determined by aerial photography and are indicated as such (Appendix L)

Human disturbance near riparian areas could also limit access to critical water features in select portions of the ANF. Terrestrial wildlife species rely upon these areas for year-round water supply, particularly during the hot and dry summer season. Aquatic habitats in the ANF may also include ephemeral pools or seeps. Such ephemeral pools provide critical breeding habitat for amphibians such as salamanders, frogs, and toads. These ephemeral sources of water generally remain only a few months and only occur during years when sufficient precipitation occurs. Such water sources allow wildlife to disperse during the breeding season without making it necessary to travel long distances to water.

**Access and Spur Roads**

Many of the existing access roads, spur roads, and road crossings, particularly on NFS lands, do not currently meet the 16 foot minimum width that SCE has indicated would be required for the passage of heavy equipment during construction of the proposed Project. On the ANF, conditions along access roads can change within very small timeframes due to loose soils, landslides, washouts, and fallen trees. As a result of current access road conditions and the ability for these conditions to rapidly change, the majority of these roads would require upgrades, including, but not limited to, cutting and filling, clearing, grading, and soil compaction. Many of these activities would continue to be performed as part of ongoing maintenance during construction of the proposed Project to keep the roads passable to construction equipment and vehicles. Vegetation communities and wildlife habitats also vary dramatically along the access roads in the Project area. These range from agricultural and arid desert scrub communities at lower elevations in the Northern Region to riparian woodlands, oak woodlands, and various scrub communities on the ANF within the Central Region. Dense stands of Douglas fir and other coniferous forests also occur at higher elevations within the Central portion of the proposed Project area. Additionally, scree-covered hillsides, exposed bedrock, disturbed road edges, and semi-disturbed fields of annual wildflowers are interspersed between large continuous blocks of high-quality habitat. In order to facilitate construction of the proposed Project, soil, rock, and vegetation would be removed

to accommodate the passage of heavy equipment. In many areas, this would include the direct removal of riparian plant species and/or mature oak, pine, and fir trees. As discussed under Impacts B-2 and B-4 above, numerous existing access roads either directly cross or parallel RCAs on the ANF. Widening of access roads to allow construction equipment to pass in some RCAs would require the removal of riparian vegetation and the potential diversion of water flow since there are several seeps that flow across the road during portions of the year. Natural seeps and springs also occur adjacent to portions of several of these access roads, and could be directly or indirectly affected by road widening and improvement. However, site specific details will need to be determined during final engineering and in some cases may require a streambed alteration agreement. Many of these wet features are capable of supporting rare amphibian species, including arroyo toad and coast range newt. In some areas, such as Mount Gleason, and Mount Wilson, access roads bisect dense stands of oak trees and various conifers. These areas provide important nesting habitat for a suite of bird species, including California spotted owl. In addition, once disturbance has occurred, it may be extremely difficult to control illegal Off Highway Vehicles (OHV). OHVs could directly impact species such as arroyo toads through road kill. Birds could be flushed from their nests by OHV noise and presence, and OHV users could drive off road and kill plants and/or animals. Larger species such as mule deer may avoid areas of OHV use.

The ecological effects of roads have been widely studied (Findlay and Bourdages, 2000; Haskell, 2000; Jones et al., 2000; Trombulak and Frissell, 2000; Parendes and Jones, 2001; and Vistnes and Nellemann, 2001). Seven general effects of roads have been identified: mortality from road construction, mortality from vehicle collisions, modification of animal behavior, changes to the physical environment, changes to the chemical environment, spread of invasive species, and increased human access and use (Trombulak and Frissell, 2000).

Road construction results in the injury and mortality of slow–moving and sedentary organisms that are in the path of the road and along its edges. In addition, road construction alters the physical characteristics of the soil underneath the road. For example, road construction increases compaction up to 200 times relative to undisturbed sites (Riley, 1984). Organisms that are not killed directly by the construction of the road can be effectively displaced by the altered soil conditions (Haskell, 2000). Road construction also results in sedimentation to water bodies at road crossings from vehicular crossings, the expansion of the existing access roads, and stream bank erosion. Sedimentation is detrimental to aquatic organisms as sediment can interrupt gas exchange for amphibian and fish eggs and larvae, and fill in interstitial spaces in gravel beds used by prey items and for oviposition sites for fishes (Trombulak and Frissell, 2000).

Construction traffic along access and spur roads, particularly in areas used by nesting birds or near water sources, can adversely affect wildlife by disrupting breeding, foraging, and movement. Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances could result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during the breeding season. Helicopter noise could also have the potential to disrupt wildlife, alter behavior, and may result in nest or territory abandonment for short periods of time.

The use of access roads by construction/maintenance vehicles could result in accidental road-killed wildlife if these species occurred on roads during construction activities. Diurnal reptiles and small mammals such as western fence lizards (*Sceloporus occidentalis*), desert cottontails (*Sylvilagus audubonii*), and California ground squirrels (*Spermophilus beecheyi*) are the most likely to be subject to vehicle-caused mortality, although few if any wildlife species are immune to vehicle collisions. These types of effects are most likely to occur in the more remote portions of the Project area. Vehicle collisions with mule deer (*Odocoileus hemionus*) and other forest species may also occur, particularly on NFS roads. Where vehicles cross riparian areas, road kill could also include aquatic reptiles and amphibians. Because access roads will be used heavily,

albeit for relatively short durations of time during the construction phase, there exists a high likelihood for mortality of wildlife due to vehicle collisions. This type of mortality can have devastating effects on local populations by reducing population size and inhibiting the growth of populations (Trombulak and Frissell, 2000). Furthermore, animals killed along access and spur roads as a result of this project may attract opportunistic predators which may result in additional accidental mortality.

Amphibians are particularly vulnerable to road kill because they migrate across uplands between water sources, are small and inconspicuous, and are usually slow-moving. One study in Ontario found an inverse relationship between local abundance of frogs and toads and traffic on nearby roads. However, the incidence of road killed amphibians is increased on heavily traveled roads adjacent to suitable habitat. Thus, where roads are frequently traveled, frog and toad population sizes are suppressed but road kill rates are high, further decreasing population sizes (Fahrig et al., 1995).

Animal behavior is altered by the presence of roads in five ways: home range shifts, altered movement patterns, altered reproductive success, altered escape response, and physiological stress (Trombulak and Frissell, 2000). For example, mule deer in Colorado prefer areas more than 200 meters from roads and mountain lion home ranges are located in areas with low densities of dirt roads (Trombulak and Frissell, 2000). However, turkey vultures and black vultures select home ranges with higher road densities, presumably for the increased carrion due to road kills (Trombulak and Frissell, 2000). In the Angeles National Forest major paved roadways are likely the most important factor in the alteration of wildlife behavior as many of the remotely located dirt roads clearly show strong evidence of wildlife use. This is likely due to the nearly impenetrable stands of chaparral that occur in some areas.

The physical conditions on and adjacent to roads differ from other undisturbed areas. Edge effects occur that last well past the time of construction. Soil compaction alters the microhabitats available for plants and soil fauna. Roads in forested areas increase the amount of light that reaches the forest floor, which can open up habitat for early-successional, disturbance-loving species such as many weeds (Parendes and Jones, 2000).

Dust from vehicle access would also affect species in adjacent habitat. The Angeles National Forest strategy AIR 1 is directed to “Control and reduce fugitive dust to protect human health, improve safety and moderate or eliminate environmental impacts.” To this effect the Project would reduce dust emissions on habitat by the use of non-hazardous soil binders and limited vehicle speeds on dirt roadways. Dust can inhibit photosynthesis, smother small organisms, and reduce the quality of the habitat if excessive. Heavy dust generated during the use of dirt roads can also contribute to sedimentation in nearby bodies of water, while road crossings act as barriers to movement for fish and other aquatic wildlife and result in increased turbidity downstream of the crossing.

Roads change the hydrology of slopes and stream channels, which results in changes that are often detrimental to plant communities and wildlife. Roads can intercept shallow groundwater, rerouting surface drainage patterns. This is apparent in places such as along Monte Cristo Creek, where shallow groundwater results in one area where surface water flows along the edge of the existing access road. These kinds of changes to hydrology can result in slope failures and sedimentation through channel downcutting, new gully or channel head initiation, or slumping and debris flows (Trombulak and Frissell, 2000; Jones et al., 2000). SCE would be required to lay steel plates across such areas to limit the amount of sedimentation and turbidity generated by driving through wet areas of the road.

Pollution, including the deposition of heavy metals, organic compounds, and nutrients, also occurs along roads. Contamination of plant tissue has been recorded as far as 200 meters from roads, and contamination is

exponentially higher in plants adjacent to road edges (Trombulak and Frissell, 2000). Roads also contribute pollution and nutrients to nearby aquatic ecosystems at a high rate because the normal buffering effect of riparian vegetation is removed along roads that run adjacent to or cross water bodies. Organisms may be killed or displaced due to the presence of contaminants from roads, and native plant growth and survival is negatively impacted by contaminants (Trombulak and Frissell, 2000).

Roads facilitate the spread of invasive species by opening up bare areas of soil that are readily colonized by disturbance-loving exotics. Further, the use of roads increases the deposition of nutrients such as nitrogen that are favored by exotic species. As discussed above, roads also increase the availability of light and water (as runoff) along road edges, and dust and contamination can stress or kill native vegetation adjacent to the road. Finally, roads increase access by human and animal weed propagule vectors. All of these conditions lead to increased recruitment of noxious weeds along road edges (Trombulak and Frissell, 2000).

The presence of roads increases the ability for humans to access remote areas. Increased human access can result in disturbance to wildlife, litter, road kills, and other detrimental effects. While SCE would gate access and spur roads on NFS lands to discourage unauthorized use (Mitigation Measure B-1a, Provide restoration/compensation for impacts to native vegetation communities), some use may occur. This is especially important in areas where new spur roads would be created. Additionally, some access roads in the Northern and Southern Regions would not be gated and would thus result in increased use by the public.

Local populations of wildlife that occur along the proposed Project ROW are expected to temporarily decline in abundance or disperse during the construction phase of the Project, but common species are expected to return to their pre-construction levels following the restoration of the helicopter landing areas, pulling/splicing sites, concrete batch plant sites, staging areas, and tower erection sites. Also, as construction is limited to relatively small areas, opportunistic wildlife species would likely return to the proposed ROW areas as work crews move to new tower locations.

A large part of the proposed Project route would be constructed along the existing SCE designated utility corridor. Most of the wildlife expected to be impacted by construction in these easements are composed of common, wide-ranging species. Due to the narrow area of disturbance along this project and the short duration of disturbance, many common wildlife species occurring along the transmission line route are expected to quickly re-colonize the area after construction activities have been completed. However, re-colonization rates will depend on the rate of revegetation at each disturbed site, with slower wildlife re-colonization in vegetation communities that are difficult to restore and slow to recover from disturbance. The use of access roads would also result in the temporary decline of species in the immediate vicinity of the roads, however the effects of traffic are typically short term and vehicle speeds would be limited.

Project-related effects on common species would be minimized through the implementation of mitigation measures designed to educate workers of the presence and sensitivity of wildlife that may occur in the project area; limitations on the work that may occur in RCAs, reducing the effect of fugitive dust on adjacent areas through dust control and reduced vehicle speeds; the restoration of habitat at the conclusion of construction; and the control of noxious weeds. The implementation of erosion control measures would also reduce the potential off-site transport of sediment to both aquatic and upland habitats. These measures include APM BIO-1 which requires SCE to conduct pre-construction clearance surveys for wildlife and Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure

AQ-1a (Implement Construction Fugitive Dust Control Plan). The implementation of these measures would reduce fugitive dust, re-establish native vegetation communities following disturbance, educate workers about wildlife, and prevent the spread or colonization of noxious weeds which can severely degrade habitat for common wildlife.

#### Mitigation Measures for Impact B-4

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Construction-related effects to common wildlife are typically not considered significant under the CEQA. However, the large scale of the construction and multiyear schedule would result in potential significant effects to species on the ANF, without implementation of the mitigation measures. Implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan.), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to a less than significant level **(**Class II). Construction impacts to listed and candidate wildlife species are discussed separately under Rare, Threatened, or Endangered Wildlife (Criterion BIO2) below.

### *Impact B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors.*

The proposed Project area consists of several vegetation communities that are known to support nesting habitat for both common and rare bird species. These vary from Joshua tree woodlands and desert habitats in the Northern Region to oak woodlands, chaparral, riparian scrubs and forests, and montane forests in the Central Region and riparian scrubs, coastal sage scrub, and chaparral habitats in the Southern Region.

Direct impacts to nesting birds or raptors as a result of construction activities for the proposed Project could include the removal or disturbance of vegetation that supports nesting birds, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding or foraging activity due to facilitated use of new or improved spur and access roads by the public. Operational impacts include increased human presence from maintenance personnel and collisions with transmission lines (see Impact B-20, below). Operations and maintenance activities would primarily consist of maintenance

personnel driving on spur and access roads to check the lines and perform routine grading and road work along with vegetation removal to maintain access along roads. This could disturb nesting birds if conducted during the breeding season. However, road maintenance would be conducted outside of the breeding season, unless otherwise approved, and routine use of the access roads by maintenance personnel would not be likely to interfere substantially with breeding as this use would be of low intensity and relatively infrequent. Once operational, the proposed Project would result in an increase in corona noise, which could impact nesting birds. Impacts related to corona noise are addressed under Impact B-41.

Ground-disturbing activities associated with construction of the proposed Project, including tower pad preparation and construction and grading of new spur roads and grading and widening of existing access roads, would result in the direct removal or disturbance to vegetation utilized by nesting birds. These include nesting songbirds and several raptor species, such as red-tailed hawk and white-tailed kite, which are known or expected to nest in the vicinity of the proposed Project. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. The proposed Project may also result in impacts to raptors that utilize the existing towers for nesting or burrowing owls that utilize the edges of the agricultural fields, existing roads, and irrigation canals for wintering or breeding habitat. Breeding birds and other wildlife may temporarily or permanently leave their territories to avoid construction activities, which could lead to reduced reproductive success and increased mortality.

The widening of access roads would result in removal of vegetation that could support nesting birds. Use of access roads by construction equipment and vehicles could disrupt nesting birds and could lead to nest failure or abandonment. The effects of access roads on nesting birds would be similar to that described for general wildlife. See Impact B-4 for a complete description of the effects of the use of roads on wildlife.

Helicopter operations, which would occur in many sections of the ANF, could also adversely impact nesting birds. The use of helicopters for project construction would increase noise, vibration, dust, and air turbulence, and would cause visual disturbance to nesting birds. These factors could result in the disruption of breeding activity, and subsequent nest failure.

Many species of birds found within the project area are protected under the Migratory Bird Treaty Act. Nesting birds are also offered protection by the CDFG. All construction and operations/maintenance activities would be performed in compliance with federal and State protections regarding nesting birds, in consultation with the Fish and Wildlife Service and CDFG. To reduce effects of the proposed Project on nesting birds SCE would implement APM BIO-1 and APM BIO-8. These APMs include conducting clearance surveys for wildlife and completing project wide raptor surveys. However, as described above these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project on nesting birds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measure for Impact B-5

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-5** **Conduct pre-construction surveys and monitoring for breeding birds.** SCE shall conduct pre-construction surveys for nesting birds if construction and removal activities are scheduled to occur during the breeding season. Surveys shall be conducted in areas within 500 feet of tower sites, laydown/staging areas, substation sites, and access/spur road locations. Surveys for birds shall be conducted for all areas from February 1 to August 15. The required survey dates may be modified based on local conditions (i.e., high altitude locations) with the approval of the CPUC, California Department of Fish and Game (CDFG), USACE, and/or FS. SCE shall be responsible for designating qualified biologists who can conduct pre-construction surveys and monitoring for breeding birds. The resume of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to ground disturbance. On NFS lands, the FS shall apply the FS Land Management Plan Standard S18 (Part 3 of the Land Management Plan), which states "Protect known active and inactive raptor nest areas. Extent of protection will be based on proposed management activities, human activities existing at the onset of nesting initiation, species, topography, vegetative cover, and other factors. When appropriate, a no-disturbance buffer around active nest sites will be required from nest-site selection to fledging." On both NFS and non-NFS lands, if breeding birds with active nests are found, a biological monitor shall establish a 300-foot buffer around the nest for ground-based construction activities and a one-mile buffer for helicopter use if helicopters are flying below 300 feet, and no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. If nesting bald or golden eagles are identified, a 660-foot no activity buffer will be implemented. The 300-foot (660-foot eagle and one-mile helicopter) buffer may be adjusted to reflect existing conditions including ambient noise, topography, and disturbance with the approval of the U.S. Fish and Wildlife Service (FWS), CPUC, USACE, CDFG, or FS, as appropriate. On NFS lands, the FS shall have the authority to define/redefine such buffers. The biological monitors shall conduct regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitors shall be responsible for documenting the results of the surveys and the ongoing monitoring and will provide a copy of the monitoring reports for impact areas to the respective agencies (e.g., On NFS lands documentation will be provided to the Forest Biologist). If for any reason a bird nest must be removed during the nesting season, SCE shall provide written documentation providing concurrence from the FWS and CDFG authorizing the nest relocation. On NFS lands, this will include coordination and written approval from the FS. On USACE lands, this will include coordination and written approval by the USACE. SCE shall provide a written report documenting the relocation efforts. The report shall include what actions were taken to avoid moving the nest, the location of the nest, what species is being relocated, the number and condition of the eggs taken from the nest, the location of where the eggs are incubated, the survival rate, the location of the nests where the chicks are relocated, and whether the birds were accepted by the adopted parent.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Implementing the proposed Project, without the mitigation measures, has the potential to violate the Migratory Bird Treaty Act by impacting active nests during the breeding season. However, implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), and B-5 (Conduct

pre-construction surveys and monitoring for breeding birds) would reduce Impact B-5 to less-than-significant levels (Class II).

### *Impact B-6: The Project would cause the loss of foraging habitat for wildlife.*

Direct impacts as a result of construction activities associated with the proposed Project would include the permanent removal and temporary disturbance of rare and non-rare vegetation communities utilized as foraging habitat for both common and rare wildlife, fugitive dust, and increased noise levels due to heavy equipment and helicopter operations occurring in these areas. These impacts would primarily occur during tower pad preparation, grading for helicopter staging areas, and construction, grading, and widening of new spur roads or existing access roads. Indirect impacts to foraging habitat could include alterations to existing topographical and hydrological conditions, increased erosion and sediment transport, and the establishment of noxious weed colonies. Operational impacts include increased human presence and the spread of noxious weeds due to public use of new or improved spur and access roads.

Construction activities associated with the proposed Project would result in disturbance to a variety of plant communities. Tables 6-1 and 6-2 present the temporary and permanent impacts to vegetation communities that would occur from implementation of the proposed Project. In total, the proposed Project would permanently disturb a minimum of approximately 48 acres of vegetation identified as rare and worthy of consideration by the CDFG (253 acres of non-rare vegetation) and would temporarily impact a minimum of approximately 221 acres of rare vegetation (818 acres of non-rare vegetation). Additional acreages of land disturbance would occur, but the vegetation communities impacted are unknown at this time as final engineering has not been conducted. On the ANF, the proposed Project would temporarily disturb a minimum of approximately 19.5 acres of rare vegetation (114 acres of non-rare vegetation) and permanently impact a minimum of approximately 5 acres of rare vegetation (105 acres non-rare vegetation). With the exception of some highly disturbed or developed habitats most of the habitat in the proposed Project area is utilized by both common and rare wildlife for foraging and shelter.

Installation of new tower locations, grading for helicopter staging areas, construction of spur roads, and widening of access roads would result in the permanent removal of native and non-native vegetation communities including desert scrub, chaparral, coastal sage scrub, a variety of forested woodlands (oak woodland, bigcone Douglas fir, etc.), and non-native grassland. Tables 6-1 and 6-2 contain a summary of the vegetation that would be subject to project disturbance. The loss of oak woodlands or scrub oak communities that provide important mast crop could adversely affect the species that rely on those resources. Impacts to foraging habitat would be low compared to the range and acreage of habitat in the project area, and many species, including raptors and mule deer, typically forage over wide areas. However, impacts to foraging habitat for rodents or invertebrates would be high since they do not range over wide areas. Disturbed areas may also provide access to edge habitats or early successional plant communities which are preferred foraging areas for some wildlife species. In addition, transmission line towers are often utilized by raptors, such as the Swainson's hawk, red-tailed hawk, and peregrine falcon, and they may improve the foraging opportunities for these species by providing roosting or nesting sites.

To reduce impacts of the proposed Project on wildlife habitat SCE would implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). The implementation of these

measures would facilitate the restoration of native vegetation communities following disturbance, avoid impacts to important riparian areas on NFS lands, minimize the spread or colonization of noxious weeds which can severely degrade habitat for common wildlife, and educate workers to avoid special-status wildlife and their habitat.

#### Mitigation Measures for Impact B-6

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Temporary and permanent loss of native vegetation communities that provide foraging habitat for raptor or other special-status wildlife species would be considered a significant impact without mitigation. As described above the implementation of measures that would facilitate the restoration of native vegetation communities, avoid impacts to important riparian areas on NFS lands, and prevent or minimize the spread or colonization of noxious weeds would reduce impacts of the proposed Project. Therefore SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), and Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) to reduce impacts to less-than-significant levels **(**Class II**)**.

## Impacts to Endangered or Threatened Species, or Proposed or Designated Critical Habitat (Criterion BIO2)

### Threatened and Endangered Plant Species

Seven State or federally listed or proposed plant species have the potential to occur in the proposed Project area. These include the federally listed Braunton's milk-vetch, Nevin's barberry, slender-horned spineflower, and thread-leaved brodiaea; the California State-listed Mt. Gleason Indian paintbrush; and the federal candidate species Brand's phacelia and San Fernando Valley spineflower (also State-listed endangered). Critical habitat has been designated for three of these plant species: thread-leaved brodiaea (USFWS, 2005), Braunton's milk-vetch (USFWS, 2006), and Nevin's barberry (USFWS, 2008). However, the proposed Project is not located in critical habitat for any of these species.

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed plant species. Impacts to these species are detailed below.

### *Impact B-7: The Project could disturb endangered, threatened, or proposed plant species or their habitat.*

Focused botanical surveys of the Proposed Project alignment helicopter staging areas, stringing and pulling locations, etc. were conducted in the summer and fall of 2007 and spring and early summer of 2008. Due to the annual rainfall received during the 2007-2008 rain year the expression of rare plant species, particularly ephemeral annuals that cannot be detected in some years, was considered good to excellent in many portions of the alignment. All accessible impact locations were visited, including new and existing tower locations, spur roads, new substation locations, line pulling locations, staging areas, and along existing and proposed access roads. However, because final engineering has not been completed by SCE some locations including possible pulling sites, tower locations, or helicopter landing sites have not been surveyed. Listed plant species were not observed in or adjacent to the Proposed Project area or along any of the proposed access roads.

Direct impacts to listed plant species could occur from construction activities that remove vegetation, grade soils, or cause sedimentation, including tower pad preparation, clearing helicopter staging areas, and the construction, grading, and widening of new spur roads and existing access roads. Indirect impacts could include the disruption of native seed banks through soil alterations, the accumulation of fugitive dust, increased erosion and sediment transport, and the colonization of non-native, invasive plant species. Operational impacts could include trampling or crushing due to public use of new or improved spur roads and access roads, increased erosion, and the spread and colonization of noxious weeds.

#### Braunton's Milk-vetch

Braunton's milk-vetch is endemic to foothill habitats in the Santa Ana, San Gabriel, and Santa Monica Mountains in Ventura, Los Angeles, and Orange counties (CNDDB, 2007), and is therefore considered to be absent from the Northern Region of the proposed Project. Although the species was not observed during focused floristic surveys of the Project area in 2007 and 2008, the species may occur in areas of suitable carbonate soils in recently burned or disturbed, dry, open chaparral communities (Skinner, 1991) in the Central and Southern Regions of the proposed Project. There are no documented occurrences of Braunton's milk-vetch within the ANF. However, the species is present north of the city of Monrovia in an area to the south of Clamshell Canyon and just south of the ANF boundary (CNDDB, 2007). This area, which lies in the foothills between Segments 7 and 11 of the proposed Project, has been designated critical habitat for this species (Unit 5: Monrovia Unit, USFWS, 2006). Another critical habitat unit is located in Coal Canyon (Unit 6, USFWS, 2006), about 4 miles from Alternative 4 and 8 miles from Segment 8.

Braunton's milk-vetch is an ephemeral fire-follower that typically persists for only a few years following a fire, and most populations may exist in the soil as a seed bank awaiting the next fire (Skinner 1991). Therefore, a degree of uncertainty will remain regarding the absence of this species following surveys conducted during the blooming period, as the seed bank would not be detected by conventional survey techniques. Portions of Segment 10 were observed to be somewhat recently burned and supported some carbonate soils; portions of Segments 5 and 11 were more recently burned; however, no populations of Braunton's milk-vetch were found to occur in these areas. If encountered during later clearance surveys, any Braunton's milk-vetch individuals or populations encountered will be marked and avoided. Therefore, no adverse effects to Braunton's milk-vetch are expected to occur as a result of the Proposed Project.

### Nevin's Barberry

The current distributional extent of Nevin's barberry ranges from the foothills of the San Gabriel Mountains of Los Angeles County to the foothills of the Peninsular Ranges of southwestern Riverside County (USFWS, 1998). The species is therefore considered to be absent from the Northern Region of the proposed Project. Although it was not observed during focused floristic surveys of the Project area in 2007 and 2008, Nevin's barberry may occur in the Central and Southern Regions of the proposed Project on coarse soils in chaparral, cismontane woodland, or coastal scrub habitats, or on gravelly wash margins in alluvial scrub. Although potentially suitable chaparral habitat is very common in these regions, occupied habitat is widely scattered, and occurrences often consist of very few individuals. Nevin's barberry has been planted in native habitats in several areas, where it has become naturalized. This has resulted in confusion and uncertainty in determining which occurrences are truly native (USFWS, 2008). The largest known occurrence of Nevin's barberry, which contains approximately 200 plants, is in the Vail Lake-Oak Mountain area (USFWS, 2008), many miles from the proposed Project. The CNDDB (2007) lists two extant occurrences of this species within the ANF, in Lopez Canyon and San Francisquito Canyon, over five miles from the proposed Project. However the San Francisquito Canyon population is now believed to have been planted in 1929 following a flood (USFWS, 2008). One individual of Nevin's barberry was observed during 2009 at the Whittier Narrows Nature Center near Segment 7. It is located next to a paved trail and has a numbered post adjacent to it, and is likely of horticultural origin. Threats that have been identified on the ANF include wildfire, fire suppression activities, and illegal trash dumping. Near the southern boundary of the ANF, occurrences in Pasadena and in Big Tujunga wash near the city of San Fernando have been extirpated by development. Overall, the probability that this species occurs within the Project area is low, but because of the proximity of the Project to its historical range, the possibility cannot be ruled out. In addition, this conspicuous plant would likely have been detected during the focused botanical surveys conducted in the spring of 2008. If any individuals or populations are encountered during clearance surveys they will be marked and avoided. Therefore, no adverse effects to Nevin's barberry are expected to occur as a result of Project implementation.

### Slender-horned Spineflower

Slender-horned spineflower is known from San Bernardino, Los Angeles, and Riverside counties on sandy beaches and floodplain terraces in alluvial fan scrub vegetation, chaparral, cismontane woodland, and coastal scrub communities (USFWS, 1987). As no suitable habitat is present in the Northern Region of the proposed Project, it is considered absent from this area. In the Central Region, CNDDB (2007) records four historical occurrences within five miles of the proposed Project. Segment 11 bisects one of these populations in the foothills of the city of Altadena in Rubio Wash, but the population is presumed extirpated due to urbanization and modifications for flood control. Other populations, also possibly extirpated, occur three miles east of Segment 11 in La Crescenta and 3.5 miles west of Segment 11 along the West Fork of the San Gabriel River. A population that is presumed extant occurs along Cogswell Reservoir east of Segment 6 (CNDDB 2007) however this area would not be subject to project activities. This species was not identified during focused floristic surveys conducted in April and May 2008. During construction any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to slender-horned spineflower are expected to occur as a result of Project implementation.

### Mt. Gleason Indian Paintbrush

Mt. Gleason Indian paintbrush is endemic to the San Gabriel Mountains of Los Angeles County where it occurs in rocky places within lower montane coniferous forest and pinyon and juniper woodland communities

at elevations of 2,700 to 7,120 feet (CNPS 2007, Consortium of California Herbaria 2007). The species is therefore considered absent from both the Northern and Southern regions of the proposed Project. Mt. Gleason Indian paintbrush has been documented to occur within the ANF at six general locations: Chilao/Horse Flats, Lightning Ridge, Little Rock Creek, Messenger Flats, Mount Gleason, and North Fork Pacoima Canyon. During surveys of all known populations in 1987, a total of at least 3,700 individuals were observed excluding the North Fork Pacoima Canyon site (Mistretta and Brown 1987, Stephenson and Calcarone 1999). The primary threat to this species on the ANF is its preference for habitat that is also popular for human activities (i.e., gentle slopes and an open understory). Five populations are located within five miles of the proposed Project. The species therefore may occur within the Project area. A population was identified in 2008 adjacent to helicopter staging area #4, which would be used under Alternative 6 but not the proposed Project. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to Mt. Gleason Indian paintbrush are expected to occur as a result of Project implementation.

### Brand's Phacelia

Brand's phacelia was historically known from 15 populations in Los Angeles, Riverside, and San Diego counties, and in Baja California where it occurred on sandy substrates in coastal dune and coast scrub communities at elevations below 1,113 feet (CNPS 2007). Currently, the species is known from San Diego, Los Angeles, and Riverside counties (CNPS 2007). Brand's phacelia is considered absent from the Northern and Central regions of the proposed Project, which fall outside of the species known historical distribution. In the Southern Region, there are records of an extirpated occurrence in the San Gabriel River east of El Monte (CNPS 2007, CNDDB 2007), and the species may therefore occur in scrub communities underlain by sandy soils within the proposed Project along Segments 7 and 8 south of the ANF. The species is unlikely to occur along Segment 11 where habitat conditions are marginal. Appropriately timed focused floristic surveys for Brand's phacelia conducted in April and May 2008 did not detect this species. During construction any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore no adverse effects to Brand's phacelia are expected to occur as a result of the Proposed Project.

### San Fernando Valley Spineflower

The federal candidate and State endangered San Fernando Valley spineflower once occurred on sandy soils in coastal scrub communities in Los Angeles, Ventura, and Orange counties. Until its rediscovery in 1999, it had not been seen since 1929 and was considered extinct. It is now known to occur in just two areas: the vicinity of Newhall Ranch and the former Ahmanson Ranch in southeastern Ventura County (CNDDB, 2007). Although there are records of this species five miles to the east of Segment 5 in the vicinity of Elizabeth Lake, recent surveys of suitable habitat in the area have failed to detect the species, and the population has likely been extirpated (CNDDB, 2007). It is considered unlikely to occur in the Northern Region of the proposed Project because only marginal habitat is present. There are no known populations of San Fernando Valley spineflower within the ANF (Stephenson and Calcarone, 1999), and the species is unlikely to occur in the Project's Central Region. There are no identified threats to this species on NFS lands. In the Southern Region, the nearest record of San Fernando Valley spineflower is an extirpated population located approximately 11 miles south of Segment 8 (CNDDB, 2007). The species is therefore unlikely to occur in the Southern Region. In addition, appropriately timed focused floristic surveys conducted in April and May 2008 did not detect this species. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to San Fernando Valley spineflower are expected to occur as a result of the Proposed Project.

### Thread-leaved Brodiaea

Thread-leaved brodiaea is known from Los Angeles, Orange, Riverside, San Bernardino, San Diego, and San Luis Obispo counties. It typically occurs in open mesic grasslands in chaparral, cismontane woodland, or coastal scrub communities and is frequently associated with wet areas or vernal pools. The species is considered absent from the Northern Region of the proposed Project because the region falls outside of the species' distribution, and no suitable habitat is present. In the Central Region, two populations of thread-leaved brodiaea occur just outside of the ANF boundary above the cities of Glendora and San Dimas. This area has been designated as critical habitat for the species (USFWS 2005). As part of the focused floristic surveys in 2008, the Glendora population was surveyed in an effort to better understand the micro- habitat requirements for the species. Although this critical habitat unit is nearby, thread-leaved brodiaea is considered unlikely to occur in the central region due to the lack of suitable mesic grassland habitat and a preponderance of steep, well-drained grassland slopes within the Project area. Some areas exhibiting relatively level or depressional topography and a suite of associated native grassland species were observed within the Chino Hills Alternative alignments, but these areas were not mesic in character. Although very little suitable mesic grassland habitat occurs in the Southern Region of the proposed Project, the potential occurrence of this species in the area cannot be ruled out. However, appropriately timed focused floristic surveys conducted in April and May 2008 did not detect this species. Any individuals or populations encountered during preconstruction surveys will be marked and avoided. Therefore, no adverse effects to thread-leaved brodiaea are expected to occur as a result of Project implementation.

Direct impacts to listed plant species, if found within the Project area, would primarily be related to ground-disturbing activities, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access and/or spur roads. These impacts include trampling or crushing from heavy equipment, vehicles, and foot traffic and alterations to the native seed bank due to soil compaction and modifications to existing hydrological conditions.

Although none of these species described above were encountered during reconnaissance and focused surveys of the proposed Project conducted in the spring to fall of 2006 and 2007, the rainfall totals for 2007 within the proposed Project area were well below average, resulting in conditions that were unfavorable for the detection of many annual or ephemeral plant species. During the spring and summer of 2008 the project alignment was resurveyed. The 2008 focused floristic surveys did not detect any State or federally listed plant species within the Alternative 2 alignment. However, there is some possibility that new populations of listed species could potentially establish in areas where they were not previously observed due to dispersal and/or a change in the existing conditions that could favor some listed species, such as a recent burn. Therefore, should project construction take place after 2010, further focused clearance surveys of all impact areas will be required to determine potential presence of and distribution of listed plant species within the alignment. In addition, any project areas not surveyed for the proposed Project would require focused rare plant surveys at the correct time of year (blooming season) prior to disturbance. If any of these species are encountered, all individuals or populations within Project impact areas will be marked and avoided.

Indirect impacts to listed plant species can occur from the accumulation of fugitive dust related to Project construction, the introduction and proliferation of non-native invasive plants, and increased soil compaction, erosion, and sedimentation.

Excessive dust can decrease or limit plant survivorship by decreasing photosynthetic output, reducing transpiration, and adversely affecting reproductive success. Soil compaction, erosion, and sedimentation resulting from Project activities can also indirectly impact these species. Grading for new access or spur roads

can alter the surface hydrology in an area and affect plant communities by reducing access to sheet flow during rain events.

Ground-disturbing activities that would occur during the construction of the proposed Project can also result in the proliferation and spread of non-native invasive plants to new areas. Because noxious weeds can permanently degrade rare plant and animal habitats, their proliferation as a result of Project activities could adversely affect listed plant species if they are present. The indirect effects on listed plants due to noxious weeds will be minimized by implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), which will prevent or reduce the potential spread of noxious weeds, control existing weed populations, and restore native habitats as required by Forest Service Manual 2080 and would therefore further reduce the potential effects on listed plants within the ANF. This measure would also minimize the spread of noxious weeds off of NFS lands.

SCE has indicated that APMs BIO-1 through BIO-7, described in Table 4-1, would be implemented as part of the proposed Project to avoid or minimize impacts to biological resources including listed plant species. These APMs include avoiding or compensating for impacts to vegetation communities, training personnel, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes. As proposed, the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate protection for listed plants, the following Mitigation Measures are presented to further reduce impacts of the proposed Project on listed plants: Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants) below.

### Mitigation Measures for Impact B-7

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-7** **Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.** SCE shall conduct pre-construction surveys for State and federally listed Threatened and Endangered, Proposed, Petitioned, and Candidate plants in all areas subject to ground-disturbing activity, including, but not limited to, tower pad preparation and construction areas, tower removal sites, pulling and tensioning sites, assembly yards, and areas subject to grading for new access roads. The surveys shall be conducted during the appropriate blooming period(s) by a qualified plant ecologist/biologist according to protocols established by the FWS, CDFG, FS, and California Native Plant Society (CNPS). The resume of the proposed biologists will be provided to the CPUC and FS for concurrence prior to ground disturbance. All listed plant species found shall be marked and

avoided. If a federally listed plant species cannot be avoided on private land, consultation with FWS will occur.

Prior to site grading, any populations of listed plant species identified during the surveys shall be protected by a buffer zone. The buffer zone shall be established around these areas and shall be of sufficient size to eliminate potential disturbance to the plants from human activity and any other potential sources of disturbance including human trampling, erosion, and dust. The size of the buffer depends upon the proposed use of the immediately adjacent lands, and includes consideration of the plant's ecological requirements (e.g., sunlight, moisture, shade tolerance, edaphic physical and chemical characteristics) that are identified by a qualified plant ecologist and/or Forest botanist. At minimum, the buffer shrub species shall be equal to twice the drip line (i.e., two times the distance from the trunk to the canopy edge) in order to protect and preserve the root systems of the plant. The buffer for herbaceous species shall be, at minimum, 50 feet from the perimeter of the population or the individual. A smaller buffer may be established, provided there are adequate measures in place to avoid the take of the species, with the approval of the FWS, CDFG, FS, USACE, and CPUC. If impacts to listed plants are determined to be unavoidable, the FWS shall be consulted for authorization, through the context of a Biological Opinion. Additional mitigation measures to protect or restore listed plant species or their habitat may be required by the FWS before impacts are authorized, whichever is appropriate.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Listed plant species were not identified during focused surveys of the proposed project in the spring and summer of 2007 and 2008. However, listed plant species described above have the potential to occur within the proposed Project where suitable habitat is present, and ground-disturbing Project activities have the potential to disturb these habitats. If present, impacts to these species would be considered significant without mitigation **(**Class II**)**. However, impacts to special-status plant species would be reduced to a less-than-significant level through implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), which will prevent the disturbance of any individuals or populations of these species through Project redesign and avoidance. Take of these federally and/or State-listed species through direct mortality or the loss of occupied habitat would only be authorized in the context of a Biological Opinion issued by the USFWS and/or an Incidental Take Authorization from CDFG. As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). Indirect effects caused by erosion would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). A Worker Environmental Awareness Program would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) to educate workers as to the sensitivity and potential for rare plants to occur.

## Threatened and Endangered Wildlife

Habitat in the proposed Project area has the potential to support a variety of State and federally listed wildlife species. Twelve State or federally listed species or species proposed for listing were identified with the potential to occur in the proposed Project area. These include:

- California red-legged frog
- Mountain yellow-legged frog
- Arroyo toad
- Desert tortoise
- Santa Ana sucker
- Unarmored threespine stickleback
- California condor
- Southwestern willow flycatcher
- Least Bell's vireo
- Yellow-billed cuckoo
- Coastal California gnatcatcher
- Swainson's hawk
- Mohave ground squirrel

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads has the potential to disturb listed wildlife species. In addition, helicopter construction would generate noise, vibration, dust, and air turbulence. Impacts to these special-status species are detailed below.

## Threatened and Endangered Amphibians

Several rare amphibian species have the potential to occur in the vicinity of the proposed Project. This includes portions of the Northern and Central sections of the proposed ROW. In addition, species like the mountain yellow-legged frog and California red-legged frog historically occurred in many of the streams and creeks within NFS lands of the Central region but occur now in isolated populations well away from the proposed Project. However, many of the streams, rivers, and tributary drainages that occur on NFS lands have not been extensively or recently surveyed for many species (Sandburg, 2008). In addition, even periodic surveys may fail to detect small or isolated populations of highly cryptic or weather dependent species. Therefore, the use of the existing literature alone may underestimate the potential for some species to occur and there is always the potential for undiscovered or remnant populations of listed wildfire to be present in remote locations.

The presence of and potential for rare amphibians to occur in the proposed Project area is linked to the physical characteristics of the landscape. Amphibians often require a source of standing or flowing water to complete their life cycle. However, some more terrestrial species including arroyo toads are linked to aquatic resources for a very limited time during the breeding season and may spend significant times away from the creek channel. Other species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. These xeric-adapted species conserve moisture by emerging only under conditions of high humidity or when the weather is cool and/or wet. Depending on the location of the towers, the Project area provides suitable habitat for amphibians in numerous locations (see Section 2.3).

Further, the extensive use of access roads that cross both ephemeral and intermittent drainages including Mill Creek, Monte Cristo Creek, and Alder Creek could result in both disturbance and mortality to wildlife if present. Table 6-4 contains a detailed description of the creek and tributary drainages that would be crossed by the proposed Project on the ANF. Wet ford crossings could support listed amphibians at or near the crossing. Amphibians located downstream of a wet ford crossing could be subject to sedimentation and increased turbidity generated by the use of the crossing by multiple construction vehicles. Data from the hydrologic and sediment transport analysis (Please see Section 3.8, Hydrology) conducted for this Project indicate that even

under the most extreme erosion caused by the Project the downstream contribution of sediments to areas supporting this species would be negligible. That is, the total maximum annual sedimentation in tons/acre would contribute approximately 3.4 percent above baseline tonnage over any given storm event at Aliso Canyon and the Santa Clarita River and 1.7 percent at Kentucky Springs and the Santa Clara River. This total is well within the natural variation that occurs within any given storm event and would not result in a large contribution of sediment or result in levels of turbidity above natural storm events. However, because these analyses were based on annual rainfall data, they cannot account for unpredictable storm events and therefore the potential for sediments to affect aquatic species must still be disclosed. Chemical spills from fuel, transmission fluid, lubricating oil, and motor oil leaks could also contaminate water and result in mortality or reduced reproductive success of aquatic organisms. Clearing and grading or the deposition of spoils from excavation located on steep hillsides or on erosion prone soils may also result in the transportation of sediment loads to adjacent creeks. Impacts associated with the use of wet ford crossings are discussed below under impacts to individual species. The effects of access roads on listed amphibians would be similar to that described for general wildlife. Please see Impact B-4 for a complete description of the effects of the use of roads on wildlife.

Sedimentation can have detrimental effects on aquatic wildlife, as detailed in the following impacts. As described in Section 3.8 (Hydrology and Water Quality), the predicted annual average increase in erosion and sedimentation as a result of construction activities on the ANF associated with both the proposed Project and alternatives was analyzed using GIS-based erosion and sedimentation modeling. The results of that modeling are presented in the Hydrology and Water Quality Specialist Report (Aspen, 2008). As indicated in the report, the implementation of BMPs during Project construction activities would reduce sediment transport and delivery in the Study Area (ANF).

The natural variation in sediment delivery to streams in the Study Area is greater than the modeled sedimentation increases that would result from Project activities. For example, most precipitation in the Study Area occurs during a four-month period in response to winter storms and periodic summer monsoon events, with storm events that generally tend to be both large and intense. During most of the year, little to no sediment is delivered to waterways in the Study Area. But during a large storm event, a large amount of sediment may be transported and delivered directly into aquatic habitat. This variation is completely independent of human activity and is part of the natural variation within the Study Area. Therefore, the increase in annual average sediment delivery (approximately 1.8 percent for Alternative 2) would not be considered large, in comparison with the magnitude of natural variation of sediment transport and delivery that presently occurs in the Study Area.

### *Impact B-8: The Project could result in the loss of California red-legged frogs and mountain yellow-legged frogs.*

Although not detected in the proposed Project area, direct impacts to the California red-legged frog and mountain yellow-legged frog, if present, could occur from construction activities as a result of mechanical crushing, loss of breeding or basking sites, fugitive dust, and human trampling. Disturbance would be associated with the removal of vegetation and alterations of existing topographical and hydrological conditions, particularly along or downstream of drainage crossings and within RCAs. Indirect impacts to these species could include the degradation of water quality, changes in water runoff due to spur road and access road construction or upgrades, increased erosion and sediment transport, and the spread of noxious weeds along riparian areas. Operational impacts include increased risk of mortality on access or spur roads through

collision with vehicles and disturbance from increased public access along new or improved access and spur roads. Another operational impact could result from corona noise, which could potentially interfere with breeding and predator detection. Impacts associated with corona noise are discussed under Impact B-41.

The California red-legged frog is known to occur in San Francisquito Creek and in a stockpond adjacent to Amargosa Creek in the Leona Valley and has the potential to occur within the proposed Project at the Amargosa Creek crossing within the Northern Region (Table 2-11). California red-legged frogs were not observed at Amargosa Creek on any site visit or focused survey between 13 and 15 June 2006, or on 29 September 2007 when the stream was dry. Reconnaissance surveys conducted by SCE on December 19, 2007 also did not detect the species. It is unlikely that reaches of the drainage near the proposed crossing are occupied by red-legged frogs on a permanent basis. However, the location of the source population for the stockpond is unknown but is likely a permanent water source such as the creek; therefore, red-legged frogs may utilize this area as a movement/dispersal corridor at various times, especially during late winter and spring.

While California red-legged frogs are presumed absent from the Southern Region and are unlikely to occur within the Central Region, potential habitat is present at the following drainages within the Central Region: Lynx Gulch, Alder Creek, Fall Creek, Big Tujunga Creek (Segment 6/11), and the West Fork San Gabriel River (Table 2-11). The threats that have been identified on FS lands include predation by non-native fish and amphibians and crushing of frogs and egg masses by human trampling and vehicles.

In addition, with the exception of the drainages associated with the proposed Project, many of the streams, rivers, and tributary drainages that occur on NFS lands have not been extensively or recently surveyed for many species (Sandburg, 2008). The proposed Project occurs approximately nine miles east of the LOS-1 Unit (San Francisquito Creek) and approximately 25 miles east of the VEN-3 Unit (Piru Creek) of the revised proposed critical habitat for this species (USFWS, 2006b), therefore no impacts to critical habitat for this species are expected. Although this species was not identified during reconnaissance surveys of the area, populations of California red-legged frogs have been documented in Amargosa Creek about two miles downstream from the alignment and suitable habitat is available along this stretch of creek. Therefore there is a potential for this species to occur in or adjacent to the proposed Project ROW at that location. Depending on the existing habitat, topography, and moisture availability; construction activities occurring near Amargosa Creek, Lynx Gulch, Alder Creek, Big Tujunga Creek (Segment 6/11), and West Fork San Gabriel River or wet ford vehicular crossings of those drainages, may also have the potential to result in mortality to this species if present.

While this species is typically highly aquatic, California red-legged frogs have been documented to make overland movements of several hundred meters and up to one mile during a winter-spring wet season in Northern California (Bulger et al., 2003; Fellers and Kleeman, 2007) and 2800 m on the central coast (Rathbun and Schneider, 2001). Frogs traveling along water courses exceeded these distances. This is particularly true on nights with high humidity or precipitation. Night-time construction activity associated with vehicle access or tower preparation may result in construction-related mortality to this species if present.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that many wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, radio-tracking and tagging studies of newts, California red-legged frogs, and western pond turtles found that long-distance dispersal involved radial or

perpendicular linear movements from one water source to another with little regard to the orientation of the assumed riparian "movement corridor" (Fellers and Kleeman, 2007; Semlitsch, 1998; Reese and Welsh, 1997). Therefore, adequate setbacks from potential habitat are important to ensure impacts to this and other semi aquatic species are avoided; this is an important component to mitigating impacts of the proposed Project.

The mountain yellow-legged frog is thought to have been extirpated from more than 99 percent of its former range. The closest known record of this species occurs in the upper reaches of Devil's Canyon approximately six miles from the closest section of the ROW. This species also occurs at Little Rock Creek, South Fork Big Rock Creek, Vincent Gulch and Bear Gulch to the east. Historically this species occurred throughout the San Gabriel Mountains including Mill Creek, Santa Anita Canyon, Big Tujunga Canyon, Switzer Campground area, and in several tributaries to the East and West Forks of the San Gabriel River. While suitable habitat for this species occurs in many of the drainages and creeks located on NFS lands, it is not expected to occur in the Project area. However, many areas have not been extensively surveyed for this cryptic species (Sandberg, 2008). Furthermore, mountain yellow-legged frogs have been recorded making overland movements of up to one kilometer in the Sierra Nevada (Pope and Matthews, 2001). Frogs traveling along waterways have exceeded this distance. For example one mountain yellow-legged frog in Little Rock Creek was found to have moved 1400 m downstream from its original location (C. Hitchcock and A. Backlin, pers. comm.). The primary threats that have been identified for this species on NFS lands include ongoing activities such as roads and trails use, recreation facilities, and small-scale mining and prospecting operations. While it is likely that road construction would involve the repair or maintenance of stream crossings, this work would not be conducted during periods of high flow and wet ford crossings of streams that could support this species would be surveyed prior to use. As this species is not expected to occur in the project area, impacts to mountain yellow-legged frog are not expected to occur. However, during the course of surveys and monitoring for California red-legged frog, if mountain yellow-legged frog or other federally listed amphibians are found, work will cease until SCE receives concurrence from the FS, USACE, and FWS, as explained in Mitigation Measures B-8a and B-8b below.

Construction and/or demolition of overhead transmission line towers would require several types of soil disturbance that could result in the degradation of water quality in the many streams and drainages that occur in the project area. Excavation and/or grading would be required at all tower sites where new pads or footings would be required, at all tower demolition sites, and at all new and/or expanded substations. Additional clearing of vegetation and/or grading would be required for crane pads, pulling stations, staging areas, and access and spur roads. Disturbance of soil during construction could result in soil erosion and lowered water quality through increased turbidity and accelerated sediment deposition into local streams. In particular, road construction for both temporary and permanent roadways has the potential to cause soil instability resulting in erosion and sedimentation, which could potentially degrade surrounding water quality. For aquatic species the degradation of water quality through increased sedimentation can smother egg masses and juveniles or result in decreased water oxygen levels. The water quality impact of road construction and improvement is of particular concern in areas that cross stream channel or traverses steep slopes. For example, many portions of Segment 6 and 11 are located on steep gradients above known water sources. It is highly likely that sediment could be transported to these drainages absent the implementation of erosion control measures.

Sediment transport from upslope areas subject to grading and earth movement would not result in a degradation of water quality to areas potentially supporting California red-legged and mountain yellow-legged frogs However, data from the *GIS-Based Erosion & Sediment Analysis Report* indicate that with BMPs approximately 577 tons of sediment per year over baseline would be deposited at Butterfield Canyon and the

West Fork San Gabriel River due to road improvements upslope of this area. Under baseline conditions, 45,666 tons of sediment were modeled as being deposited annually at this location. This amounts to an increase of approximately 1.2 percent, which, as described above and in Section 2.3, is within the natural variation of any given rain year and would not be considered a large increase over baseline conditions. An important consideration regarding potential effects to this species is the contribution of sediment from other watersheds not considered in the analysis for this project. For example, the total contribution of sediment that would be discharged at Butterfield Canyon as a result of the proposed Project does not take into account the total amount of sediment that the numerous other creeks and tributary drainages with expansive watersheds contribute to the West Fork San Gabriel River watershed during storm events. While not quantified, based on the size of these watersheds compared to the watersheds considered in the analysis for this project, it is likely that the total sediment loads are at least an order of magnitude higher than the contribution from the project.

Currently SCE does not have a specific APM intended to reduce impacts to listed amphibians in the proposed Project area. Measures proposed by SCE that would reduce this impact include APM BIO-1, APM BIO-2, APM BIO-3, APM BIO-4, APM BIO-5, APM BIO-6, and APM BIO-7. These APMs include conducting clearance surveys for special-status wildlife, minimizing vegetation removal at construction sites, avoiding streambeds to the extent practicable, implementation of best management practices, biological monitoring, personnel training, and coordinating and compensating for impacts to special-status wildlife with the regulatory agencies. However, as described above these APMs lack specificity and clearly defined monitoring requirements, do not clearly address impacts to listed amphibians, and do not provide defined mitigation ratios or avoidance measures to special-status species. Therefore to further reduce impacts of the proposed Project to California red-legged frogs SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities),Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring).

These measures would avoid or minimize impacts to California red-legged frog, if present, through the avoidance or compensation of vegetation communities that may be used by the species; the control of exotic weeds which can alter habitat; limit work in riparian areas; utilize erosion control and storm water BMPs to reduce sediment transport to aquatic areas; limit road access during rain events, ensure vehicles use roadways during daylight hours, and implement a series of avoidance BMPs (Described in Mitigation Measure B-8a and B-8b) that would ensure project-related effects to this species are minimized. Nonetheless, if present, SCE would be required to cease construction activities that could result in a "take" of this species and obtain concurrence from the USFWS that "take" would not occur or be authorized for "take" through the context of a Biological Opinion.

### Mitigation Measures for Impact B-8

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-8a** **Conduct protocol surveys for California red-legged frogs and implement avoidance measures.** SCE shall conduct Fish and Wildlife Service (FWS)-approved protocol surveys for California red-legged frogs if suitable habitat is present near the proposed construction sites at the Amargosa Creek, Monte Cristo Creek, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River within the Central Region. If surveys have been conducted to protocol within two years of start of construction and no red-legged frogs were identified, surveys would not need to be repeated prior to start of construction. Surveys will continue at least every two years until construction is complete in the identified potential habitat. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence prior to conducting the surveys.

- Prior to the onset of construction activities, SCE shall provide the following information to all personnel who will be present within work areas or adjacent to the project area:
    - A detailed description of the red-legged frog including color photographs;
    - The protection the red-legged frog receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
    - The protective measures being implemented to conserve red-legged frogs and other species during construction activities associated with the Project; and
    - A point of contact if red-legged frogs are observed.
- All trash that may attract predators of the red-legged frogs will be removed from work sites or completely secured at the end of each work day. If California red-legged frogs are detected in or adjacent to the Project, the following shall apply:
    - Between 1 November and 31 March, no work will be authorized within one mile of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized. The one-mile buffer distance may be reduced based on the topography of the site with the approval of the FWS, FS, and CPUC.
    - Between April 1 to 31 October, no work will be authorized within 500 feet of occupied habitat and no vehicular crossings at wet fords of those channels will be authorized.
    - If present, SCE shall monitor all related construction activities and develop and implement a monitoring plan that includes the following measures in consultation with the FWS and FS.
    - Prior to the onset of any construction activities, SCE shall meet on-site with the CPUC/FS-approved biologist (authorized biologist). The authorized biologist shall hold a current red-legged frog permit from FWS. SCE shall provide information on the general location of construction activities within habitat of the red-legged frog and the actions taken to reduce impacts to this species. Because red-legged frogs may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on red-legged frogs.
    - Where construction can occur in habitat where red-legged frogs are widely distributed, work areas will be fenced in a manner that prevents equipment and

vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the CDFG/FS/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas.

- The authorized biologist will direct the installation of the fence and conduct a minimum of three nocturnal surveys to move any red-legged frogs from within the fenced area to suitable habitat outside of the fence. If red-legged frogs are observed on the final survey or during subsequent checks, the authorized biologist will conduct additional nocturnal surveys if he or she determines that they are necessary in concurrence with the FWS/CDFG/FS/CPUC.
- Fencing to exclude red-legged frogs will be at least 24 inches in height.
- Construction activities that may occur immediately adjacent to breeding pools or other areas where large numbers of red-legged frogs may congregate will be conducted during times of the year (winter) when individuals have dispersed from these areas or the species is dormant, unless otherwise authorized by CPUC, FS, and FWS. The authorized biologist will assist SCE in scheduling its work activities accordingly.
- If red-legged frogs are found within an area that has been fenced to exclude red-legged frogs, activities will cease until the authorized biologist moves the red-legged frogs.
- If red-legged frogs are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the red-legged frogs. The authorized biologist in consultation with FWS/CDFG/FS/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
- Any red-legged frogs found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
- The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
- SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when red-legged frogs may be present on the access road. Traffic speed should be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by California red-legged frogs.
- To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.

- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc) in areas that may contain California red-legged or mountain yellow-legged frogs will be reported to the FS, FWS, and CPUC within one hour.

**B-8b** **Conduct biological monitoring.** SCE shall provide a qualified biologist with demonstrated expertise with the listed wildlife species likely to occur in the Project area. This person(s) shall monitor all construction activities daily within suitable habitat for listed or sensitive wildlife. The resumes of the proposed biologists will be provided to the CPUC, USACE, and FS for concurrence prior to the onset of ground-disturbing activities.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** Any construction activities within the ANF and/or Chino Hills State Park (CHSP) [CHSP is only included as part of this measure for Alternative 4 (Routes A through D)] shall be scheduled to avoid anticipated precipitation events that are predicted to produce more than one-half inch of precipitation over a 24-hour period, unless expressly authorized by the FS and/or the California Department of Parks and Recreation (State Parks). If an unexpected precipitation event occurs while construction activities are already underway, SCE shall contact the FS and/or State Parks for guidance. The FS and/or State Parks may require cessation of construction activities within their jurisdiction during any precipitation event in order to prevent excessive erosion and to protect aquatic resources. On NFS lands, SCE shall also observe any criteria promulgated by the FS regarding construction during precipitation events. SCE shall provide documentation to the CPUC monitor of all wet-weather coordination with the FS and/or State Parks.

#### CEQA Significance Conclusion

To date California red-legged frogs or mountain yellow-legged frogs have not been identified within the proposed Project area. However, suitable habitat occurs for this species at several locations. In addition, California red-legged frogs are known to occur within several miles of Amargosa Creek in the Leona Valley (Segment 5). Construction activities that result in direct mortality or the degradation of habitat utilized by this species would be considered significant, without implementation of the mitigation measures. While SCE will implement APMs BIO-1 through BIO-7 as part of the proposed Project, if present, take of federally and state-listed species as described above would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the FWS. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and Mitigation Measure B-8b (Conduct biological monitoring) could avoid or mitigate take, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant

level (Class II). Mountain yellow-legged frogs are not expected to occur, but if present, are likely to be detected during surveys and monitoring required under Mitigation Measures B-8a and B-8b.

### *Impact B-9: The Project would result in the loss of arroyo toads.*

The arroyo toad is federally endangered and a California Species of Special Concern. In the proposed Project area the arroyo toad is known to occur within portions of the ANF, in Alder Creek, Littlerock Creek, Mill Creek, Tujunga Creek, and Lynx Gulch, a tributary to Tujunga Creek. This species has also been observed in portions of the Santa Clara River outside the project area and has the potential to occur at several other drainages within the proposed Project. Of those drainages, construction activities including road grading or culvert repair could result in direct or indirect mortality to this species at the following drainages: Kentucky Wash, Big Tujunga Creek (Segment 6/11), Alder Creek, and Monte Cristo Creek. Although Kentucky Wash is dry most of the year and may seem an unlikely breeding location for arroyo toads, the species is known to occur at other drainages that are dry most of the year (e.g., San Onofre Creek [Holland et al., 2001] and Fish Creek). However, FWS protocol surveys were conducted for the arroyo toad at Kentucky Wash in 2008 and Aliso Canyon and Kentucky Wash in 2009 with negative results. The arroyo toad has also been documented at extremely xeric desert localities such as Pinto Canyon in southwestern Imperial County (Jennings and Hayes 1994), Santiago Creek (a tributary to Littlerock Creek on the ANF), and Castaic Creek; all of which may be dry for extended periods. In addition, arroyo toads are known to utilize upland habitats for foraging and dispersal, including coastal sage scrub and chaparral several hundred meters from water if the appropriate sandy substrate is present (Griffin and Case, 2001; FS Species Accounts, 2005). Dispersal distances away from drainages on typical national forest locations are estimated to be only a few hundred meters due to the steeper topography. Ramirez (2002) had only two occurrences where toads exceeded a lateral movement of over 0.1 mile (0.2 kilometer) with most individuals using habitat within 50 meters of the active channel.

In an effort to maintain and stabilize existing populations, each of the southern California National Forests are currently implementing efforts to modify and change management activities to minimize potential effects. Arroyo toad populations are localized and face a variety of threats. Many populations occur immediately below major dams. The manner in which water is released from upstream reservoirs can greatly influence arroyo toad reproductive success. In addition, predatory nonnative species are a significant threat (FS Species Accounts, 2005).

Invasive and nonnative plants are also a problem in some areas. Tamarisk and arundo colonize newly created flood terraces and can form dense masses of vegetation. These dense stands have higher rates of evapotranspiration than native vegetation, thereby decreasing the amount of available surface water. Tamarisk and arundo also stabilize stream terraces, deepening flood channels and resulting in unsuitable habitat for arroyo toads (Stephenson and Calcarone 1999; FS Species Accounts, 2005).

Campgrounds and roads near arroyo toad breeding pools have resulted in toads and their egg masses being inadvertently crushed by vehicle and foot traffic and disturbed by water recreation. There are a number of national forest campgrounds located near arroyo toad breeding habitat—seven on the Los Padres National Forest, four on the Angeles National Forest, and four on the Cleveland National Forest. Seasonal closures and/or restrictions on vehicle access have recently been instituted at some of these campgrounds to reduce impacts (e.g., Beaver, Lion, and Mono Campgrounds on the Los Padres and Joshua Tree Campground on the Angeles). Road crossings in toad habitat are also being evaluated, and several on the Los Padres and Cleveland

have been relocated or rebuilt to reduce impacts to breeding pools (Stephenson and Calcarone 1999; FS Species Accounts, 2005).

Factors influencing survival between breeding seasons may include desiccation, starvation, depredation by native and introduced species, and activities that disturb non-breeding habitats (Sweet, 1992). Drought, especially when combined with water diversions from streams, can lead to a scarcity or early drying of breeding pools and restrict foraging during the period essential for rapid growth. Drought and water diversions also cause the loss of damp subsurface soil, which may result in high adult mortality (Sweet, 1992). The extended five-year drought in southern California during the late 1980s has been closely tied to extremely low reproductive success and subsequent population declines of arroyo toads during this period (Sweet, 1992). During the 2006-2007 rain year, one of the driest years on record in southern California, reproduction of this species was also reduced. Protocol surveys conducted by Aspen at Littlerock Creek and Castaic Creek on the ANF detected little evidence of large-scale breeding and few metamorph toads were identified later in the season.

This species was detected by SCE biologists during surveys conducted on May 29, 2007 at Alder Creek. In addition, reconnaissance-level surveys for the species conducted at each of the five major drainages between 25 and 29 September 2007 did not detect the species. However, surveys conducted by SCE in 2008 detected this species at Lynx Gulch and Forest biologists located a crushed toad on the Lynx Gulch access road the same month (road 4N18 near Segment 6; Appendix C). This illustrates the cryptic nature of this species and emphasizes the requirement for multiple surveys in areas where potential for this species occurs.

Direct impacts to arroyo toad could occur as a result of crushing from mechanized equipment, temporary disruption of foraging or thermoregulation sites in adjacent upland areas, fugitive dust, or the disruption of egg masses from impacts to water quality. Arroyo toads spend the majority of their life cycles well away from aquatic habitat, that is, post breeding this species occupies streamside terraces and adjacent uplands and impacts to adjacent vegetation can have deleterious effects on this species (Cadre Environmental, 2002).

Construction activity may result in the incidental take of individual toads, egg masses, and larvae depending on the construction season. Because this species is largely nocturnal, impacts from vehicle use at dawn, dusk, and during the evening would be of concern because this species is known to traverse roads between riparian and upland habitats, especially during rain events. Large numbers of toads, both adults and juveniles, can be active at night during the spring and early summer under otherwise dry conditions. During these activities, toads may move onto and across roads, where they are subject to road kill by passing vehicles. Under the proposed Project approximately 5.8 miles of dirt roadways occur within occupied or potentially occupied habitat. These roads would be subject to some form of road grading either to widen the road to support heavy equipment or to allow all weather access. Although SCE has indicated that construction activities would be limited to daylight hours and the FS will restrict the use of access roads during rain events, toads are known to burrow into the friable soils that occur along road edges and may be subject to mortality by even minimal traffic. As described above, a crushed toad was discovered by FS biologists on Lynx Gulch road. Currently SCE has indicated this road would be utilized during construction of the proposed Project.

Use of the helicopter staging areas may also result in adverse effects to arroyo toads, if present. Currently staging area SCE 6 occurs near habitat occupied by the arroyo toad. This site is located near Big Tujunga River east of Alder Creek. Helicopter site SCE 2 is located adjacent to the Aliso drainage and helicopter site SCE 5 occurs west of Mill Creek. Use of these sites would require clearance prior to use.

Direct effects to juvenile toads may also occur. In many cases, recruitment of metamorphic arroyo toads may occur in only a small section of the stream, even if breeding activity has been more widely distributed. Observations on the Los Padres National Forest (Sweet, 1992) and on other sites in Orange and San Diego Counties indicate that even brief human activities are likely to result in substantial mortality of metamorphic toads. This is usually not a deliberate act; the cryptic nature, very small size (<20 mm or 0.8 in) and immobility (when on the surface) of metamorphic toads foster accidental trampling.

Operational impacts to arroyo toad are similar to many of the construction impacts, and include crushing by vehicles or trampling.

Indirect effects to this species, if present, may be caused by the diversion or modification of water flows, increased downstream sediment transport, or the establishment of noxious weeds. Human activities can indirectly affect arroyo toads by increased noise or by attracting predators such as the common raven, kit fox, and coyote from trash and litter (Boarman, 2002). Increased noise levels can interfere with breeding and mask the approach of predators. It is unknown if corona noise from the new lines would have any effect on breeding by interfering with the high pitched call arroyo toads depend on to attract females. A detailed discussion of corona noise is included under Impact B-41 below.

Breeding behavior could also be disrupted due to construction noise and the timing of construction activities. Disturbance to the area would be associated with the temporary removal of vegetation for the construction of tower footings or pulling sites, stream crossings (see Impact B-4 for a full discussion of the impacts associated with the use of access roads), or road grading. Similar to the California red-legged frog, construction activities conducted on steep drainages can also result in sediment transport to areas occupied by this species.

Indirect impacts could also occur from clearing and grading for new tower locations. The removal of vegetation from these areas could result in erosion and downstream transport of sediment into habitat that occurs downhill from these areas. Data from the hydrologic and sediment transport analysis (Please see Section 3.8 [Hydrology] of the EIR/EIS) indicate that, with BMPs, the increase in sediment over baseline would range from 0.3 percent at Alder Creek above Big Tujunga to 4.7 percent at the North fork of Mill Creek. These data indicate that even under the most extreme erosion caused by the project the downstream contribution of sediments to areas supporting this species is well within the natural variation that occurs within any given storm event and would not result in a large contribution of sediment or result in levels of turbidity above natural storm events. Nonetheless, sediment transport could be substantial on a local level at stream crossings if best management practices have not been implemented.

Operational impacts to arroyo toad are similar to many of the construction impacts, and include increased sedimentation and dust due to use of access roads by the public and maintenance personnel and the spread of exotic weeds.

The permanent loss of arroyo toad upland habitat is expected to be minimal as the towers are located well above the creek channel in most cases. However, because of the cryptic nature of this species and the amount of vehicle traffic required to access the proposed tower locations, arroyo toads present in the ANF could be subject to incidental take. No critical habitat for this species would be affected by the proposed Project.

There are no specific APMs that address impacts to this species; therefore, these measures lack the required specificity to ensure that the effects to this species are adequately minimized. Minimization measures will be required that provide for the restoration of habitat, require worker training, and implement avoidance measures

to reduce the take of this species. This would include limitations on the use of access roads, avoiding work in occupied habitat during the activity period for this species, and monitoring Project work areas. To reduce the effects of the proposed Project SCE shall implement Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and Mitigation Measure B-8b (Conduct biological monitoring).

### Mitigation Measures for Impact B-9

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-8b** **Conduct biological monitoring.** (See full description under discussion for Impact B-8)

**B-9** **Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas.** In areas known to support arroyo toads (Lynx Gulch, Monte Cristo Creek, and Alder Creek) the following avoidance measures shall be implemented.

- SCE shall avoid ground disturbing activities (i.e. grading, stream crossing upgrades, parking) along access roads within the one mile buffer for arroyo toads during the activity period for arroyo toads (March-November). This date and buffer may be modified based on the existing temperature regime and habitat conditions with FS and FWS approval. An exception to this restriction may occur if the Forest Service determines that increased road maintenance or reconstruction would need to occur based upon dry ravel or debris torrents resulting from the Station Fire of 2009.
- SCE shall limit use of the access roads in this area within the one-mile arroyo toad buffer area to daylight hours only during the activity period for arroyo toads (generally March-November), unless otherwise approved by the FS (on NFS land), FWS, and/or the CPUC (on private land). Use of these roadways during rain events shall not occur during the activity period for arroyo toads. Vehicle speeds shall be limited to 15 MPH and no parking or loitering shall occur along the access roads.
- SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat. The monitor shall inspect the roadway and work sites throughout the day and log the time and weather conditions in the area. If adult or juvenile arroyo toads are found on the roadway vehicle access shall be restricted until the animal has moved off the road or is relocated by a permitted arroyo toad biologist in accordance with the Biological Opinion.

**SCE shall conduct Fish and Wildlife Service-approved protocol surveys for arroyo toad** at the following locations if suitable habitat is present near the proposed construction sites: Kentucky Wash, Aliso Canyon, and Big Tujunga Creek (Segment 6/11) within two years of the start of construction. If arroyo toads are detected, further surveys within the area will not be required and the avoidance measures detailed below will be followed. If no arroyo toads are detected, habitat assessments will be conducted every year until construction is completed. If the habitat assessment determines that suitable habitat exists, protocol surveys shall be conducted.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:
  a. A detailed description of the arroyo toad including color photographs;
  b. The protection the arroyo toad receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;
  c. The protective measures being implemented to conserve the arroyo toad and other species during construction activities associated with the Project; and
  d. A point of contact if arroyo toads are observed.
- For all areas in which this species has been documented SCE shall develop and implement a monitoring plan that includes the following measures in consultation with the FWS and Forest Service.
  - SCE shall retain a qualified biologist with demonstrated expertise with arroyo toads to monitor all construction activities in occupied arroyo toad habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of arroyo toad.
  - All trash that may attract predators of the arroyo toad will be removed from work sites or completely secured at the end of each work day. Prior to the onset of any construction activities, SCE shall meet on-site with staff from the FS and the authorized biologist. SCE shall provide information on the general location of construction activities within habitat of the arroyo toad and the actions taken to reduce impacts to this species. Because arroyo toads may occur in various locations during different seasons of the year, SCE, FS, and authorized biologists will, at this preliminary meeting, determine the seasons when specific construction activities would have the least adverse effect on arroyo toads.
  - Any arroyo toads found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area.
  - The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
  - To ensure that diseases are not conveyed between work sites by the authorized biologist or his or her assistants, the fieldwork code of practice developed by the Declining Amphibian Populations Task Force will be followed at all times.

- SCE shall restrict work to daylight hours, except during an emergency, or unless otherwise authorized by the FS (on NFS land) or the CPUC (on private land) in order to avoid nighttime activities when arroyo toads may be present on the access roads. Traffic speed shall be maintained at 15 mph or less in the work area.
- A qualified biologist must permanently remove from within the Project area, any individuals of exotic species, such as bullfrogs, crayfish, and centrarchid fishes, to the maximum extent possible and ensure that activities are in compliance with the California Fish and Game Code.
- No stockpiles of materials will occur in areas occupied by arroyo toads.
- Any spills of any fluids that may be hazardous to aquatic fauna (gasoline, hydraulic fluid, motor oil, etc) in areas that may contain arroyo toads will be reported to the FS, FWS, and CPUC within one hour.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

#### CEQA Significance Conclusion

The arroyo toad is known to occur at Alder Creek, Big Tujunga Creek, and Lynx Gulch, and potentially occurs at several other locations within the ANF. This species is not expected to occur on non-FS lands affected by the proposed Project. Even with the implementation of avoidance and minimization measures described above construction activities associated with the proposed Project are likely to result in the incidental take of arroyo toad from vehicle access across or adjacent to Alder Creek, and/or Tujunga Creek or its tributaries. Because arroyo toads are small and cryptic they are easily subject to mechanical crushing by humans and construction equipment.

Construction activities that result in direct mortality or the degradation of habitat utilized by this species would be considered significant absent mitigation (Class II). SCE would implement APMs BIO-1 through BIO-7 as part of the proposed Project. However, the take of federally and State-listed species as described above would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the Service. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). SCE shall provide the Biological Opinion from the Service prior to initiating any activities within suitable habitat for this species.

These measures include, but are not limited to, avoiding the peak breeding period, the placement of exclusion fencing if animals are present, implementation of a capture and release program, and construction monitoring

by authorized biologists. Implementation of these measures would avoid or mitigate take, including loss of habitat, thereby reducing potential impacts to a less-than-significant level (Class II).

### Threatened and Endangered Reptiles

The desert tortoise is a federal and State threatened species that ranges from the Mojave and Sonoran deserts of southeastern California and southern Nevada, south through Arizona into Mexico. It occurs primarily on flats and bajadas with soils ranging from sand to sandy gravel with scattered shrubs. The desert tortoise requires sufficient suitable plants for forage and cover, and suitable substrates for burrows and nest sites. The desert tortoise is threatened by off-road vehicles, livestock grazing, and mining. Disease related to human-caused stress is also taking a heavy toll on the desert tortoise (Christopher et al., 2003).

There is a moderate potential for this species to occur in the northern sections of Segments 4 and 10. No critical habitat or desert tortoise management areas occur in the proposed Project area.

#### *Impact B-10: The Project could result in the loss of desert tortoises.*

Potential habitat for the desert tortoise occurs in Joshua tree woodlands and creosote scrub habitats present in the Northern Segment of the proposed Project. Historically this portion of the Antelope Valley likely supported populations of this species. The desert tortoise is believed to be present in low densities within the northern region of the Project (Segments 4 and 10) based on recent information from the FWS. Two credible sightings west of State Highway 14 were reported to the FWS in 2008-2009. In addition, three desert tortoises and several active burrows were observed within one mile of the TRTP in April and May 2009. Focused, non-protocol level surveys conducted in support of the TRTP Draft EIR/EIS for desert tortoise were conducted in June 2006 in portions of Segment 10 in the Northern Region where habitat is suitable for desert tortoise and where access had been granted. Reconnaissance-level surveys were also conducted across Segments 4 and 10 in June 2006 and September 2007. Although the habitat within the area surveyed is suitable for desert tortoise, no sign of desert tortoise was detected. While no sign of their presence was detected during focused surveys, the potential occurrence of desert tortoise in Joshua tree woodland-creosote bush scrub habitats within the proposed Project cannot be ruled out. Protocol-level surveys were completed by SCE in 2007 and 2008 for the Windhub Substation site, which is located at the northern terminus of Segment 10 and is not part of the proposed Project. In 2007, five potential tortoise burrows were identified, but no sign of recent use was noted. In 2008, SCE biologists reassessed these burrows and found three of the five burrows collapsed due to recent sheep activity. The remaining two burrows were determined at that time not to be tortoise burrows due to the size and shape (LSA, 2007 and 2008). If these burrows originally belonged to tortoises they have likely been abandoned for decades.

Direct impacts associated with construction of the proposed Project could include mortality due to collisions with vehicles or heavy equipment, fugitive dust, crushing of burrows, and increased noise levels. Indirect impacts could include loss of habitat; the introduction of non-native, invasive plant species; and increased human presence.

Construction activities that result in direct mortality or the degradation of habitat utilized by this species, if present, would be considered a “take” of federally and State-listed species as described above and would constitute an impact that would be authorized only through the context of a Biological Opinion issued from the Service. To reduce impacts to desert tortoise SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement

a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures include pre-construction clearance surveys, restoring areas subject to project disturbance, controlling the spread or colonization of noxious weeds, relocation of animals from the work area, and construction monitoring by authorized biologists. Implementation of these measures would avoid or mitigate effects to this species.

### Mitigation Measures for Impact B-10

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-10** **Conduct presence or absence surveys for desert tortoise, preserve habitat, and implement avoidance measures.** SCE shall contract with a Fish and Wildlife (FWS)-authorized biologist to conduct FWS protocol-surveys for desert tortoise in the vicinity of the proposed Windhub Substation site at the northern terminus of Segment 10, where historic tortoise burrows were documented and habitat is suitable. The resumes of the FWS-authorized biologists will be provided to the CPUC for concurrence prior to conducting the surveys. This biologist will be referred to as the "authorized biologist" hereafter. Additionally, a qualified biologist shall conduct focused clearance surveys for desert tortoise prior to construction activities within Segment 10 and Segment 4 between the Cottonwind and Whirlwind substations. Clearance surveys shall be conducted 100 m into agricultural areas that are adjacent to suitable habitat. Clearance surveys shall follow the FWS's desert tortoise survey protocol.

To mitigate potential permanent impacts to occupied desert tortoise habitat from Project construction, SCE will acquire habitat occupied by desert tortoises. Disturbance occurring along Segment 10 and along Segment 4 between the Cottonwind and Whirlwind substations shall be mitigated through acquisition of occupied habitat at a ratio of 3:1 (acres of habitat acquired: acres of land permanently disturbed). Mitigation acquisition shall occur at a FWS- and CDFG-approved location and shall be coordinated through a FWS- and CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title acquisition of habitat lands or a conservation easement over these lands will be transferred to an entity approved by FWS and CDFG, along with funding for enhancement of the land and an endowment for permanent management of the lands. SCE will provide verification to the CPUC that FWS- and CDFG-approved lands have been acquired.

SCE shall develop and implement a mitigation and monitoring plan that includes the following measures in consultation with the FWS and CDFG.

- Prior to the onset of construction activities, SCE shall provide all personnel who will be present on work areas within or adjacent to the Project area the following information:

  a. A detailed description of the desert tortoise including color photographs;

b. The protection the desert tortoise receives under the Endangered Species Act and possible legal action that may be incurred for violation of the Act;

c. The protective measures being implemented to conserve the desert tortoise and other species during construction activities associated with the Project; and

d. A point of contact if desert tortoises are observed.

- All trash that may attract predators of desert tortoises will be removed from work sites or completely secured at the end of each work day.
- In construction areas in occupied desert tortoise areas, work and staging areas will be fenced with approved desert tortoise fencing in a manner that prevents equipment and vehicles from straying from the designated work area into adjacent habitat. The authorized biologist will assist in determining the boundaries of the area to be fenced in consultation with the FWS/CDFG/CPUC. All workers will be advised that equipment and vehicles must remain within the fenced work areas. Installation of the fencing and any necessary surveys will be directed and/or conducted by the authorized biologist in concurrence with the FWS/CDFG/CPUC.
  - If desert tortoises are found within an area that has been fenced to exclude the species, activities will cease until the authorized biologist moves the desert tortoises within 500 m of their original location.
  - If desert tortoises are found in a construction area where fencing was deemed unnecessary, work will cease until the authorized biologist moves the individual(s) within 500 m of their original location. The authorized biologist in consultation with FWS/CDFG/CPUC will then determine whether additional surveys or fencing are needed. Work may resume while this determination is being made, if deemed appropriate by the authorized biologist.
  - Any desert tortoises found during clearance surveys or otherwise removed from work areas will be placed in nearby suitable, undisturbed habitat within 500 m of their original location. The authorized biologist will determine the best location for their release, based on the condition of the vegetation, soil, and other habitat features and the proximity to human activities. Clearance surveys shall occur on a daily basis in the work area if the area is not fenced. If the area is fenced, only monitoring will need to be conducted.
  - SCE shall follow the tortoise Handling Guidelines at all times if handling tortoises is required.
  - The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.
  - SCE shall restrict work to daylight hours, except during an emergency, in order to avoid nighttime activities when desert tortoise may be present on the access road. Traffic speed shall be maintained at 15 mph or less in the work area.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Desert tortoises could occur in the proposed Project area in Segments 4 and 10 where suitable habitat is present. Construction activities that result in the take of desert tortoise, a federally and state-listed species,

would constitute a significant impact and would be authorized only through the context of a Biological Opinion issued from the Service and an Incidental Take Authorization from CDFG. To reduce impacts to desert tortoise SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-10 (Conduct surveys for desert tortoises and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). Implementation of these measures would avoid or mitigate effects to this species, including loss of habitat, if present, thereby reducing potential impacts to a less-than-significant level (Class II).

### *Impact B-11: The Project could result in mortality of desert tortoises as a result of increased predation by common ravens.*

Construction of the proposed Project would increase the number and size of transmission towers and substation-associated structures that provide potential nest sites for common ravens (*Corvus corax*) and raptors. These species are known predators of juvenile desert tortoises and other small species that have the potential to occur in the Northern Region. A total of 165 and 96 new towers are proposed for Segments 4 and 10, respectively, and the Whirlwind substation is proposed at the southern terminus of Segment 10 (SCE, 2007).

Common ravens are known to nest and perch on transmission towers and are opportunistic predators that will prey upon wildlife species in the vicinity of the transmission towers. Perch sites, human activities, and the availability of prey items have lead to substantial increases in raven populations in desert regions particularly near human development (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; Steenhof et al., 1993). The new towers from the proposed Project could result in an increase in potential nesting and perching sites for common ravens in the Antelope Valley where the desert tortoise occurs at low densities. However, raven population increases appear to be more associated with increased food supplies made available via human disposal (e.g., landfills, dumpsters, and litter) than access to perch sites (Kristan et al., 2004). In addition, perch sites in the proposed Project area do not appear to be a limiting factor as many of the existing towers are utilized by ravens and other birds as roosting sites and Joshua trees are relatively abundant in the northernmost portion of the Project where desert tortoises have the potential to occur. Population increases, if they occur, are expected to be small and food supplies are not expected to change appreciably. Therefore, increased predation on the desert tortoise, if present, is not expected to result from additional towers.

#### CEQA Significance Conclusion

Increases in common raven populations may occur as a result of the increased availability of potential nest sites. Population increases, if they occur, are expected to be small because nest sites in the area are not limited and food supplies are not expected to change appreciably. Therefore, increased predation on the desert tortoise is not expected to result from additional towers, and impacts are considered to be less than significant (Class III).

## Threatened, Endangered, and Special-status Fish

### *Impact B-12: The Project could result in the loss of special-status fish.*

Four special-status fish species have the potential to occur in the proposed Project area. These include the federally listed Santa Ana sucker (*Catostomus santaanae*); the State and federally listed unarmored threespine

stickleback (*Gasterosteus aculeatus williamsoni*); and two Forest Service sensitive species and California Species of Special Concern, the arroyo chub (*Gila orcuttii*) and Santa Ana speckled dace (*Rhinichthys osculus* ssp. 8) The unarmored threespine stickleback is also a State designated fully protected species.

The unarmored threespine stickleback was once widely distributed in the Los Angeles basin; however, its current distribution is limited to the upper Santa Clara River, San Antonio Creek, and Whitewater River (Moyle, 2002). Unarmored threespine sticklebacks are not expected to occur within the Project area but do occur approximately 6 miles downstream of this project.

The Santa Ana sucker is known to occur in Big Tujunga Creek and the San Gabriel River, and the Santa Ana River (Moyle, 2002; USFWS, 2005f; CNDDB, 2007). Designated critical habitat Unit 2 for the Santa Ana sucker occurs along the West Fork San Gabriel River beginning at Cogswell Reservoir. Road 2N25, which runs adjacent to the West Fork San Gabriel River in the vicinity of critical habitat Unit 2, would be used as an access road by SCE. In addition, a portion of designated critical habitat Unit 3 for Santa Ana sucker occurs in Big Tujunga Canyon near the Project area (USFWS, 2005f). The few remaining populations of this species require site-specific management. The primary threats to existing small populations are habitat fragmentation, habitat degradation, stream flow alterations, and introduced species. Heavy recreational use and building of "recreational dams" to pool water for instream water play may also contribute to the decline of the species. On Big Tujunga Creek these species are expected to occur downstream of the dam and would not be directly affected by activities conducted at the Big Tujunga Crossing upgrade, because any in-stream sedimentation increases resulting from this project would settle out in the reservoir and would not be transferred downstream. However, portions of Big Tujunga Creek are located downstream of potential tower locations where sediment could reach the creek if Best Management Practices were not employed.

In the Project area the arroyo chub is known to occur in Big Tujunga Creek and the west, east, and north forks of the San Gabriel River.

The Santa Ana speckled dace's range has diminished dramatically to the headwaters of the San Gabriel and Santa Ana Rivers (Moyle and others, 1995). The largest remaining population of Santa Ana speckled dace is on the ANF on lower reaches of the east, north, and west forks of the San Gabriel River including Cattle Canyon, Bear Creek, and Fish Canyon (Swift and others, 1993). Other reported occurrences include Pacoima Creek, Little Tujunga Creek, and Big Tujunga Creek, but more recent information indicates these populations may now be extirpated (Moyle and others, 1995).

If special-status fish species are present, direct impacts could include mortality due to crushing by heavy equipment and vehicles and water quality degradation caused by increased sedimentation, erosion, or accidental chemical spills. Indirect impacts could include loss of suitable breeding and spawning habitat, removal of riparian and aquatic vegetation, and decreased water quality due to sedimentation and erosion. Operational impacts would be similar due to an increase in human presence as a result of facilitated public use of new and improved spur roads and access roads.

Although the Project would result in soil disturbance in many areas, data from the *GIS-Based Erosion & Sediment Analysis Report* (Appendix A of the Hydrology and Water Quality Specialist Report for the TRTP) conducted for this Project indicate that with BMPs approximately 950 tons of sediment per year over baseline would be deposited at Big Tujunga Creek east of the reservoir due to tower construction and road improvements upslope of this area. This amount of sedimentation constitutes an increase of 2.1 percent over baseline (46,002 tons/year at this location). An increase of 2.1 percent would not be considered large as the

total amount of sediment generated by any given storm event could vary by several orders of magnitude. Thus, sediment production in the project area is a highly dynamic process, and Project-generated sedimentation would be minimal compared to natural variation.

Data from the *GIS-Based Erosion & Sediment Analysis Report* also indicate that with BMPs approximately 577 tons of sediment per year over baseline would be deposited at Butterfield Canyon and the West Fork San Gabriel River due to road improvements upslope of this area. Under baseline conditions, 45,666 tons of sediment was modeled as being deposited annually at this location. This total amounts to an increase of approximately 1.2 percent, which, as described above, is within the natural variation of any given rain year and would not be considered a large increase over baseline conditions. An important consideration regarding potential effects to the fish species in the Project area is the contribution of sediment from other watersheds not considered in the analysis for this project. For example, the total contribution of sediment that would be discharged at Butterfield Canyon as a result of the proposed Project does not take into account the total amount of sediment that the numerous other creeks and tributary drainages with expansive watersheds contribute to the West Fork San Gabriel River watershed during storm events. While not quantified, based on the size of these watersheds compared to the watersheds considered in the analysis for this project, it is likely that the total sediment loads are at least an order of magnitude higher than the contribution from the project.

Project-related construction activities including the construction of all-weather crossings at Big Tujunga River, the San Gabriel River, road upgrades, and vehicle passage through tributary drainages could result in injury or mortality of the Santa Ana sucker, arroyo chub, and Santa Ana speckled dace if present. The construction and use of access and spur roads can also have detrimental effects on fish populations by creating barriers to movement. See Impact B-4 for a complete discussion of the effects of access and spur roads. However, the distribution of these species is limited within the proposed Project area due to the location of two major dams and their associated reservoirs (Tujunga and Cogswell). Populations of Santa Ana sucker that occur in the West Fork of the San Gabriel River would not be directly affected by Project construction activities as the tower sites are located upstream of the Cogswell Reservoir. However, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir (West Fork Cogswell Road). Santa Ana sucker, Santa Ana speckled dace, and arroyo chub are all known to occur in this section of the river. This road is located immediately adjacent to the river and numerous small ephemeral and intermittent drainages provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to Santa Ana suckers and other fish, if present. An inspection of each of the tributary drainages conducted by Aspen in May 2009 indicated that some of the tributaries have barriers (i.e., drop structures or other physical features) that would inhibit movement to upstream areas. In addition, the road areas lack habitat features that would support aggregations of fish on the roadway. Nonetheless, while Santa Ana suckers are not expected to linger on the roadway it is possible that this species could be present in some of the tributaries on an occasional basis while dispersing to upstream areas (Baskin pers. comm., 2009), during extremely high flow events. This would be true for other special-status fish species as well. However, to minimize or avoid direct effects SCE would place plates or other approved structures across the Arizona crossings to prevent direct vehicle contact with water if deemed necessary by the FWS or the FS (Mitigation Measure B-12).

Proposed Project activities upslope from aquatic habitats could also generate runoff, adversely affecting special-status fishes. Project-generated runoff could result in mortality or sublethal effects to all life stages of special-status fishes. Runoff could include erosional silt and spills of toxic chemicals that may be washed into

aquatic habitats during rain events. Toxic chemicals subject to spillage and runoff include, but are not limited to, engine fuels (e.g., gasoline and diesel); motor oil; hydraulic fluid; and various other oils, greases, and solvents. Silt can adhere to the eggs of fishes and interrupt gas exchange, while toxic chemicals may poison inhabitants of aquatic habitats.

Direct effects to unarmored threespine stickleback are not likely to occur from Project construction. This species occurs outside of the proposed Project area and would not be subject to direct take from construction or vehicle access. Sediment transport from upslope areas to water supporting this species is also not expected to result in direct or indirect effects to the species. Data from the hydrologic and sediment transport analysis (Please see Section 3.8 [Hydrology] of the EIR/EIS) conducted for this Project indicate that even under the most extreme erosion caused by the Project the downstream contribution of sediments to areas supporting this species would be minimal. That is, with BMPs in place, the total maximum annual sedimentation in tons per year would contribute approximately 3.4 percent above baseline tonnage over any given storm event at Aliso Canyon and the Santa Clara River and 1.7 percent at Kentucky Springs and the Santa Clara River. This total is well within the natural variation that occurs within any given year and would not result in a large contribution of sediment or result in levels of turbidity much above those currently caused by natural storm events. In addition, where the Project crosses Aliso Canyon and Kentucky Springs are approximately 6.5 and 6 miles upstream from the area where this species is known to occur in Soledad Canyon. An important consideration regarding potential effects to this species is the contribution of sediment from other watersheds not considered in the analysis for this project. For example, the total contribution of sediment that would be discharged at Aliso Canyon or Kentucky Springs as a result of the proposed Project does not take into account the total amount of sediment that the numerous other creeks and tributary drainages with expansive watersheds contribute to the Santa Clara River watershed during storm events. While not quantified, based on the size of these watersheds compared to the watersheds considered in the analysis for this project, it is likely that the total sediment loads are at least an order of magnitude higher than the contribution from the project. With the exception of the wettest years, most of the Santa Clara River in this area remains dry except during major storm events.

Populations of Santa Ana sucker that are present in portions of Aliso Creek and the Santa Ana River occur well outside the Project area and construction activities would not occur within the watersheds supporting these species.

Impacts to Santa Ana sucker, speckled dace, and arroyo chub may occur from vehicle access and construction activities conducted at Big Tujunga Creek and the West Fork of the San Gabriel River. As described above, vehicle access through and construction within these areas when they contain flowing water could result in mortality to Santa Ana suckers, speckled dace, and arroyo chub if present. Take of Santa Ana sucker would only be authorized through the context of a Biological Opinion. In addition, SCE would be required to obtain a Streambed Alteration Agreement from CDFG for any activities that would modify the bed or banks of a State jurisdictional waterway, which would provide further measures for the protection of aquatic resources.

To reduce these effects SCE shall implement a series of measures that would limit construction activities during periods of high flow, avoid vehicle crossings of tributary drainages to the West Fork of the San Gabriel River along West Fork Cogswell Road, survey and monitor work in stream areas, implement best management practices to reduce the off-site transport of sediment-laden waters into adjacent water bodies, require the development of avoidance measures for riparian crossings, and develop a RCA treatment plan that identifies the specific measures that would be implemented to reduce effects to riparian-dependent species. These

measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms).

### Mitigation Measures for Impact B-12

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-8b** **Conduct biological monitoring.** (See full description under discussion for Impact B-8)

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

**B-12** **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** On or near the West Fork Cogswell road, SCE shall pre-stage a complete Hazardous Material Spill kit(s) capable of containing the largest potential vehicle spill of gasoline, diesel, or other hazardous materials. The kit(s) shall be located and maintained in areas accessible to crews in the event a bridge or other road blockage has occurred. Contents of the kit(s) shall be approved by the FS. A biological monitor with knowledge of the special-status fishes known to occur in the area shall inspect the roadway a minimum of three times a day from October 1 to April 30 and one time a day from May 1 through September 30 (unless otherwise approved by the FS) during construction to inspect for leaks, spills, or other debris that may enter the San Gabriel River. Spills on the roadway will be logged and reported to the FS and CPUC monitor weekly and cleaned up immediately. Any spills along this road will be reported to the FS, and CPUC within one hour.

No loitering, maintenance, refueling, or equipment staging shall occur on the West Fork Cogswell road. Prior to vehicle access, metal plates, bridges, or other FS-approved structures shall be placed above all wet crossings, if deemed necessary by the FWS or the FS.

Prior to any work in the San Gabriel River, Big Tujunga River, or their tributaries where flowing or ponded water is present SCE shall conduct surveys for fish and other special-status aquatic organisms. The species noted in the project area shall be reported to the FS. No work shall be conducted in the flowing portion of the stream and water shall be diverted around the work area in a manner that does not restrict the movement of aquatic organisms unless authorized by the FS. Block nets or other barriers may be required, if deemed necessary by the FWS or the FS, and if fish or other special-status species are present. Block nets will not be used in areas supporting Santa Ana suckers. All activities that occur within ponded or flowing water shall be coordinated with the FS on

NFS lands. Quarterly for duration of construction work in the San Gabriel and Big Tujunga Rivers, SCE shall prepare a report documenting the type and number of species located and any actions taken to relocate or exclude the species. This shall be reported to the FS and CPUC no later than 30 days following the completion of work at the San Gabriel or Big Tujunga Rivers.

If Santa Ana suckers occur in portions of the creek where construction activities are scheduled to occur, SCE shall retain a qualified biologist with a FWS permit for the Santa Ana sucker to monitor all construction activities in occupied Santa Ana sucker habitat and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologists will be provided to the CPUC and FS for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

**CEQA Significance Conclusion**

The introduction of excessive silt or toxic chemicals could result in significant direct and indirect impacts to special-status fishes. Riparian habitat could also be impacted at drainages within the ANF where these species may occur. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce these impacts to less-than-significant levels **(**Class II**)**.

***Impact B-13: The Project could result in the loss of critical habitat for the Santa Ana sucker.***

Critical habitat for Santa Ana sucker exists downstream of Cogswell Reservoir, in an area that would include an access road for heavy equipment. This access road is paved and runs for approximately 7.4 miles adjacent to the West Fork San Gabriel River (West Fork Cogswell Road). Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light and temperature regimes from the trimming and/or removal of some riparian vegetation. As described under Impact B-12, vehicle passage through flowing water or leakage onto roadways that is transported into the river during storm events could result in the degradation of habitat.

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials. However, through the implementation of Project minimization measures described under Impact B-12 these effects would be minimized or avoided. With the implementation of these measures the Project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Operational effects would not occur because once the Project has been completed use of the West Fork Cogswell Road would not occur.

Mitigation measures have been identified that would reduce impacts to critical habitat for the Santa Ana sucker. These measures include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and

implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms).

### Mitigation Measures for Impact B-13

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-8b** **Conduct biological monitoring.** (See full description under discussion for Impact B-8)

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

**B-12** **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** (See full description under discussion for Impact B-12)

### CEQA Significance Conclusion

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials may occur without implementation of the mitigation measures. However, through the implementation of Project mitigation measures described under Impact B-12 these effects would be minimized or avoided. With the implementation of these measures the Project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Therefore, impacts of the proposed Project on critical habitat for the Santa Ana sucker would be less than significant with the implementation of mitigation (Class II). Operational effects would not occur because once the project has been completed use of the West Fork Cogswell Road would not occur. Mitigation measures that would reduce impacts to Santa Ana sucker critical habitat include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms).

## Threatened and Endangered Birds

Several state and federally listed bird species have the potential to occur in the proposed Project area. These species use a broad range of habitats, and one or more may occur within each of the proposed segments. Of particular importance are riparian areas, which support several listed neo-tropical migrant birds and coastal sage scrub habitats, which support the year-round resident coastal California gnatcatcher. Table 2-11 contains a complete inventory of the threatened and endangered avian species that could occur in the proposed Project area.

### *Impact B-14: The Project could result in the loss of California condors.*

The California condor is considered present within the Northern and Central Regions and may soar over portions of the Southern Region of the proposed Project. Although condors are not known to regularly use any particular site within the proposed Project, they do occur broadly over the proposed Project area during foraging trips. They have been documented roosting at Whittaker Peak, Bear Divide, and Mt. Lukens on the ANF. Their current distribution on NFS lands includes the western half of the ANF. Condors were last known to nest on the ANF in 1984 in Red Rock Canyon (J. Grantham, pers. comm.) Potential threats on NFS lands due to resource management activities include modification or loss of habitat components (primarily large trees), behavioral disturbance caused by vegetation treatment activities, facilities maintenance (including roads), and recreation. The greatest concern to condors in the Project area is their potential to collide with power lines. Bird collisions with power lines generally occur when a power line or other aerial structure transects a daily flight path used by a concentration of birds and when migrants travel at reduced altitudes and encounter tall structures in their path (Brown, 1993).

Collisions and electrocutions with electrical distribution structures were a significant mortality factor for the reintroduced population of California condors during the first several years of release efforts (Snyder and Snyder, 2000). Seven condors died due to collisions or electrocutions in California from December 1988 to June 1999 (Meretsky et al., 2000). This hazard has been greatly reduced by releases of birds that have been trained to avoid perching on mock utility poles fitted with electroshock mechanisms (Snyder and Snyder 2005). All recorded instances of collisions and electrocutions have been with distribution structures, and transmission lines and structures have not represented a collision or electrocution threat to the California condor (J. Burnett, personal communication). Condors have excellent eyesight (Snyder and Snyder, 2005) and do not fly during inclement weather, factors which may explain why they readily avoid transmission lines. Electrocution and collision risks to avian species are discussed in detail below under Impacts B-20 and B-21.

Direct impacts to condors, if present, could occur through the loss of or disruption of foraging habitat, noise from helicopter operation and ground-based construction activities, the introduction of micro-trash, and exposure to ethylene glycol antifreeze. Indirect effects could result from a disruption of normal foraging activity through the use of the new or improved access and spur roads and subsequent increase in human activities. Degradation and alteration of habitat due to construction activities could preclude use by condors. Operational effects would include collision or electrocution with the transmission line (see Impacts B-20 and B-21) and increased human presence and microtrash due to new or improved access and spur roads.

Construction activities such as construction of crane pads, towers, pulling/splicing locations, and staging areas, would result in the loss of potential foraging habitat. Construction debris, litter, leaking equipment, or road kill can attract this species to the proposed Project. Condors are curious birds and have been documented in close association with oil pumps and human activity on the Los Padres National Forest. During cleanup activities at

trash sites, condors have been observed sitting on guard rails adjacent to the cleanup activities. Adverse effects to condors have also been documented by the animal's collection of micro-trash (i.e., broken glass, paper and plastic waste, small pieces of metal). This waste is often brought back to nest sites where young birds ingest the material. This can lead to mortality of young birds. Ethylene glycol, a component in antifreeze and petroleum products can also be ingested by condors, ultimately leading to death. Increased access to remote parts of the ANF through road improvements or during construction activities can result in increased human use of the sites, recreational shooting, or hunting.

Nearly 100 California condors have died in the wild since the beginning of the release program (Walters et al., 2008). For example, in California, four captive-raised individuals died after interactions with power lines, two drowned in steep-sided natural water courses, one died after consuming ethylene glycol, and one died from malnutrition and dehydration. Three birds died after being brought into captivity because of malnutrition, cancer, and a gunshot wound. Eight other birds have disappeared and are presumed dead (USFWS, 2001b).

There are no specific APMs that address impacts of the proposed Project on condors. However, construction of the proposed Project is not expected to adversely affect condor roost sites. The closest roost sites to the Project area include Mt. Lukens, which is approximately three miles from Segment 11. California condors are also known to roost at Bear Divide and Whittaker Peak, located over 5 miles from the Project. There are perch sites available in the dense forested areas of the ANF that are crossed by the line. Condors often return to traditional sites for perching and resting. Traditional roost sites include cliffs and large trees and snags (roost trees are often conifer snags 40 to 70 feet tall), often near feeding and nesting areas. Condors may remain at the roost site until midmorning, and generally return in mid- to late afternoon. It is anticipated that the expansion of condors back into their historical range will continue, thus the entire Project area could potentially support condors within the life of the Project.

Noise from helicopter operation is not expected to adversely affect this species as roost sites are not known to occur closer than three miles from the proposed Project. However, if condors are soaring in the region, helicopter use could result in adverse effects to this species and may discourage the use of the area during the course of construction.

The loss of foraging habitat from the proposed Project is expected to be minimal, and restoration of disturbed sites would be completed at the conclusion of construction. Most foraging occurs in open terrain of foothills, grasslands, potreros with chaparral areas, or oak savannah habitats. Historically, foraging also occurred on beaches and large rivers along the Pacific coast (USFWS, 2005d). Water is required for drinking and bathing (Zeiner et al. 1990). Construction activities would result in the loss of habitat within the expected range of the condor. This consists of relatively small amounts of habitat compared to what is regionally available. In addition, condors that occur in the region forage on carrion and occur primarily at feeding stations in the Los Padres National Forest, well outside the Project area. However, condors are increasing their current range and moving into areas not recently inhabited by this species. Therefore, condors could move into and utilize the proposed Project area.

SCE would implement a series of APMs to reduce effects to wildlife. However, these measures lack the required specificity to ensure that the effects to condors are adequately minimized. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement

a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion.

### Mitigation Measures for Impact B-14

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-8b** **Conduct biological monitoring.** (See full description under discussion for Impact B-8)

**B-14** **Monitor construction in condor habitat and remove trash and micro-trash from the work area daily.** SCE shall retain a qualified biologist with demonstrated knowledge of California condor identification to monitor all construction activities within the Project area and assist SCE in the implementation of the monitoring program. The resumes of the proposed biologist(s) will be provided to the CPUC and FS for concurrence. This biologist(s) will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within known condor-occupied areas. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed. If condors are observed in helicopter construction areas, SCE shall avoid further helicopter use until the animals have left the area. The authorized biologist will have radio contact with the project foreman, who will be in radio contact with the helicopter pilot. The biologist will provide information to SCE to avoid conflicts with condors. All condor sightings in the Project area will be reported to the FWS and FS (on NFS lands). SCE will coordinate with FWS on the construction schedule and helicopter work areas to determine if any condors have been tracked or observed in the vicinity of the Project area. If condors are observed in helicopter construction areas, then SCE shall avoid further helicopter use until the animals have left the area and the FWS will be notified immediately. Should condors be found roosting within 0.5 miles of the construction area, no construction activity shall occur between 1 hour before sunset to 1 hour after sunrise, or until the condors leave the area. Should condors be found nesting within 1.5 miles of the construction area, no construction activity will occur until further authorization from the FWS and FS on NFS lands.

**Microtrash**. All trash is required to be disposed of as written in the Proper Disposal of Construction Waste Plan for the Project. Additional language has been added to this Plan to address the disposal of microtrash. Workers will be trained on the issue of microtrash – what it is, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area will occur to collect and remove trash in locations with the potential for California condors to occur.

**Worker Education**. SCE will develop a flier that will be distributed to all workers on the project concerning information on the California condor. Information to be included consists of the following: species description with photos and/or drawings indicating how to identify the California condor and how to distinguish condors from turkey vultures and golden eagles;

protective status and penalties for violation of the ESA; avoidance measures being implemented on the Project; and contact information for communicating condor sightings.

**Reporting.** All California condor sightings in the Project area will be reported directly to the FWS, FS, and CPUC. Prior to the commencement of helicopter activity, SCE will coordinate with a FWS condor biologist to determine if any condors have been tracked or observed in the vicinity of the Project area.

#### CEQA Significance Conclusion

Construction activities associated with tower construction or operation could result in impacts to condor, if present. Electrocutions and/or line collisions as a result of Project implementation are discussed further under Impacts B-20 and B-21.

Impacts to condors from exposure to ethylene glycol, loss of habitat, loss of perch sites, or micro-trash ingestion would be considered significant absent mitigation **(**Class II**)**. As described above, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) to avoid or mitigate take, including the loss of habitat and the potential for micro-trash ingestion. Implementation of these measures would reduce impacts to this species to less-than-significant levels **(**Class II**)**.

### *Impact B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat.*

Southwestern willow flycatchers have been documented within the Project area, in Whittier Narrows and in Upper Big Tujunga Canyon. On the ANF, breeding southwestern willow flycatchers have been observed at upper Bear Creek, a tributary to the West Fork San Gabriel River, and Soledad Canyon, 7 miles west of the northern portion of Segment 6. The Project does not fall within critical habitat for the southwestern willow flycatcher (USFWS, 2005d). However, the Project is within the historical range of the species, and potentially suitable nesting habitat is present within portions of Amargosa Creek, the ANF particularly along the West Fork Cogswell Road and Upper Big Tujunga Creek, the Whittier Narrows Recreation Area, at the Whittier Narrows Nature Center, and at the Rio Hondo. Migrant flycatchers have also been noted at various times in the Puente Hills Landfill Native Habitat Preservation Authority lands and within the ANF at Piru Creek, near the Chilao Visitor Center, and in Bouquet Canyon. Surveys conducted by SCE in June of 2007 for willow flycatchers detected three individuals in the Whittier Narrows Recreation Area (Segment 8) and seven individuals on the ANF (Segments 6 and 11) (AMEC, 2008). These birds were determined to be migrants of a northern subspecies; however, the willow flycatcher is State endangered at the species level. Potential threats that have been identified on NFS lands are directed towards nesting habitat and include wildfires and resultant flooding, water diversion or extraction, unauthorized vehicle use, high levels of dispersed recreation, road and trail construction and use, invasive non-native vegetation, cowbird parasitism, and predation.

The least Bell's vireo is known to nest along portions of Segment 8 and directly adjacent to Segment 7. Nesting Least Bell's vireos have been confirmed at the Whittier Narrows, Puente Hills Landfill Native Habitat Preservation Authority lands, and the Santa Fe Flood Control Basin. There is also potential least Bell's vireo habitat in riparian areas along Segments 6 and 11 on the ANF. This species has not been recorded nesting on

NFS lands in the proposed Project area. However, as the species range continues to expand it is likely to inhabit the foothill canyon portions of the ANF. The primary threats to this species on NFS lands include habitat degradation and parasitism by brown-headed cowbirds. Habitats suitable for least Bell's vireo within this segment include Southern Arroyo Willow Riparian Forest, Southern Cottonwood Willow Riparian Forest, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, and Mule Fat Scrub. Construction activities may result in the loss of least Bell's vireo habitat due to installation of permanent structures and/or roads and disturbance from construction activities. The proposed Project may result in the loss of an estimated 0.5 acre of Southern Willow Scrub on Segment 7 and 1 acre of Southern Sycamore Alder Riparian Woodland on Segment 8. Some of this may be occupied by least Bell's vireos.

The yellow-billed cuckoo is not currently known to nest along the proposed Project. However, the Project is within the historical range of yellow-billed cuckoo, and marginally suitable nesting habitat is present in the Whittier Narrows Recreation Area, Whittier Narrows Nature Center, and the Rio Hondo. One individual yellow-billed cuckoo was observed in the project area at the Rio Hondo, just south of Segments 7 and 8, in 2009 (M. Benjamins, pers. comm.).

Based on the proposed Project design provided by SCE, the transmission lines would span these drainages, and disturbance or removal of riparian communities would be related to the upgrade of existing access and spur roads where they cross riparian habitat. Nevertheless, construction immediately adjacent to riparian habitats may affect nesting southwestern willow flycatchers, least Bell's vireos, and yellow-billed cuckoos should they occur. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. The construction and use of access roads in riparian areas could also disturb nesting riparian birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife.

Direct impacts to southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos could include disruption of breeding activity due to increased dust, noise, human presence associated with construction activities, and the loss of habitat due to improvement of access roads and altered hydrology. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impact B-21 below), loss of habitat due to vegetation trimming and removal during maintenance activities, and disturbance of birds due to the presence of maintenance personnel.

Many riparian birds including southwestern willow flycatcher, least Bell's vireo, yellow-billed cuckoo and other neo-tropical migrants are adversely affected by noise and human disturbance. Reijnen et al. (1995) demonstrated that for two species of European warbler (*Phylloscopus* spp.), sound levels between 26 dB(A) and 40 dB(A) reduced breeding density by up to 60 percent compared to areas without disturbance. In addition, while current sound thresholds for most birds in California are considered to be approximately 60 dB(A), this level may still adversely affect breeding success for least Bell's vireo and southwestern willow flycatcher. W. Haas (personal communication, 2007) reported that in 1999, sound levels were recorded at 87 locations containing similar habitat conditions in the vicinity of the San Luis Rey River, the most robust and stable population of flycatchers in California. Data indicated that noise levels were the most important factor for occupancy. Based on sound levels, 90 percent of territories were occupied at levels at 49 dB(A), 75 percent at 51 dB(A), 50 percent at 53 dB(A), 25 percent at 55 dB(A), and no territories were occupied at 60 dB(A)

(W. Haas personal communication, 2007). These data suggest disturbance from adjacent road noise and urban development may be a contributing factor in the use of habitat adjacent to developed areas.

Noise from helicopter operation could also affect these species if present on NFS lands. However, there has been no documentation that these species currently nests on the ANF. Human presence, as well as removal/ disturbance of vegetation during construction would also have the potential to disrupt least Bell's vireos, particularly at access roads or staging areas if the transmission lines cross or are placed adjacent to riparian areas.

Corona noise associated with the operation of the proposed Project could potentially disrupt breeding birds. However, extensive research has not been conducted on the effects of corona noise on wildlife. Impacts related to corona noise are discussed further under Impact B-41.

One important factor in assessing effects to riparian birds is the unique habitat types used by each species. For example, least Bell's vireo will use riparian scrub communities that southwestern willow flycatcher and yellow-billed cuckoo generally avoid. Currently SCE does not have a specific APM intended to reduce effects to listed birds in the proposed Project area. Measures proposed by SCE that would reduce this effect include APMs BIO-1 through BIO-7. These APMs include conducting clearance surveys for special-status wildlife, minimizing vegetation removal at construction sites, avoiding streambeds to the extent practicable, implementing best management practices, biological monitoring, personnel training, and coordinating and compensating for effects to special-status wildlife with the regulatory agencies. However, as described above, these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project to southwestern willow flycatcher, least Bell's vireo, and yellow-billed cuckoo, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct pre-construction surveys and monitoring for breeding birds), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These surveys would include potential riparian habitat along access roads that cross various riparian drainages.

#### Mitigation Measures for Impact B-15

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities**. (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-5** **Conduct pre-construction surveys and monitoring for breeding birds.** (See full description under discussion for Impact B-5)

**B-15** **Conduct protocol or focused surveys for listed riparian birds and avoid occupied habitat.** If construction activities occur during the breeding season at the Whittier Narrows Recreation Area,

Whittier Narrows Nature Center, Puente Hills Landfill Native Habitat Preservation Authority lands, and/or the Rio Hondo, or other areas including the ANF that have the potential to support listed riparian species, a qualified ornithologist shall conduct protocol surveys of the Project and adjacent areas within 500 feet. Fish and Wildlife Service (FWS) protocol surveys will be conducted for southwestern willow flycatcher and least Bell's vireo. In known occupied habitat for listed riparian birds, SCE shall only conduct focused surveys of the Project and adjacent areas within 500 feet. The surveys shall be of adequate duration to verify potential nest sites if work is scheduled to occur during the breeding season.

Protocol or focused surveys, as appropriate, should be conducted within one year of start of construction and will continue annually until completion of construction activities. However, on NFS lands, annual surveys in suitable habitat may be required during construction. These surveys may be modified through the coordination with the FWS, CDFG, FS, USACE, State Parks (under Alternative 4), and the CPUC based on the condition of habitat, the observation of the species, or avoidance of riparian areas during the breeding season.

If a territory or nest is confirmed in a previously unoccupied area, the FWS and CDFG shall be notified immediately. On NFS lands, USACE lands, or State Park (under Alternative 4) lands, these agencies would be notified immediately. In coordination with the FWS and CDFG, a 500-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted provided noise levels do not exceed 60 dB(A)hourly Leq at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. No construction or vehicle traffic shall occur within this buffer during the breeding season for these species.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Implementation of the proposed Project, without implementing the mitigation measures, could result in disturbance that causes southwestern willow flycatchers, least Bell's vireos, or yellow-billed cuckoos to abandon their nests and/or result in the loss of reproductive effort. This impact would be considered significant without mitigation **(**Class II**)**. Take of these federally and state-listed species through loss of habitat would only be authorized in the context of a Biological Opinion issued by the Service and an Incidental Take Authorization from CDFG. As described above, to reduce impacts of the proposed Project to southwestern willow flycatcher, least Bell's vireo, and yellow-billed cuckoo, SCE shall implement a series of mitigation measures intended to reduce or avoid direct and indirect impacts of construction on this species. These include Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities),

Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-5 (Conduct pre-construction surveys and monitoring for breeding birds), Mitigation Measure B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### *Impact B-16: The Project would result in the loss of coastal California gnatcatchers.*

The coastal California gnatcatcher is known to nest within the Southern Region along Segments 7 and 8 in the Montebello Hills, Santa Fe Dam Recreation Area east of Interstate 605 (CNDDB, 2009; M. Long, pers. comm.), and the Puente-Chino Hills. Suitable Coastal Sage Scrub habitat within the proposed Project also exists along the San Gabriel River within the Whittier Narrows Recreation Area. During protocol surveys conducted in August 2007 through January 2008, gnatcatchers were detected in the Montebello Hills along Segment 8, at the Puente Hills Landfill Native Habitat Preservation Authority near Segment 8, and just south of Turnbull Canyon Road along Segment 8.

Direct impacts to coastal California gnatcatcher could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads. Additional loss of habitat could occur through the construction of towers, crane pads, staging areas, pulling/splicing locations, and concrete batch plants. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impact B-20 below), loss of habitat due to vegetation trimming and removal during maintenance activities, and disturbance of birds due to the presence of maintenance personnel.

Ground-disturbing activity, including tower pad preparation and construction and grading of new access roads, has the potential to disturb vegetation used by nesting birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Noise from helicopter operation, which would occur in many sections of the ANF could also adversely affect nesting birds. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, which would constitute take. Therefore, SCE shall implement APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

#### Mitigation Measures for Impact B-16

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-16** **Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures.** SCE shall conduct protocol surveys for coastal California gnatcatchers in areas supporting coastal sage scrub habitat that may be affected by the Project. In known occupied habitat for the California gnatcatcher, SCE shall only conduct focused surveys for coastal California

gnatcatchers to determine the locations of nests and territories. Survey areas shall include a 500-foot buffer around Project disturbance areas.

If a territory or nest is confirmed, the FWS shall be notified immediately. In coordination with the FWS a 300-foot disturbance-free buffer shall be established and demarcated by fencing or flagging. This buffer may be adjusted provided noise levels do not exceed 60 dB(A)hourly Leq at the edge of the nest site as determined by a qualified biologist in coordination with a qualified acoustician. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the construction activities are disturbing nesting activities, the biologist shall have the authority to halt the construction and shall devise methods to reduce the noise and/or disturbance in the vicinity. This may include methods such as, but not limited to, turning off vehicle engines and other equipment whenever possible to reduce noise, installing a protective noise barrier between the nest site and the construction activities, and working in other areas until the young have fledged. If noise levels still exceed 60 dB(A) Leq hourly at the edge of nesting territories and/or a no-construction buffer cannot be maintained, construction shall be deferred in that area until the nestlings have fledged. All active nests shall be monitored on a weekly basis until the nestlings fledge. No Project activities may occur in these areas unless otherwise authorized by FWS. SCE shall obtain incidental take authorization from the FWS prior to further activities.

Protocol or focused surveys, as appropriate, shall be conducted, at a minimum, within one year of start of construction and can stop at commencement of construction activities. These surveys may be modified through the coordination with the FS on NFS lands, USACE on USACE lands, State Parks in the Chino Hills State Park (Alternative 4 only), and the CPUC based on the condition of habitat, the observation of the species, or avoidance of nesting areas during the breeding season. Non-protocol nesting bird surveys for California gnatcatcher shall also occur in the Aliso Canyon in chaparral communities. This area shall also require a qualified gnatcatcher biologist to be present during any construction activities conducted during the breeding season. Non-protocol nesting bird surveys for California gnatcatcher shall also occur in the Aliso Canyon in chaparral communities. This area shall also require a qualified gnatcatcher biologist to be present during any construction activities conducted during the breeding season.

Construction activities in occupied gnatcatcher habitat will be monitored by a full-time qualified biologist. The monitoring shall be of a sufficient intensity to ensure that the biologist could detect the presence of a bird in the construction area. At a minimum one full-time monitor shall be present for every two miles of active construction within occupied habitat.

SCE shall retain a FWS-permitted biologist to monitor construction activities within 100 feet of an active California gnatcatcher nests in the Montebello Hills area only and assist SCE in the implementation of the monitoring program. In the Montebello Hills, grading and vegetation management, including activities conducted during Project operations and maintenance, shall be conducted outside of the breeding season (March – August). A 300-foot buffer is required for all other areas. A biologist with applicable avian experience with the California gnatcatcher will monitor all construction activities within 300 feet of occupied California gnatcatcher habitat. The resumes of the permitted biologists will be provided to the CPUC for concurrence. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will have the authority to stop all activities until appropriate corrective measures have been completed.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Project implementation could result in disturbance that causes coastal California gnatcatchers to abandon their nests and/or result in the loss of reproductive effort, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

### *Impact B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher.*

The Service designated 13 critical habitat units for the coastal California gnatcatcher, including two areas along Segment 7 (Montebello Hills and Whittier Narrows Recreation Area) and several portions along Segment 8A in the Montebello, Puente, and Chino Hills including the Puente Hills Native Habitat Preservation Authority lands. The proposed transmission line would traverse 0.5 mile of designated critical habitat in Segment 7 and 8 miles of critical habitat in Segment 8.

Direct impacts to coastal California gnatcatcher habitat include loss of habitat due to grading and clearing for road improvements, staging areas, helicopter landing sites, pulling/splicing locations, etc. Indirect impacts to habitat include the accumulation of dust and the spread of noxious weeds. Operational impacts include the degradation of habitat due to increased human presence associated with use of new or improved access and spur roads by the public, and loss of habitat due to vegetation trimming and removal during maintenance activities.

Construction activities, including the installation of permanent structures and/or roads, would result in the loss of an estimated 2.4 acres (<0.001 acre permanent and 2.4 acres temporary) of gnatcatcher critical habitat on Segment 7 and 44.8 acres (4.4 acres permanent and 40.5 acres temporary) on Segment 8. Take of this federally listed species through loss of occupied habitat and/or modification of designated critical habitat would only be authorized in the context of a Biological Opinion issued by the FWS. However, the overall loss of critical habitat would be small and is not expected to diminish the value or remove essential constituent elements of occupied critical habitat for this species. By avoiding direct effects to the species during the breeding season and replacing lost habitat, the effects of the project would be minimized. Therefore, to reduce the effects of the proposed Project on designated critical habitat SCE shall implement APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), Mitigation Measure B-17 (Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-17

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-16 Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures.** (See full description under discussion for Impact B-15)

**B-17 Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher.** To mitigate effects from Project construction, SCE shall acquire habitat occupied by the coastal California gnatcatcher and/or restore unoccupied coastal sage scrub. Mitigation acquisition shall occur at a 3:1 ratio for permanent effects unless otherwise approved by the FWS upon consultation. Temporary impacts will be mitigated at a 1:1 ratio on site. For lands located within the Montebello Hills HCP a 1:1 ratio for permanent effects will be implemented unless otherwise approved by the FWS. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Management of coastal California gnatcatcher mitigation areas will be necessary to maintain habitat suitability over time. Activities that need to be addressed in the management plan include disturbances that reduce shrub cover, such as frequent fire, mechanical disruption, livestock grazing, off-highway vehicle use, and military training activities. Fee title acquisition of these habitat lands or a conservation easement shall be transferred to an entity approved by the FWS and the CPUC, along with funding for enhancement of the land and an endowment for management of the land in perpetuity.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Project implementation could substantially reduce the number or restrict the range of coastal California gnatcatcher through loss of occupied habitat and would result in modification of designated critical habitat, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-8, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and Mitigation Measure B-17 (Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher) would reduce impacts to less-than-significant levels **(**Class II**)**.

### *Impact B-18: The Project could disturb nesting Swainson's hawks.*

The Swainson's hawk nests in areas such as riparian woodlands, roadside trees, trees along field borders, and the edges of remnant oak woodlands. There are five CNDDB records of Swainson's hawk in the vicinity of the proposed Project in the Northern Region, including two recent nest records within 10 miles. The two recent nest locations were re-evaluated during surveys for the Antelope Transmission Project. Surveys in 2007 found a nesting pair in one of the two locations, but the nest was unsuccessful. Nesting was not detected at the second location during 2007 and 2008 surveys (LSA, 2007 and 2008). However, CDFG considers a nest site to be active if it was used at least once during the past 5 years (CDFG, 1994b). Thus, these two nest locations are considered active. In addition, five active nests were observed during construction of the Antelope Transmission Project within four miles of the proposed Project in spring of 2009. Migrating Swainson's hawks have been observed in the past in the Puente Hills Landfill Native Habitat Preservation Authority lands. Although no records are within the proposed Project alignment, reconnaissance surveys in 2007 detected suitable foraging and nesting habitat in the Northern Region. Nesting Swainson's hawks, therefore, are considered likely within this region of the proposed Project. As such, construction disturbance during the

breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment.

Direct impacts to Swainson's hawk could include disruption of breeding activity due to increased dust, noise, and human presence associated with construction activities, and the loss of habitat due to improvement of access roads. Additional loss of habitat could occur through the construction of towers, crane pads, staging areas, and pulling/splicing locations. Indirect impacts include the loss of habitat due to the establishment of noxious weeds and a disruption of breeding activity or the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impacts B-20 and B-21 below) and disturbance of birds due to the presence of maintenance personnel.

Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment, and buffer zones must be placed around nest locations to reduce this risk. CDFG recommends that the buffer zone be 0.5 mile in nesting areas away from urban development (CDFG 1994). These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG. However, any actions that result in take of this species would require an incidental take permit from the CDFG. Therefore, SCE shall implement APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

#### Mitigation Measures for Impact B-18

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-18a** **Conduct pre-construction surveys for Swainson's hawks.** To assure that nesting Swainson's hawks are not disturbed by construction activities, a qualified ornithologist shall conduct pre-construction surveys within one mile of the Project in regions with suitable nesting habitat for Swainson's hawks. The survey periods follow a specified schedule: Period I occurs from 1 January to 20 March, Period II occurs from 20 March to 5 April, Period III occurs from 5 April to 20 April, Period IV occurs from 21 April to 10 June, and Period V occurs from June 10 to July 30. Surveys are not recommended during Period IV because identification is difficult, as the adults tend to remain within the nest for longer periods of time. No fewer than three surveys per period in at least two survey periods shall be completed immediately prior to the start of Project construction. If a nest site is found, consultation with CDFG shall be required to ensure Project construction will not result in nest disturbance. CDFG recommends that no new disturbances or other Project-related activities that may cause nest abandonment or forced fledging be initiated within 0.25 mile of an active nest between 1 March and 15 September, or until 15 August if a Management Authorization is obtained for the Project from the CDFG (CDFG, 1994). These buffer zones may be adjusted as appropriate in consultation with a qualified ornithologist and CDFG.

**B-18b** **Removal of nest trees for Swainson's hawks.** Nest trees for Swainson's hawks along the Project shall not be removed unless avoidance measures are determined to be infeasible. If a nest tree for a Swainson's hawk must be removed, a Management Authorization (including conditions to offset the loss of the nest tree) must be obtained from the CDFG. The Management Authorization will specify the tree removal period, generally between 1 October and 1 February. If construction or other Project-related activities that may cause nest abandonment by a Swainson's hawk or forced fledging

are necessary within the specified buffer zone, monitoring of the nest site (funded by SCE) by a qualified biologist shall be required to determine if the nest is abandoned. If the nest is abandoned and if the nestlings are still alive, SCE shall fund the recovery and hacking (controlled release of captive reared young) of the nestling(s).

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Project implementation could result in disturbance that causes Swainson's hawks to abandon their nests or otherwise fail to reproduce, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measures B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels **(**Class II**)**.

### *Impact B-19: The Project would result in the loss of foraging habitat for Swainson's hawks.*

Foraging habitat for Swainson's hawks includes dry land and irrigated pasture, alfalfa, fallow fields, low-growing row or field crops, rice land, and cereal grain crops (CDFG, 1994). The primary foraging habitat for Swainson's hawks in the Antelope Valley is agricultural. The proposed Project will impact an estimated 33.7 acres of this habitat within the Northern Region, primarily along Segment 4 (29.4 acres of temporary and 4.3 acres of permanent disturbance). Swainson's hawks may also forage in non-native annual grassland and desert scrub habitats present within the proposed Project.

Direct impacts to potential Swainson's hawk foraging habitat include the temporary and permanent loss of habitat due to grading and clearing for road improvements, staging areas, helicopter landing sites, pulling/splicing locations, tower locations, etc. Indirect impacts to habitat include the accumulation of dust and the spread of noxious weeds. Operational impacts include the potential loss of habitat due to vegetation trimming and removal during maintenance activities.

Loss of potential Swainson's hawk habitat would represent an adverse impact if active Swainson's hawk nests are present within 10 miles of the proposed Project, which is the average maximum distance from nests that pairs are known to forage (CDFG, 1994). Two active nests were documented within 10 miles of the proposed Project in 2005 (CNDDB, 2009) and may continue to be active in the future. Surveys conducted in 2007 for the Antelope Transmission Project detected a nesting pair with an unsuccessful nest in one of the two areas. Surveys conducted in 2008 for the same project did not find breeding activity at this location. These surveys did not detect breeding activity at the other location in 2007 or 2008 (LSA, 2007 and 2008). However, CDFG considers nest sites to be active if they have been used at least once in the past 5 years (CDFG, 1994b). Therefore, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

#### Mitigation Measures for Impact B-19

**B-1a Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-18a** **Conduct pre-construction surveys for Swainson's hawks.** (See full description under discussion for Impact B-17)

**B-19** **Compensate for loss of foraging habitat for Swainson's hawks.** Loss of foraging habitat for Swainson's hawks shall be mitigated by providing Habitat Management (HM) lands as described in the CDFG's *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California* (CDFG, 1994) because the site is known foraging habitat for Swainson's hawks. The final acreage of HM lands to be provided on site shall depend on the distance between the Project area and the nearest active nest site (CDFG, 1994), as determined by nest surveys conducted in the spring prior to Project construction. Guidance on the acreage of HM lands to be acquired by SCE can be found in the 1994 CDFG staff report.

Management Authorization holders/Project sponsors shall provide for the long-term management of the HM lands by funding a management endowment (the interest on which shall be used for managing the HM lands).

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Loss of foraging habitat for the Swainson's hawk as a result of Project implementation, without implementing the mitigation measures, could result in significant impacts to this species by substantially reducing the habitat available for the species. However, implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

### *Impact B-20: The Project could result in electrocution of State and/or federally protected birds.*

Direct and operational impacts from the proposed Project would be the same and would include electrocution of large aerially perching bird species. Indirect effects associated with this impact would include increased risk of wildfire due to electrocuted birds or nests contacting flammable vegetation or other materials.

California condors, Swainson's hawks, bald and golden eagles, peregrine falcons, and other large aerial perching birds are susceptible to electrocution on power lines because of their large size, distribution, and proclivity to perch on tall structures that offer views of potential prey. The design characteristics of transmission towers/poles are a major factor in raptor electrocutions. Electrocution occurs when a perching bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. This happens most frequently when a bird attempts to perch on a transmission tower/pole with insufficient clearance between these elements. Electrocution can occur when horizontal separation is less than the wrist-to-wrist (flesh-to-flesh) distance of a bird's wingspan or where vertical separation is less than a bird's length from head-to-foot. Electrocution can also occur when birds perched side-by-side span the distance between these elements (APLIC 2006).

The largest birds that could come in contact with the transmission lines of the proposed Project are the California condor (wingspan approximately 9 feet, height approximately 4.2 feet) and bald eagle with a wingspan of up to 8 feet (wrist-to-wrist length of 2.8 feet) and height (head-to-foot) up to 2.3 feet (APLIC, 2006). The golden eagle has a wingspan of up to 7.5 feet (wrist-to-wrist length of 3.5 feet) and height up to 2.2 feet (APLIC, 2006). The Swainson's hawk has a 4.5-foot wingspan, and can be 1.3 feet tall. The red-tailed hawk is the most common large bird that could come in contact with the subtransmission lines and are widespread in all three Project regions. The red-tailed hawks' wingspan is up to 4.7 feet (wrist-to-wrist length of 1.9 feet) and height up to 1.8 feet (APLIC, 2006). Other large birds that could come in contact with the transmission lines are the turkey vulture (5.8-foot wingspan, two-foot wrist-to-wrist length, 1.8 feet tall) and great horned owl (4.3-foot wingspan, 2.1-foot wrist-to-wrist length, 1.3 feet tall) (APLIC, 2006). None of the wrist-to-wrist lengths (or even wingspans) or heights of these birds is long enough to simultaneously contact two energized phase conductors for the proposed Project. If they were to roost communally, there is some potential that multiple birds would bridge the gap between two energized conductors. However, this would be difficult on a transmission line and the likelihood of this happening would be low.

Raptors that use the towers for nesting could be electrocuted while landing. Furthermore, nests may be built in areas that are susceptible to electrical charges that could result in fire as well as an electrical outage. However, the majority of raptor electrocutions are caused by lines that are energized at voltage levels between 1 kV and 69 kV, and "the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low" (APLIC 2006). Additionally, current guidelines for constructing transmission lines have been developed to minimize the potential effects from bird strikes and electrocution. To reduce the effects of the proposed Project SCE shall implement APMs BIO-4 and BIO-9, which state that SCE construction and operations crews will use BMPs, and that transmission facilities will be designed to be raptor-safe in accordance with the *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* (APLIC, 2006). Additional mitigation is not warranted.

#### CEQA Significance Conclusion

Although special status birds may under some circumstances be subject to electrocution, the likelihood of electrocutions occurring at voltages greater than 69 kV is extremely low (APLIC 2006). With the implementation of SCE APM BIO-4 and APM BIO-9 (construct in accordance with the guidance on raptor protection in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* [APLIC 2006]); impacts to State and/or federally protected birds resulting from electrocution would be less than significant (Class III).

### *Impact B-21: The Project could result in collision with overhead wires by State and/or federally protected birds.*

Mortality of bird species due to collision with overhead power lines, towers, cranes, or other Project components could occur during construction as well as during operation of the proposed Project.

Bird collisions with power lines generally occur when: (1) a power line or other aerial structure transects a daily flight path used by a concentration of birds, or (2) migrants are traveling at reduced altitudes and encounter tall structures in their path (Brown, 1993). Collision rates generally increase in low light conditions, during inclement weather such as rain or snow, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. Collisions are more probable near wetlands, valleys that are bisected by power lines, and within narrow passes where power lines run perpendicular to flight paths.

Passerines (e.g., songbirds) and waterfowl (e.g., ducks) are known to collide with wires (APLIC, 2006), particularly during nocturnal migrations or poor weather conditions (Avery et al., 1978). However, passerines and waterfowl have a lower potential for collisions than larger birds, such as raptors. Some behavioral factors contribute to a lower collision mortality rate for these birds. Passerines and waterfowl tend to fly under power lines, while larger species generally fly over lines and risk colliding with higher static lines. Also, many smaller birds tend to reduce their flight activity during poor weather conditions (Avery et al., 1978).

It is difficult to predict the magnitude of collision-caused bird mortality without extensive information on bird species and movements in the proposed Project area. However, based on available information and observations made during reconnaissance surveys, it is generally expected that collision mortality would be greatest where the movements of susceptible species are greatest (e.g., near wetlands, open water bodies, etc.), such as Legg Lake and Santa Fe Flood Control Basin (Appendix B, Avian Risk Assessment). On NFS lands, raptor safety measures in the form of swan wrap will be required on towers/shield/conductor lines where it is deemed necessary by the FS. With the implementation of this measure impacts to avian species are minimized. No further mitigation is warranted.

#### CEQA Significance Conclusion

With the implementation of APM BIO-9 and the incorporation of raptor safety protection into the Project design (i.e. tower/conductor [lines] on NFS lands), impacts to State and/or federally protected birds resulting from transmission line collisions would be less than significant (Class III).

### Threatened and Endangered Mammals

#### *Impact B-22: The Project could result in disturbance to Mohave ground squirrels.*

The Mohave ground squirrel occupies open creosote bush scrub, alkali desert scrub, and Joshua tree woodland in areas with flat to moderate terrain. This species tends to avoid rocky areas and typically constructs burrows in sandy, alluvial, and gravelly soils (Best 1995).

The Mohave ground squirrel emerges from aestivation in spring, typically between mid-February and March, and actively forages for vegetation, seeds, arthropods, and fruit (Best 1995) and tends to stay close to its burrow while foraging. The breeding season occurs soon after emergence. After acquiring fat stores for hibernation, the Mohave ground squirrel typically enters aestivation in July or August.

Mohave ground squirrel habitat is primarily located within the Northern Region of the proposed Project, especially in areas within the Antelope Valley where Mojave creosote bush scrub, desert saltbush scrub (including desert wash), and Joshua tree woodland occur. In 2006 two potential observations of this species was recorded near Oak Creek Road close to the proposed wind hub site. In 2008 SCE conducted protocol surveys for this species near Oak Creek Road. Mohave ground squirrels were not observed or trapped during this event. While this area is generally outside the known range of the Mohave ground squirrel and habitat conditions do not meet the accepted criteria for this species there remains a potential for this species to be present based on the observations and known present of this species in the region. Direct impacts to Mohave ground squirrel if present include crushing of burrows, mortality due to road kill, and loss of habitat. Indirect impacts include degradation of habitat due to the spread of noxious weeds and dust. Operational impacts include increased risk of road kill and disturbance due to increased use of access roads by the public and maintenance personnel.

Construction activities may result in take of individual Mohave ground squirrels within suitable habitat, if present. The largest threat to Mohave ground squirrel from the proposed Project would be crushing of burrows during grading and other construction activities. Individuals may also be hit by vehicles on access roads. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Take from Project implementation may also stem from loss of habitat due to installation of permanent structures and/or roads. Take of this State-listed species, including loss of habitat, would require a 2081 Incidental Take Permit from CDFG. Therefore, SCE shall implement APMs BIO-1 and BIO-4 through BIO-7, Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel).

### Mitigation Measures for Impact B-22

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-22a** **Conduct protocol surveys for Mohave ground squirrels.** Protocol-level surveys for Mohave ground squirrels shall be performed in the portion of the Project containing suitable habitat for Mohave ground squirrel unless further consultation with the CDFG determines the surveys are not required. A qualified biologist will perform these surveys according to CDFG's (2003b) *Mohave Ground Squirrel Survey Guidelines*. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys.

If at any time a Mohave ground squirrel is detected, trapping will cease. If these surveys obtain positive results for Mohave ground squirrel, or if Mohave ground squirrel presence is assumed within potential habitat, SCE shall obtain incidental take authorization from CDFG. If these surveys determine that the Mohave ground squirrel is absent, then no further action is necessary.

**B-22b** **Implement construction monitoring for Mohave ground squirrels.** A qualified biological monitor shall be on the site to survey for Mohave ground squirrel during initial ground-disturbing activities. The resumes of the proposed biologists will be provided to the CDFG and CPUC for concurrence prior to conducting the surveys. The name and phone number of the biological monitor shall be provided to a CDFG regional representative at least 14 days before the initiation of ground-disturbing activities. If the biological monitor observes a Mohave ground squirrel on the construction site, determines that a Mohave ground squirrel was killed by Project-related activities during construction, or observes a dead Mohave ground squirrel, a written report shall be sent to CDFG within five calendar days. The report will include the date, time of the finding or incident (if known), and location of the carcass and circumstances of its death (if known). Mohave ground squirrel remains shall be collected and frozen as soon as possible, and CDFG shall be contacted regarding ultimate disposal of the remains.

**B-22c** **Preserve off-site habitat for the Mohave ground squirrel.** To mitigate potential permanent impacts to occupied Mohave ground squirrel habitat from Project construction, SCE will acquire habitat occupied by Mohave ground squirrels. Guidance on Habitat Management (HM) lands to be acquired by SCE can be found in CDFG's (2003b) *Mohave Ground Squirrel Survey Guidelines*.

- Three acres of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of Mojave creosote bush scrub and Joshua tree woodland outside of the Habitat Conservation Area (HCA) delineated in the WMP.
- One acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub that includes desert wash impacted by the Project outside of the HCA delineated in the WMP.
- One-half acre of off-site habitat supporting Mohave ground squirrels will be preserved for each acre of desert saltbush scrub impacted by the Project outside of the HCA delineated in the WMP.
- No mitigation will occur for agricultural, California annual grassland, or barren/developed ground within the Project area north of Vincent Substation.

Mitigation acquisition shall occur at a CDFG-approved location and shall be coordinated through a CDFG-approved entity. SCE shall enter into a binding legal agreement regarding the preservation of off-site lands describing the terms of the acquisition, enhancement, and management of those lands. Fee title acquisition of habitat lands or a conservation easement over these lands will be transferred to an entity approved by CDFG and CPUC, along with funding for enhancement of the land and an endowment for permanent management of the lands. Management of off-highway vehicles is necessary on Mohave ground squirrel mitigation areas to prevent burrow collapse, especially during the aestivation season. Mitigation areas should be relatively flat with a perennial plant cover ranging from 10 to 20 percent (Zembal and Gall, 1980) and should support several plant species necessary for Mohave ground squirrel survival, including herbaceous annuals, winterfat (*Krascheninnikovia lanata*), spiny hopsage (*Grayia spinosa*), creosote bush (*Larrea tridentata*), and burrobush (*Ambrosia dumosa*) (Best, 1995).

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1)

#### CEQA Significance Conclusion

Project implementation could result in take of this State-listed species or loss of habitat, resulting in significant impacts without mitigation. However, implementation of APMs BIO-4 through BIO-7, Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan), Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measures B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce impacts to less-than-significant levels (Class II).

## Effects on a candidate, Forest Service Sensitive, or special-status species (Criterion BIO3)

### Special-status Plants

At least seventy candidate, FS Sensitive, or special-status plant species have the potential to occur in areas of suitable habitat in the Project area. Table 6-5 presents the special-status plants that may occur within the

proposed Project and the vegetation communities in which they may be found. Detailed descriptions, habitat preferences, and the known distribution of these species are presented in Appendix E. Many of these plant species are ephemeral in nature and include many spring-flowering annuals and herbaceous perennial species that are generally only visible during optimally timed field surveys in years of average rainfall or greater. Field surveys were conducted in 2006, 2007, 2008, and 2009 within the proposed Project area. Rainfall levels in the region of the proposed Project during the rainfall year of 2006-2007 were well below the seasonal annual average (approximately 19 percent of average). Rainfall levels of 2008 and 2009 were within the seasonal annual average. Multiple years of surveys provided excellent conditions for the detection of rare plants. During the 2007, 2008, and 2009 surveys several rare plants were identified in the proposed alignment and associated access and spur roads. These included: San Gabriel manzanita in Segments 6 and 11; California androsace in Segment 5; short-joint beavertail in Segments 5, 6, and 11; Greata's aster in Segments 6 and 11; Humboldt lily in Segment 11, giant bedstraw in Segment 6; San Gabriel oak in Segments 6 and 11, Coulter's Matilija poppy in Segment 11, intermediate mariposa lily in Segment 8, Peirson's morning glory in Segment 5 and 6, California walnut in Segment 8 and along access roads in Segment 6 and 11, fragrant pitcher sage along access roads to Segment 6, San Gabriel River dudleya along access road to Seg 6, San Gabriel Mountains dudleya along access road to Segment 6, San Gabriel Mountains sunflower along access road to Segment 11, urn-flowered alumroot along access road to Segment 6, Mojave Indian paintbrush along access road to Segment 6, Lemmon's syntrichopappus on spur road in Segment 11, Plummer's mariposa lily along access roads to Segments 6 and 11, and Mt. Gleason Indian paintbrush on Alternative 6 helicopter site 4. In addition, California walnut and Catalina mariposa lily occur within the Chino Hills Alternatives.

### *Impact B-23: The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species.*

Direct impacts to the special-status plant species listed in Table 6-5 would be the same as described for listed plant species (Impact B-7) and may occur in a variety of ways, including the direct removal of plants during the course of construction. Clearing and grading associated with the placement of towers or the grading of access or spur roads may also result in the alteration of soil conditions, including the loss of native seed banks and changes to the topography and drainage of a site such that the capability of the habitat to support special-status species is impaired. Indirect impacts include the creation of conditions that are favorable for the invasion of weedy exotic species that prevent the establishment of desirable vegetation and may adversely affect wildlife. Construction on steep hillsides may also result in off-site sediment transport that may bury rare plants in adjacent habitat or alter soil conditions. Dust from road travel, grading, or other construction activities may also reduce photosynthetic capacity in plants over time or inhibit reproduction by physically coating reproductive structures or excluding insect pollinators. As previously described for vegetation communities, soil disturbance may also result in the spread of invasive plant species. See Impact B-4 for a complete discussion of the effects of the construction and use of access roads. Operational impacts would also be the same as described for listed plants under Impact B-7 and include trampling or crushing due to public use of new or improved spur roads and access roads, increased erosion, and the spread and colonization of noxious weeds. Other operational impacts include removal and trimming of vegetation during maintenance activities.

San Gabriel scrub oak, short joint beaver tail cactus and San Gabriel Manzanita were the most common FS Sensitive plants identified near tower sites. This is expected, as the dense stands of chaparral that occur at many of the tower sites exclude many other sensitive plant species. Although rare plants were only detected in a few areas, there is a potential for some species to occur in areas that have not been subject to intense focused

**Table 6-5. Vegetation Communities within the Proposed Project Potentially Supporting Candidate, Forest Service Sensitive, or Special-status Plant Species**

| Vegetation Community | Potentially Occurring Species | | | |
|---|---|---|---|---|
| Big Sagebrush Scrub | • Parry's spineflower | • Mojave Indian paintbrush | | |
| Big Cone Douglas Fir-Canyon Oak Forest | • Mojave Indian paintbrush<br>• Slender silver moss<br>• San Bernardino aster<br>• Palmer's mariposa lily | • Plummer's mariposa lily<br>• Peirson's morning glory<br>• San Gabriel bedstraw<br>• Urn-flowered alumroot | • San Gabriel Mountains sunflower<br>• Ocellated Humboldt lily<br>• Lemon lily<br>• San Gabriel linanthus | • Peirson's lupine<br>• Rock monardella<br>• Chickweed oxytheca<br>• San Bernardino grass-of-Parnassus |
| Bunchgrass Grassland | • Thread-leaved brodiaea<br>• Plummer's mariposa lily | • California androsace<br>• Slender mariposa lily | • Round-leaved filaree<br>• Southern tarplant | • Smooth tarplant |
| California Annual Grassland | • California androsace<br>• San Bernardino aster<br>• Braunton's milk-vetch<br>• Thread-leaved brodiaea | • Slender mariposa lily<br>• Plummer's mariposa lily<br>• Peirson's morning glory | • Round-leaved filaree<br>• Southern tarplant<br>• Smooth tarplant | • Coulter's saltbush<br>• Intermediate mariposa lily<br>• Many-stemmed dudleya |
| California Bay Forest | • San Bernardino aster<br>• Plummer's mariposa lily | • Peirson's morning glory<br>• San Gabriel bedstraw | • Urn-flowered alumroot<br>• Mesa horkelia | • Southern California black walnut |
| California Walnut Woodland | • California Androsace<br>• Thread-leaved brodiaea | • Round-leaved filaree | • Southern California black walnut | • Ocellated Humboldt lily |
| Canyon Oak Forest | • San Bernardino aster<br>• Plummer's mariposa lily<br>• Peirson's morning glory | • San Gabriel bedstraw<br>• Urn-flowered alumroot | • Mesa horkelia<br>• Southern California black walnut | • Ocellated Humboldt lily<br>• San Gabriel oak |
| Chamise Chaparral | • California androsace<br>• Braunton's milk-vetch<br>• Nevin's barberry<br>• Slender mariposa lily<br>• Palmer's mariposa lily<br>• Plummer's mariposa lily | • Peirson's morning glory<br>• Many-stemmed dudleya<br>• San Gabriel bedstraw<br>• Mesa horkelia<br>• Southern California black walnut<br>• Ocellated Humboldt lily | • San Gabriel linanthus<br>• Rock monardella<br>• San Gabriel oak<br>• San Gabriel manzanita<br>• Alkali mariposa lily<br>• San Gabriel river dudleya | • San Gabriel Mountains dudleya<br>• California satintail<br>• Fragrant pitcher sage<br>• Robinson's pepper-grass<br>• Davidson's bush mallow<br>• Short-joint beavertail cactus |
| Coast Live Oak Woodland | • California androsace<br>• San Bernardino aster<br>• Thread-leaved brodiaea | • Plummer's mariposa lily<br>• Peirson's morning glory<br>• Round-leaved filaree | • San Gabriel bedstraw<br>• Urn-flowered alumroot<br>• Mesa horkelia | • Southern California black walnut<br>• Ocellated Humboldt lily |
| Coastal Sage Scrub | • California androsace<br>• San Bernardino aster<br>• Braunton's milk-vetch<br>• Coulter's saltbush<br>• Nevin's barberry<br>• Thread-leaved brodiaea<br>• Slender mariposa lily | • Plummer's mariposa lily<br>• Peirson's morning glory<br>• Intermediate mariposa lily<br>• San Fernando Valley spineflower<br>• Parry's spineflower<br>• Slender-horned spineflower<br>• San Gabriel river dudleya | • San Gabriel Mountains dudleya<br>• Many-stemmed dudleya<br>• Southern tarplant<br>• Mesa horkelia<br>• California satintail<br>• Southern California black walnut<br>• Robinson's pepper-grass | • Ocellated Humboldt lily<br>• Davidson's bush mallow<br>• Brand's phacelia<br>• Chaparral sand-verbena<br>• Davidson's saltscale<br>• Rayless ragwort<br>• Salt spring checkerbloom |
| Coulter Pine Forest | • Slender silver moss<br>• San Bernardino aster<br>• Palmer's mariposa lily<br>• Plummer's mariposa lily | • Peirson's morning glory<br>• Mt. Gleason Indian paintbrush<br>• Urn-flowered alumroot<br>• San Gabriel Mountains sunflower | • Ocellated Humboldt lily<br>• Lemon lily<br>• San Gabriel linanthus<br>• Peirson's lupine | • Rock monardella<br>• Chickweed oxytheca<br>• San Bernardino grass-of-Parnassus<br>• Mojave Indian paintbrush |
| Desert Bunchgrass Grassland | • California androsace | • Peirson's morning glory | | |
| Desert Saltbush Scrub | • Alkali mariposa lily | • Peirson's morning glory | • Mason's neststraw | |
| Desert Wash | • San Fernando Valley spineflower<br>• Parry's spineflower | • Pygmy poppy<br>• White-bracted spineflower | • Lemmon's syntrichopappus | • Golden violet |

**Table 6-5. Vegetation Communities within the Proposed Project Potentially Supporting Candidate, Forest Service Sensitive, or Special-status Plant Species**

| Vegetation Community | Potentially Occurring Species | | | |
|---|---|---|---|---|
| Freshwater Marsh | • Southern tarplant | | | |
| Interior Live Oak Scrub | • California androsace<br>• **Braunton's milk-vetch**<br>• Slender mariposa lily<br>• Palmer's mariposa lily | • Plummer's mariposa lily<br>• Parry's spineflower<br>• San Gabriel river dudleya<br>• San Gabriel Mountains dudleya | • San Gabriel bedstraw<br>• Mesa horkelia<br>• California satintail<br>• Fragrant pitcher sage | • Robinson's pepper-grass<br>• Ocellated Humboldt lily<br>• San Gabriel linanthus |
| Joshua Tree Woodland | • Peirson's lupine | • Lemmon's syntrichopappus | • Golden violet | |
| Mixed Chaparral | • Chaparral sand-verbena<br>• California androsace<br>• San Gabriel manzanita<br>• **Braunton's milk-vetch**<br>• **Nevin's barberry**<br>• Slender mariposa lily<br>• Palmer's mariposa lily<br>• Plummer's mariposa lily | • Peirson's morning glory<br>• Alkali mariposa lily<br>• Intermediate mariposa lily<br>• Parry's spineflower<br>• San Gabriel river dudleya<br>• San Gabriel Mountains dudleya<br>• Many-stemmed dudleya<br>• San Gabriel bedstraw | • Mesa horkelia<br>• California satintail<br>• Southern California black walnut<br>• Fragrant pitcher sage<br>• Robinson's pepper-grass<br>• Ocellated Humboldt lily<br>• San Gabriel linanthus | • Davidson's bush mallow<br>• Rock monardella<br>• Short-joint beavertail cactus<br>• San Gabriel oak<br>• Rayless ragwort<br>• Salt spring checkerbloom<br>• Lemmon's syntrichopappus |
| Mojave Creosote Bush Scrub | • Alkali mariposa lily | • Pygmy poppy | | |
| Pinyon and Juniper Woodlands | • **Mt. Gleason Indian paintbrush**<br>• Mojave Indian paintbrush<br>• **San Fernando Valley spineflower** | • Parry's spineflower<br>• White-bracted spineflower<br>• Pygmy poppy | • Peirson's lupine<br>• Short-joint beavertail cactus<br>• Mason's neststraw | • Lemmon's syntrichopappus<br>• Golden violet |
| Mojave Mixed Woody Scrub | • **San Fernando Valley spineflower**<br>• Parry's spineflower | • Pygmy poppy | • Short-joint beavertail cactus | • Lemmon's syntichopappus |
| Mule Fat Scrub & Riversidean Alluvial Fan Sage Scrub | • Chaparral sand-verbena<br>• **San Fernando Valley spineflower** | • Parry's spineflower<br>• **Slender-horned spineflower** | • Mesa horkelia<br>• Davidson's bush mallow | • **Brand's phacelia** |
| Scrub Oak Chaparral | • Chaparral sand-verbena<br>• California androsace<br>• San Gabriel manzanita<br>• **Braunton's milk-vetch**<br>• **Nevin's barberry**<br>• Slender mariposa lily<br>• Palmer's mariposa lily | • Plummer's mariposa lily<br>• Peirson's morning glory<br>• Alkali mariposa lily<br>• Parry's spineflower<br>• San Gabriel river dudleya<br>• San Gabriel Mountains dudleya<br>• Many-stemmed dudleya | • San Gabriel bedstraw<br>• Mesa horkelia<br>• California satintail<br>• Southern California black walnut<br>• Fragrant pitcher sage<br>• Robinson's pepper-grass | • Ocellated Humboldt lily<br>• San Gabriel linanthus<br>• Davidson's bush mallow<br>• Rock monardella<br>• Short-joint beavertail cactus<br>• San Gabriel oak |
| RiaprianForest, Woodlands, and Scrub | • San Bernardino aster<br>• **Nevin's barberry**<br>• **Slender-horned spineflower** | • Southern tarplant<br>• Smooth tarplant | • California satintail<br>• Ocellated Humboldt lily | • Greata's aster<br>• Sonoron maiden fern |
| Sparsely Vegetated Streambeds | • Chaparral sand-verbena<br>• **San Fernando Valley spineflower** | • Parry's spineflower<br>• Sender-horned spineflower | • Mesa horkelia<br>• Davidson's bush mallow | • **Brand's phacelia** |

Species in bold are State or federally listed

surveys or may have failed to germinate even though the rain year was considered adequate to detect annual plants. If any of these species are encountered during pre-construction focused surveys, all individuals or populations within Project disturbance areas will be marked and avoided to the maximum extent possible. However, it is possible that some FS Sensitive plants would be subject to Project disturbance.

While not all the rare plants identified in the project area would be subject to construction-related disturbance; it is likely that there will be a loss or mortality of some rare plants. Some of these species are more common in the region and include California black walnut, San Gabriel scrub oak, short joint beaver tail cactus, and Lemmon's syntrichopappus. These species are considered to be more common in the ANF and are therefore, less susceptible to loss on a forest-wide level. However, other species including fragrant pitcher sage, San Gabriel river dudleya, San Gabriel Mountains dudleya, and San Gabriel bedstraw are of a more limited distribution and may be more susceptible to regional loss. However, as described above, impacts to many of the plant species identified in the Project area could likely be avoided or reduced through the implementation of Project minimization measures.

Species including California black walnut were noted in the Chino Hills and other rare plants may occur there as well. Spring 2008 surveys detected very few rare plants at or near the proposed tower sites in the Northern and Southern Regions. Tower locations are typically in areas already degraded beyond the ability to support most special-status species by sheep grazing (Northern Region), and heavy existing weed infestations (Southern Region). However, some areas have not been disturbed and larger impact areas, such as substations, helicopter pads, staging areas, and new access/spur roads will require careful surveys to determine the presence and location of any special-status plant species. Along existing access roads, roadside habitat is typically disturbed or compacted beyond the capability to support many special-status plants; however, some disturbance-tolerant species can occur in these areas.

Although rare plants were only detected in a few areas there is a potential for some species to occur in areas that have not been subject to focused surveys. If any of these species are encountered, all individuals or populations within Project disturbance areas will be marked and avoided to the maximum extent possible. However, it is possible that some non-listed plants would be subject to project disturbance. Typically impacts to a small number of non-state- or federally-listed special-status plants (i.e., impacts to a few individuals) or impacts to a population where loss of the population would not negatively affect the range of the special-status plant species are not typically considered significant impacts under CEQA or NEPA. However, when impacts to non-listed special-status plant species are unavoidable, impacts shall be compensated through reseeding (with locally collected seed stock), or other FS, USACE, and CPUC (as appropriate) approved methods. If Project activities will result in the loss of more than 10 percent of the known individuals within the FS Sensitive, and/or special-status plant species occurrence to be impacted, SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted).

SCE has indicated that APMs BIO-1 through BIO-7, described in Table 4-1, would be implemented as part of the proposed Project to avoid or minimize impacts to biological resources including rare plant species. These APMs include avoiding or compensating for impacts to vegetation communities, training personnel, restricting work to within predetermined limits of construction, implementing Best Management Practices (BMPs), construction monitoring, flagging vegetation for avoidance, and revegetation with appropriate seed mixes. As proposed, the APMs do not provide mitigation ratios, do not specify time for the habitat restoration monitoring, state that only the Regulatory Agencies must be consulted on various issues, and do not specify what elements would be included in a Revegetation Plan. Because the APMs are not considered to be adequate

protection for rare plants, the following Mitigation Measures are presented to further reduce impacts of the proposed Project on listed plants: Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), and B-23 (Preserve off-site habitat/management of existing populations of special-status plants) below. The 2008 focused floristic surveys will be adequate to determine the distribution of rare plant species within the alignment for one year. However, there is some possibility that new populations of special-status species could potentially establish in areas where they were not previously observed due to dispersal and/or a change in the existing conditions that could favor some listed species, such as a recent burn. Therefore, should project construction take place after 2009, further focused clearance surveys of all impact areas will be required to determine potential presence of and distribution of special-status plant species within the alignment.

### Mitigation Measures for Impact B-23

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-7** **Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants.** See full description under discussion for Impact B-7)

**B-23** **Preserve off-site habitat/management of existing populations of special-status plants.** SCE shall conduct rare plant surveys, and implement avoidance/minimization/compensation strategies. SCE shall conduct surveys according to established and accepted protocol during the floristic period appropriate for each of the rare plant species identified with the potential to occur within the Project ROW and within 100 feet of all surface-disturbing activities. The completion of these surveys shall be coordinated with the CPUC and federal land manager. Populations of rare plants shall be flagged and mapped prior to construction. If rare plants are located during the focused surveys, then modification of the placement of structures, access roads, laydown areas, and other ground-disturbing activities would be implemented in order to avoid the plants, if feasible. A report of special-status plants observed shall be prepared and submitted to the CPUC, State Parks (for activities in CHSP associated with Alternative 4), and the federal land manager (FS and USACE). Impacts to non-listed plant species (i.e., FS Sensitive, CNPS List 1,2 and 4 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeding (with locally collected seed stock), or other FS, USACE, and CPUC approved methods. If Project activities will result in loss of more than 10 percent of the known individuals within an existing population of FS Sensitive, and/or special-status plant species SCE shall preserve existing off-site occupied habitat that is not already part of the public lands in perpetuity at a 2:1 mitigation ratio (habitat preserved: habitat impacted). On federal lands, this ratio may be reduced at the discretion of the federal land manager. The CPUC may reduce this ratio depending on the sensitivity of the plant on non-federal lands. The preserved habitat shall be occupied by the plant species impacted, and be of superior or similar habitat quality to the impacted areas in terms of soil features, extent of

disturbance, habitat structure, and dominant species composition, as determined by a qualified plant ecologist.

All special-status plant species impacted by Project activities shall be documented in an annual report and submitted to the CPUC and federal land manager (FS and USACE). Where reseeding has occurred, SCE shall track the success of the plants during the course of the annual restoration monitoring. This information shall be submitted as part of the annual report to the CPUC and federal land manager (FS and USACE).

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Several special-status plant species were identified during focused surveys of the proposed project in the spring and summer of 2008. Ground-disturbing activities including road clearing and tower construction have the potential to disturb these species. Impacts to these species would be considered significant without mitigation (Class II). However, impacts to special-status plant species would be reduced to a less-than-significant level through implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants), which will prevent the disturbance of any individuals or populations of these species through Project redesign and avoidance. In addition, if large numbers of rare plant species are affected SCE shall implement Mitigation Measure B-23 (Preserve off-site habitat/ management of existing populations of special-status plants). As discussed above, indirect effects to these species that could occur due to the proliferation of noxious weeds resulting from ground-disturbing Project activities shall be reduced by the implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan). Indirect effects caused by erosion would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). A Worker Environmental Awareness Program would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) to educate workers as to the sensitivity and potential for rare plants to occur.

### Special-status Reptiles and Amphibians

Conditions in the proposed Project area provide habitat for numerous common and special status reptiles and amphibians. Creeks and drainages, rocky outcrops, leaf litter, and friable soils provide an ample prey base and support conditions favorable to many species. Some of these species with the potential to occur include:

- Southwestern pond turtle
- Two-striped garter snake
- Coast Range newt
- San Gabriel Mountains slender salamander
- Western spadefoot
- San Diego horned lizard
- California horned lizard
- Silvery legless lizard
- Orange-throated whiptail
- Coastal rosy boa
- San Bernardino ringneck snake
- San Bernardino mountain kingsnake
- Coast patch-nosed snake
- Northern red diamond rattlesnake

### *Impact B-24: The Project could result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles.*

Construction activities will cross a number of small creeks and drainages, large reservoirs, and other suitable habitat for this species. Southwestern pond turtles have the potential to occur in a number of drainages and associated upland areas within the proposed Project including: Amargosa Creek, San Gabriel River (Segment 6-7), Big Tujunga Creek (Segment 6-11), Rio Hondo, Brea Canyon, and Tonner Creek. There is also one large population in the West Fork of the San Gabriel River below Cogswell Reservoir and smaller populations in Aliso Canyon and Alder Creek (Segment 11).

The pond turtle is normally found in and along riparian areas, although gravid females have been reported to nest more than 1,300 feet away from the nearest aquatic habitat (Holland 1994). Pond turtles may also make overland movements up to one mile between areas of aquatic habitat (Bury 1972 in Ernst et al. 1994). The preferred habitat for these turtles includes ponds or slow-moving water with numerous basking sites (logs, rocks, etc.), food sources (plants, aquatic invertebrates, and carrion), and few predators (raccoons, introduced fishes, and bullfrogs). Juvenile and adult turtles are commonly seen basking in the sun at appropriate sites, although they are extremely wary animals and often dive into the water at any perception of danger.

Direct effects to southwestern pond turtle may occur from construction activity as a result of mechanical crushing; loss of nesting, breeding or basking sites; and human trampling. Disturbance would be associated with the removal of vegetation, construction and widening of access and spur roads, excavation of footings, and tower construction adjacent to areas that support this species. Disruption of basking activity and potential impacts to southwestern pond turtles may result from construction activities, if pond turtles are moving from the creek to basking sites. Access road use including grading of existing roads or spur roads could also result in direct mortality from mechanical crushing or from the importation of sediment laden waters into existing drainages. See Impact B-4 for a full discussion of the impacts of the construction and use of access roads on wildlife.

Direct impacts to southwestern pond turtles could also result from temporary impacts to water quality, fugitive dust, temporary loss of upland nesting sites and foraging habitat, disruption of breeding activity, or disturbance of basking sites. Juvenile southwestern pond turtles typically move from nesting sites in adjacent upland or riparian areas to the stream in the spring (Buskirk, 1992). Hatchlings are very small, often less than one inch, and may be inadvertently trampled during Project construction. In addition, access to zooplankton, an important hatchling food source, may be disrupted if water quality were to be severely degraded by Project construction.

Indirect impacts to southwestern pond turtle would include alteration of habitat that would preclude pond turtle use, degradation of water quality over time due to siltation and sedimentation, and the spread of noxious weeds. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

The greatest potential for injury or mortality to southwestern pond turtles as a result of proposed Project activities is the damage or destruction of nesting areas. Since southwestern pond turtles often nest communally, damage or destruction of a nesting area could result in injury or mortality to a large number of incubating eggs or hatchling turtles and could disrupt egg-laying activities of adult female turtles.

Populations of this species that occur in the West Fork of the San Gabriel River would not be directly affected by Project construction activities as the tower sites are located upstream of the Cogswell Reservoir. However, access to the Project would occur along a paved section of road that parallels the West Fork of the San Gabriel River from Highway 39 to the dam at Cogswell Reservoir. This road is located immediately adjacent to the river for several miles and is consistently within the riparian canopy. Numerous small ephemeral and intermittent drainages are also present in the canyon and provide tributary flow into the river along this section of the San Gabriel River. In some areas these drainages cross the access road as Arizona crossings or small culverts. Vehicle access through these areas when supporting flowing water could result in mortality to young or dispersing turtles, if present.

This existing West Fork Cogswell Road is paved and runs adjacent to the West Fork San Gabriel River. Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light regimes from the trimming and/or removal of some riparian vegetation to accommodate large vehicle passage. As described above, disturbance from vehicle traffic may result in disturbance to pond turtles at basking sites along this access road.

Construction activities conducted at the two perennial waterways (i.e., Upper Big Tujunga Creek and the West Fork of the San Gabriel River) where this species could occur could result in either direct mortality or adverse effects from sediment or chemical leaks.

To reduce effects of the proposed Project on pond turtles and other small reptiles or amphibians SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special status-species surveys, and coordinating with wildlife agencies. However, as described above these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

#### Mitigation Measures for Impact B-24

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-12** **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** (See full description under discussion for Impact B-12)

**B-24** **Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused

surveys for southwestern pond turtle in the area of Project crossings, including access and spur roads, at Amargosa Creek, Big Tujunga Creek (Segment 6), Alder Creek, Rio Hondo Substation, Whittier Narrows Recreation Area, Aliso Creek, and Tonner Creek. Since Southwestern pond turtles were observed at the San Gabriel River (Segments 6 and 7 and West Fork/Cogswell Road) and Brea Canyon during reconnaissance surveys conducted in September 2007, the species shall be assumed present at these locations. The resume of the proposed biologists will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall also occur on access and spur roads where road crossings could affect suitable habitat for this species. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 June. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE, as appropriate, to reflect the existing weather or stream conditions. If southwestern pond turtles are detected in or adjacent to the Project, nesting surveys shall be conducted.

Focused surveys for evidence of southwestern pond turtle nesting shall be conducted in, or adjacent to, the Project when suitable nesting habitat exists within 1,300 feet of occupied habitat in an area where Project-related ground disturbance will occur (i.e., tower sites, access/spur roads, wire setup sites, marshalling yards). If both of those conditions are met, a qualified biologist shall conduct focused, systematic surveys for southwestern pond turtle nesting sites. The survey area shall include all suitable nesting habitat located within 1,300 feet of occupied habitat in which Project-related ground disturbance will occur. This area may be adjusted based on the existing topographical features on a case-by-case basis with the approval of the CPUC, FS, and/or USACE, as appropriate. Surveys will entail searching for evidence of pond turtle nesting, including remnant eggshell fragments, which may be found on the ground following nest depredation.

If a southwestern pond turtle nesting area would be adversely impacted by construction activities, SCE shall avoid the nesting area. If avoidance of the nesting area is determined to be infeasible, the authorized biologist shall coordinate with CDFG, CPUC, FS (on NFS lands), and USACE (on Army Corps lands) to identify if it is possible to relocate the pond turtles. Eggs or hatchlings shall not be moved without the written authorization from the CDFG and FS (on NFS lands).

A qualified biologist with demonstrated expertise with southwestern pond turtles shall monitor construction activities where pond turtles are present or assumed present. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to, or within, habitat that supports populations of southwestern pond turtles. If the installation of fencing is deemed necessary by the authorized biologist, one clearance survey for southwestern pond turtles shall be conducted at the time of the fence installation. Clearance surveys for southwestern pond turtles shall be conducted by the authorized biologist prior to the initiation of construction each day.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits**. (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

**CEQA Significance Conclusion**

If pond turtles are present, damage or destruction of southwestern pond turtle nesting areas would constitute a significant impact under CEQA without mitigation. Nesting areas are frequently used by multiple individuals, and suitable nesting habitat can be limited in many areas. Destruction of southwestern pond turtle nesting areas would result in a substantial reduction in numbers of this rare species. However, implementation of Mitigation Measure B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures) would avoid damage or destruction of nesting areas or mitigate the loss of nesting habitat, thereby reducing potential impacts to a less-than-significant level (Class II). Further, worker education would be provided through the implementation of Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program) and restoration of impacted areas would occur through implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities). Impacts related to the establishment and spread of noxious weeds would be reduced through implementation of Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). Water quality impacts would be reduced through the implementation of Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits) and Mitigation Measure H-1b (Dry weather construction). Impacts related to fugitive dust would be reduced through implementation of Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### *Impact B-25: The Project could result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes.*

The two-striped garter snake is highly aquatic but may move considerable distances into upland habitats, even where permanent water is lacking. Two-striped garter snakes have been observed in riparian, freshwater marsh, coastal sage scrub, chaparral, oak woodland, and grassland habitats. Rathburn et al. (1993) found that these snakes tend to occupy streamside sites during the summer and switch to nearby upland habitats during the winter. The use of adjacent upland habitat places them at risk from clearing and grading activities associated with the proposed towers, stringing and pulling locations, helicopter staging areas, and construction of spur roads Two-striped garter snakes were observed at various locations on the ANF during surveys in 2008.

The south coast garter snake occurs in marsh and adjacent meadow habitats. This species requires a permanent water source with well-developed riparian vegetation. South coast garter snakes forage on land or in pools away from fast-moving water. They are regarded as difficult to detect.

Within the proposed Project, these species have the potential to occur in the vicinity of perennial or nearly perennial aquatic habitat associated with a number of drainages, including Amargosa Creek, Aliso Creek, Lynx Gulch, Alder Creek, Upper Big Tujunga Creek, North Fork Mill Creek, West Fork San Gabriel River, Rio Hondo, and Tonner Creek. Two-striped garter snakes were observed in the riparian habitat by SCE biologists during the spring of 2008 at a riparian drainage in Lynx Gulch. This species has also been observed in Big Tujunga Creek. In addition, many of the small tributary drainages crossed by access roads could support these species. As discussed above under Impact B-4, construction activities and/or wet ford vehicular crossings of these drainages have the potential to result in mortality or injury of individual two-striped garter snakes and south coast garter snakes. Use of the West Fork Cogswell Road could also result in mortality from road kill.

Direct impacts due to construction activities include mortality or injury of individual two-striped garter snakes and south coast garter snakes as a result of mechanical crushing; loss of nesting, breeding or basking sites; fugitive dust; and human trampling. Indirect effects to these species include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of vegetation; and grading tower pads, staging areas, helicopter pads, and pulling sites. Other indirect effects include compaction of soils and introduction of exotic plant species. Furthermore, Project implementation may result in loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

To reduce effects of the proposed Project on two-striped garter snakes and south coast garter snakes, SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special status species surveys, and coordinating with wildlife agencies. However, as described above for pond turtles these APMs lack specificity and clearly defined monitoring requirements. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-25

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-12** **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** (See full description under discussion for Impact B-12)

**B-25** **Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for two-striped garter snakes (both on and off NFS lands) and south coast garter snakes (non-NFS lands only) where suitable habitat is present and directly impacted by construction vehicle access, or maintenance. The resume of the proposed biologists will be provided to the CPUC, FS and USACE (as appropriate) for concurrence prior to conducting the surveys. This biologist will be referred to as the authorized biologist hereafter. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. The survey schedule may be adjusted in consultation with the CPUC, FS, and/or USACE to reflect the existing weather or stream conditions. If either species is detected in or adjacent to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, the following

minimization measures will be required. SCE shall retain a qualified herpetologist with demonstrated expertise with garter snakes to monitor construction activities. The resume of the proposed biologist will be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during all activities immediately adjacent to or within habitat that supports populations of the two-striped garter snake and/or south coast garter snake. Clearance surveys for garter snakes shall be conducted by the authorized biologist prior to the initiation of construction each day. Any snakes found within the area of disturbance or potentially affected by the Project will be relocated to the nearest suitable habitat that will not be affected by the Project.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits**. (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

#### CEQA Significance Conclusion

Temporary and permanent habitat losses will be less than significant because the relatively small habitat losses that will be incurred to riparian vegetation during Project construction will not result in a substantial adverse effect to these California Species of Special Concern. Although few individuals are likely to be affected at any work site, the collective injuries and mortality of these species that may occur at multiple work sites across the proposed Project could result in a substantial reduction in numbers of these rare species, constituting a significant impact, without implementation of the mitigation measures. However, implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-25 (Conduct focused surveys for two-striped garter snakes and south coast garter snakes and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize injury or mortality to these species, thereby reducing potential impacts to a less-than-significant level **(**Class II**)**.

### *Impact B-26: The Project could result in injury or mortality of, and loss of habitat for, Coast Range newts.*

The Coast Range newt requires water for breeding, but uses adjacent upland habitat extensively. It is often found where water sources dry up for the summer, and during moist conditions, can be found beneath logs, boards, rocks, and in rodent burrows. This species can also be found in drier habitats such as oak forests, chaparral, and rolling grasslands. A permanent water source is not necessary as this species needs water only during breeding. In areas where newts utilize streams, they can be found in slow-moving areas and pools.

The range of the Coast Range newt within southern California is highly fragmented; however, Coast range newts have been identified on the ANF in several of the small drainages that cross the access roads on Segment 6 near Monrovia Peak. In addition, this species is likely to occur in many of the perennial or nearly perennial aquatic habitats on the south slopes of the San Gabriel Mountains. The primary threats to this species on NFS

lands include predatory non-native species, maintenance of aquatic stream flows, water quality, and illegal collecting.

Direct impacts to Coast Range newts include mechanical crushing or road kill during construction, human trampling, loss of breeding sites due to water quality degradation, fugitive dust, and loss of foraging habitat. Indirect impacts include degradation of water quality through siltation caused by vehicles using wet ford stream crossings; removal of vegetation; and grading tower pads, staging areas, helicopter pads, roads, and pulling sites. Other indirect effects include compaction of soils and introduction of exotic plant species. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

Construction activities occurring within one mile of Lynx Gulch, drainages within Monrovia Canyon, Big Tujunga Creek, North Fork Mill Creek, and West Fork San Gabriel River, or wet ford vehicular crossings of those drainages have the potential to result in mortality or injury of Coast Range newts. The coast range newt is a slow-moving cryptic animal, which makes it vulnerable to mechanical crushing through trampling and the use of access roads. See Impact B-4 for a complete discussion of the impacts associated with the construction and use of access and spur roads. Coast range newt can also be subject to mortality through the clearing and grubbing of vegetation, if present. Degradation of water quality can preclude breeding. Furthermore, Project implementation may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat due to disturbance from construction activities. To reduce effects of the proposed Project SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special-status species surveys, and coordinating with wildlife agencies. However, these APMs lack specificity and clearly defined monitoring requirements. Therefore, SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-26

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-26** **Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures.** A qualified biologist shall conduct focused surveys for Coast Range newt in suitable habitat on non-NFS lands, including Eaton Wash, Brea Canyon, and Tonner Creek. In addition, all tributary drainages that support habitat for this species shall be inspected if they are subject to Project disturbance. Focused surveys shall consist of a minimum of four daytime surveys, to be completed between 1 April and 1 September. If Coast Range newts are detected in or adjacent

to the Project or at any wet fords to be traversed by motorized vehicles as part of Project construction activities, no work shall be authorized within 0.5 mile of the occupied active drainage channel and no vehicular crossings at fords of those channels shall be authorized until the biologist has inspected and cleared these areas.

SCE shall retain a qualified biologist with demonstrated expertise with amphibians to monitor construction activities and assist SCE in the implementation of the monitoring program. The resume of the proposed biologist will be provided to the CPUC and FS for concurrence prior to the onset of ground-disturbing activities or vehicular crossings at wet fords. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of Coast Range newt. Clearance surveys for Coast Range newts shall be conducted by the authorized biologist prior to the initiation of construction each day. If individuals are found within the proposed area of disturbance they will be relocated to an area that will not be affected by construction activities.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits**. (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

#### CEQA Significance Conclusion

Temporary and permanent habitat losses at individual work sites will be minor because suitable upland habitat is abundant throughout the proposed Project in locations where the Coast Range newt may occur, and the relatively small habitat losses that will be incurred during Project construction will not result in a substantial adverse effect to this California Species of Special Concern at a given location. While SCE will implement APMs BIO-1 through BIO-7 (Table 4-1) as part of the proposed Project, if present, injury or mortality to a substantial number of individuals of this California species of special concern would constitute a significant impact, without implementation of the mitigation measures. While the impacts to this species at individual work sites would be minor, the collective injuries and mortality of this species that may occur at multiple work sites across the proposed Project are significant and could result in a substantial reduction in numbers of this rare species. However, implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newts and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality if present, thereby reducing impacts to a less-than-significant level (Class II).

### *Impact B-27: The Project could result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species.*

Several other special-status reptiles and amphibians could be affected by the proposed Project. These include the following terrestrial California Species of Special Concern and FS Sensitive species:

- San Gabriel Mountains slender salamander (*Batrachoseps gabrieli*)
- Western spadefoot (*Spea hammondii*)

- San Diego horned lizard (*Phrynosoma coronatum blainvillii*)
- California horned lizard (*Phrynosoma coronatum frontale*)
- Silvery legless lizard (*Anniella pulchra pulchra*)
- Orange-throated whiptail (*Aspidoscelis hyperythra*)
- Coastal rosy boa (*Charina trivergata)*
- San Bernardino ringneck snake (*Diaophis punctatus modestus*)
- San Bernardino mountain kingsnake (*Lampropeltis zonata parvirubra*)
- Coast patch-nosed snake (*Salvadora hexalepis virgultea*)
- Northern red diamond rattlesnake (*Crotalus ruber ruber*)

Several of these species, including San Bernardino mountain kingsnake and an undetermined subspecies of the coast horned lizard, were detected during surveys in 2008 on the ANF. The San Bernardino ringneck snake, Northern red diamond rattlesnake, and Western spadefoot toad are known to occur within the Puente Hills Landfill Native Habitat Preservation Authority lands. Given the ecology of these species, and their cryptic nature it is likely that some or all of the species identified above may occur in the Project area. Hereafter, these species will be referred to collectively as special-status terrestrial herpetofauna. The special-status terrestrial herpetofauna potentially present in the Project area would all be subject to similar types of impacts. Direct impacts include being hit by vehicles on access roads; mechanical crushing during tower site preparation, grading of spur roads, and preparation of staging and stringing/pulling locations; fugitive dust; and general disturbance due to increased human activity. See Impact B-4 for a complete discussion of the impacts of the construction and use of access and spur roads on wildlife. Furthermore, Project implementation may result in permanent loss of habitat due to permanent structures and/or roads and temporary loss of habitat from construction activities. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during ground-disturbing Project activities in undeveloped upland habitats and in some developed areas throughout the proposed Project. Indirect impacts to these species include compaction of soils and the introduction of exotic plant species. Operational impacts include risk of mortality by vehicles and disturbance on access roads due to increased use by the public and maintenance personnel. Other operational impacts include removal and trimming of vegetation during maintenance activities.

To reduce effects of the proposed Project on small reptiles or amphibians SCE would implement APMs BIO-1 through BIO-8. These APMs include conducting clearance surveys for wildlife, worker training, conducting special status-species surveys, and coordinating with wildlife agencies. However, as previously described these APMs lack specificity and clearly defined monitoring requirements. Therefore to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-27

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-27** **Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna.** A qualified biologist with demonstrated expertise with special-status terrestrial herpetofauna shall monitor all construction activities and assist SCE in the implementation of the monitoring efforts. The resume of the proposed biologist will be provided to the CPUC, USACE, and FS (as appropriate) for concurrence prior to the onset of ground-disturbing activities. This biologist will be referred to as the authorized biologist hereafter. The authorized biologist will be present during ground-disturbing activities immediately adjacent to or within habitat that supports populations of the special-status terrestrial herpetofauna. Any special-status terrestrial herpetofauna found within a Project impact area shall be salvaged by the authorized biologist and relocated to suitable habitat outside the impact area. If the installation of exclusion fencing is deemed necessary by the authorized biologist, the authorized biologist will direct the installation of the fence. Clearance surveys for special-status herpetofauna shall be conducted by the authorized biologist prior to the initiation of construction each day.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Temporary and permanent habitat losses will be less than significant because suitable upland habitat is abundant throughout the proposed Project in locations where special-status terrestrial herpetofauna may occur, and the relatively small habitat losses that will be incurred during Project construction will not result in a substantial adverse effect to these California Species of Special Concern and/or FS Sensitive species. While SCE will implement APMs BIO-1 through BIO-7 (Table 4-1) as part of the proposed Project, injury or mortality to a substantial number of individuals of these California Species of Special Concern and/or FS Sensitive species would constitute a significant impact, without implementation of the mitigation measures. Although the level of injury or mortality that may occur at individual work sites is unlikely to result in significant impacts to special-status terrestrial herpetofauna, the collective injuries and mortality of this set of species that may occur at multiple work sites across the proposed Project are significant and could result in a substantial reduction in numbers of these rare species. However, implementation of Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would avoid injury or mortality, thereby reducing potential impacts to a less-than-significant level **(**Class II**)**.

### Special-Status Birds

#### *Impact B-28: The Project could disturb wintering mountain plovers.*

Mountain plovers nest in the Great Plains but winter in portions of Central California, including the Antelope Valley. In the project area, this species is known to winter in the Northern Region where they forage and roost mainly in recently tilled agricultural fields, although they are also known to roost in recently graded road beds. The proposed Project will affect approximately 24 acres of agriculture scattered along Segment 4 in the Northern Region. Of this acreage, an unknown portion would be recently tilled during the time of year (mid-October to mid-February) in which mountain plovers may be present.

Direct impacts due to construction activities, such as clearing and grading and increased human presence during this period, may temporarily disturb wintering flocks and force individuals to use suboptimal foraging habitat. However, suitable foraging habitat is regionally abundant in the Antelope Valley and Project implementation would not substantially reduce habitat available for this species, restrict its range, or cause its regional populations to drop below self-sustaining levels. It is also possible for the maintenance and/or improvement of access roads in the region to introduce new roosting habitat, although the amount of habitat this would provide would be negligible compared to what is regionally available. Indirect impacts to this species include the loss of habitat due to the establishment of noxious weeds and the flushing of adult or fledging birds through the use of the new or improved access and spur roads by the public. Operational impacts include collision with transmission lines (see Impacts B-20 and B-21 below) and disturbance of birds due to the presence of maintenance personnel. Because of the wide availability of habitat in the region and the relatively small amount of habitat that would be impacted by the proposed Project, impacts to wintering mountain plovers would not be substantial.

#### CEQA Significance Conclusion

Because the total acreage of impacted habitat is small compared to what is available regionally, and implementation of the proposed Project would not restrict the range of the species, impacts to wintering mountain plovers resulting from construction disturbance would be less than significant **(**Class III**)**.

### *Impact B-29: The Project would result in the loss of occupied burrowing owl habitat.*

The burrowing owl, a CDFG Species of Special Concern, has been observed within the proposed Project area during reconnaissance-level surveys. Burrowing owls are known from the Puente Hills Landfill Native Habitat Preservation Authority, and there are several CNDDB records within, or in the vicinity of, the proposed Project. Burrow surveys conducted by SCE in March and August through November 2007 identified one burrowing owl and occupied habitat in the northern portion of Segment 6, as well as occupied habitat along Segment 8 near Cucamonga Creek. Suitable habitat exists along Segments 10, 4, 5, 6, 7, and 8. Burrowing owls can occur wherever there are natural or manmade burrows, such as ground squirrel burrows, drainage pipes, and rural road berms. This species is not known to nest on NFS lands, although few may occur along the lower margins of the forests where they come in contact with valleys that abut NFS lands. Management of NFS lands does not significantly influence the conservation status of this species given its range and habitat requirements (Stephenson and Calcarone, 1999).

Direct impacts to burrowing owls as a result of construction activities for the proposed Project would include the crushing of burrows, removal or disturbance of vegetation, increased noise levels from heavy equipment and helicopter operations, increased human presence, and exposure to fugitive dust. Indirect impacts could include the loss of habitat due to the colonization of noxious weeds and a disruption of breeding activity due to facilitated use of new or improved spur and access roads by the public. Operational impacts include increased human presence from maintenance personnel that would flush or otherwise disturb burrowing owls.

If burrowing owls are present within a construction zone, or adjacent to such an area, disturbance could destroy occupied burrows or cause the owls to abandon burrows. Construction during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. The loss of occupied burrowing owl habitat (habitat known to have been occupied by owls during the nesting season within the past three years) or reductions in the number of this rare species, directly or indirectly through nest abandonment or reproductive suppression, would constitute an adverse impact. Furthermore, raptors,

including owls and their nests, are protected under both federal and State laws and regulations, including the Migratory Bird Treaty Act and California Fish and Game Code Section 3503.5.

To reduce effects of the proposed Project on burrowing owls SCE would implement APMs BIO-2 and BIO-4 through BIO-6; however, these measures do not specifically address impacts to owls. Therefore, to further reduce effects of the proposed Project SCE will implement Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-29 (Implement CDFG protocol for burrowing owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). If avoidance is not possible, compensation for burrowing owl habitat shall be implemented. Therefore, impacts to burrowing owls will be minimized. Implementation of these measures would reduce or avoid loss of occupied burrows for burrowing owl.

### Mitigation Measures for Impact B-29

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-29** **Implement CDFG protocol for burrowing owls.** In conformance with federal and State regulations regarding the protection of raptors, a habitat assessment in accordance with CDFG protocol for burrowing owls (CBOC, 1993) shall be completed on non-NFS lands prior to the start of construction. Burrowing owl habitat within the Project area and within a 500-foot buffer zone shall be assessed ("Assessment Area"). If the habitat assessment concludes that the Assessment Area lacks suitable burrowing owl habitat, no additional action is required. However, if suitable habitat is located on the Assessment Area, all ground squirrel colonies or potential burrow locations shall be mapped at an appropriate scale, and the following mitigation measures shall be implemented:

- In conformance with federal and State regulations regarding the protection of raptors, a pre-construction survey for burrowing owls, in conformance with CDFG protocol, consisting of three site visits, shall be completed no more than 30 days prior to the start of construction within suitable habitat at the Project site(s) and buffer zone(s).
- Occupied burrows shall not be disturbed during the nesting season (1 February through 31 August) unless a qualified biologist approved by CDFG verifies through non-invasive methods that either the birds have not begun egg-laying and incubation or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Eviction outside the nesting season may be permitted pending evaluation of eviction plans and receipt of formal written approval from the CDFG authorizing the eviction.
- Any damaged or collapsed burrows will be replaced with artificial burrows in adjacent habitat.
- Unless otherwise authorized by CDFG, a 250-foot buffer, within which no activity will be permissible, will be maintained between Project activities and nesting burrowing owls during the nesting season. This protected area will remain in effect until 31 August or at CDFG's discretion and based upon monitoring evidence, until the young owls are foraging independently.
- If accidental take (disturbance, injury, or death of owls) occurs, the CDFG/CPUC/FS/USACE lead monitor will be notified immediately.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Project implementation, without implementation of the mitigation measures, could substantially reduce the number or restrict the range of burrowing owls through loss of habitat, direct take, or disturbance during the breeding season that causes nest abandonment or reproductive suppression, resulting in significant impacts without mitigation. However, implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-29 (Implement CDFG protocol for burrowing owls), B-3a (Prepare and implement a Weed Control Plan), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

### *Impact B-30: The Project would result in the loss of occupied California spotted owl habitat.*

California spotted owl is a FS Sensitive Species and is known to be present on the ANF within portions of Segments 6 and 11 of the proposed Project, where they primarily utilize bigcone Douglas fir-canyon oak forest and canyon oak forest. Specifically, spotted owl Protected Activity Centers (PACS) have been identified near Mount Gleason Road near one of the proposed helicopter staging areas; south of Big Tujunga Creek along Big Tujunga Road; and at numerous locations along the primary access road (Shortcut trail 2N23). This road runs south from State Highway 2 to portions of Segment 6 just west of the San Gabriel Wilderness Area. This area supports the largest concentrations of owls and their habitat within the proposed Transmission Line ROW. In addition, some of the towers in this area may require helicopter construction techniques for demolition and erection. A helicopter staging area is also proposed for this area.

Direct effects to spotted owls would be similar to those described for nesting birds (Impact B-5). These effects would include the direct removal of habitat including possible nest trees and foraging areas; noise from human disturbance and construction equipment; fugitive dust; and vehicle travel along the access and spur roads that occur in the Project area.

Indirect effects would also be similar to those described for nesting birds and would include the degradation of foraging or nesting habitat, the spread of invasive weeds, and increased human disturbance as new areas of the forest would be accessible to recreationists.

Data collected as of 2008 indicate there are approximately 14 areas mapped as occupied or potential spotted owl habitat in or adjacent to the proposed Project or within the 2.5 mile helicopter buffer area. In addition, some of the line or proposed access roads may occur within these areas. The Project would likely occur within the territorial range of one or more spotted owls. On the ANF these territories can vary in size based on site-specific topography, prey density, and access to suitable nest trees. In some areas owls may occupy closely adjoining territories.

Construction within occupied habitat or immediately adjacent to occupied habitat during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. In particular, helicopter construction proposed in the vicinity of occupied spotted owl habitat, which could involve thousands of flights, would introduce a substantial amount of noise, vibration, dust, visual disturbance, and air turbulence. For the proposed Project, construction activities could include more than 9,000 trips across the forest. While not all of these occur in owl habitat, some towers would occur in or adjacent to occupied habitat. These factors could disrupt breeding activity and ultimately lead to avoidance of breeding altogether,

or the failure of an already established nest. Construction would introduce noise from helicopter use, grading, improvement of spur roads, and construction of towers. Vehicle travel on the access roads would also result in dust, human activity, increased noise levels, and other anthropogenic disturbances. As the rugged terrain in many sections of the ANF limits vehicle access to many tower locations, helicopters would be required for both demolition and construction of approximately 33 towers.

The amount of suitable spotted owl habitat that will be removed by the Project is approximately 43.1 acres. In comparison, the home range requirement of a California spotted owl on the ANF ranges from 300-1200 acres, although this number can vary considerably. On other national Forests these ranges also vary. For example, Zimmerman et al. (2001) radio-tracked two pairs of spotted owls in the San Bernardino Mountains. Using four different estimators of home range size, they calculated home range sizes ranging from 519 to 1,025 acres for one pair and from 1,478 to 2,016 acres for the other.

In a worst-case scenario, the loss of 43.1 acres of suitable habitat along Segments 6 and 11 would constitute the loss of 14 percent of a home range for a single pair of spotted owls. However, it is unlikely that all of the impacts associated with one segment would occur within the territory of a single pair of owls. This loss of habitat alone spread over two segments will not contribute to a substantial loss of habitat for an owl or pair of owls. Furthermore, California spotted owls typically inhabit heterogeneous home ranges that include unsuitable habitats such as grassland and chaparral. Most of the vegetation that would be removed near spotted owl habitat consists of chaparral, which is not utilized for nesting or roosting. Patches of non-forested vegetation do not preclude owls from nesting in adjacent forests in southern California (Smith et al. 2002). However, the expansion of access roads and the grading of new spur roads would result in the removal of mature oaks, bay, and conifer trees depending on the location of the road. In addition, because California spotted owl nest sites are limited, and home range size varies greatly on the ANF, the loss of a nest tree, even outside of the breeding season, would represent an adverse effect to the species.

The greatest threat to this species on NFS lands is the loss of habitat and subsequent population loss due to large stand-replacement wildfires. As proposed the project would not interfere or impede any of the conservation guidelines proposed for spotted owls. Measures incorporated into the project would minimize risk of wildland fire and the spread of invasive nonnative plants due to construction activities. Avoidance of nest sites would be achieved through the use of limited operating periods (LOP). The LOP would prohibit activities within a protected activity center during the breeding season (February 1 through August 15) unless surveys confirm that California spotted owls are not nesting. Limitations on the removal of vegetation and the restoration/mitigation of disturbed habitats would minimize impacts to habitat utilized by this species.

To reduce impacts of the proposed Project SCE shall implement APMs BIO-2 and BIO-4 through BIO-6. However, these measures do not specifically address impacts to spotted owls and lack clear strategies for reducing impacts to this species. Therefore SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would be utilized to restore impacted habitat and detect nesting trees or areas where occupied habitat is present. For a discussion of construction disturbance to breeding spotted owls, see Impact B-31 (The Project would disturb nesting California spotted owls).

### Mitigation Measures for Impact B-30

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-30** **Conduct pre- and during construction nest surveys for spotted owls.** Prior to tree removal or construction activities within suitable habitat, SCE shall have a qualified biologist conduct FS protocol surveys for the California spotted owl to establish or confirm the location of nests within the Project. The resumes of the proposed biologists shall be provided to the FS and CPUC for concurrence. If nests or breeding pairs are found during the surveys, the limited operating period (LOP) will be applied according to the Forest Plan (Standard 20 – Part 3). No project-related activities will be allowed within these dates (February 1-August 15) or until chicks have fledged. Where a biological evaluation by a qualified ornithologist determines that a nest site would be shielded from planned activities by topographic or other features that would minimize disturbance, the buffer distance may be reduced upon approval of the FS on NFS lands. In addition, no helicopter construction will be allowed within 0.5 mile of breeding spotted owl territories. No helicopter overflights shall be authorized without FS approval. If approved minimum altitudes will be 300 feet above a territory at an altitude designated by the FS. This buffer may be adjusted through consultation with the FS and CPUC.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Because nest sites are limited, the loss of a potential nest tree would be considered significant without mitigation. Mitigation Measure B-30 would require surveys for nesting California spotted owls prior to tree removal or construction activities during the breeding season, and also requires the establishment of a disturbance-free buffer zone around any identified nests. Therefore, impacts to the California spotted owl resulting from loss of occupied habitat are considered less than significant (Class II) with the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### *Impact B-31: The Project could disturb nesting California spotted owls.*

California spotted owls are known to be present within the ANF in Segments 6 and 11 of the proposed Project (Appendix C). In many areas, both access roads and tower locations cross occupied habitat including known nesting areas. Direct impacts to nesting California spotted owls could include lower reproductive success, nest abandonment, predation, and increased stress levels due to chronic noise levels, fugitive dust, vibration, and air turbulence associated with heavy equipment and helicopter operations. Indirect impacts include the loss of suitable nest trees as a result of vegetation clearing for tower pads, tower removal sites, pulling and tensioning sites, and construction, grading, and widening of new spur roads and existing access roads. Operational impacts would include collisions with transmission lines (see Impacts B-20 and B-21) and disturbance due to increased human presence as a result of public use of new or improved spur and access roads. Corona noise associated with the operation of the proposed Project could potentially disrupt breeding spotted owls.

However, extensive research has not been conducted on the effects of corona noise on wildlife. Impacts related to corona noise are discussed further under Impact B-41.

Construction would introduce noise from helicopter use, grading, improvement of spur roads, and construction of towers. Vehicle travel on the access roads would also result in dust, human activity, increased noise levels, and other anthropogenic disturbances. As the rugged terrain in many sections of the ANF limits vehicle access to many tower locations, helicopters would be required for both demolition and construction of numerous towers.

Delaney et al. (1999) studied the effects of helicopter noise on Mexican spotted owls in New Mexico and found that spotted owl flushes (flight responses) increased with decreasing distance and increasing sound level. Further, they found that owls flushed more in response to chain saw noise than helicopter noise. However, they note that helicopters would have elicited a greater response from owls if the exposure times were increased through slow maneuvers such as hovering, which would occur during construction of the proposed Project. Owl flushing rates were the same in the breeding season and the non-breeding season, although owls did not flush when chicks were in the nest. Finally, the authors found no significant difference in reproductive success between owls exposed to helicopter and chain saw noise and those who were not exposed to these noise sources, but the population sizes were small enough that the authors may not have been able to detect an effect on reproduction. However, flushed owls are likely more prone to predation, stress, and repeated activity during the breeding season that could lower reproductive success. Another study by Tempel and Gutierrez (2003) used fecal corticosterone (a stress hormone) as a measure of physiological stress response in California spotted owls exposed to chain saw noise. They found no detectable increase in fecal corticosterone levels in owls exposed to a chain saw operating 100 meters away. However, they note that chronic and intense noise such as timber harvest and road construction was not examined during the study and may lead to increased stress response in owls. While these studies suggest that spotted owls can tolerate some degree of anthropogenic noise disturbance, the construction of the proposed Project would introduce chronic noise sources that could be nearer to breeding and non-breeding owls than the noise sources in these studies.

Construction within occupied habitat or immediately adjacent to occupied habitat during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. In particular, helicopter construction proposed in the vicinity of occupied spotted owl habitat would introduce a substantial amount of noise, vibration, dust, visual disturbance, and air turbulence. These factors could disrupt breeding activity and ultimately lead to avoidance of breeding altogether, or the failure of an already established nest. Noise and human disturbance impacts to spotted owls would be largely the same as those described for riparian birds (see Impact B-15) and include displacement from territories, interference with breeding, and abandonment of nests. To reduce impacts of the proposed Project SCE shall implement Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-31

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-30** **Conduct pre- and during construction nest surveys for spotted owls.** (See full description under discussion for Impact B-30)

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Project implementation could result in disturbance that causes California spotted owls to abandon their nest and/or result in the loss of reproductive effort, resulting in significant impacts without mitigation. In particular, the use of helicopters for Project construction would introduce disturbance that could cause nest failure. However, implementation of APMs BIO-2 and BIO-4 through BIO-6, Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-30 (Conduct pre- and during construction nest surveys for spotted owls), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to less-than-significant levels (Class II).

### *Impact B-32: The Project could disturb nesting avian "species of special concern."*

Several passerine bird species listed as "species of special concern" by the CDFG, including loggerhead shrike, yellow warbler, yellow-breasted chat, and tricolored blackbird have been identified as either nesting or potentially nesting within the proposed Project.

Direct, indirect, and operational impacts to nesting birds would be the same as described for listed riparian birds (see Impact B-15) and spotted owls (see Impacts B-30 and B-31). Ground-disturbing activity, including tower pad preparation, stringing and pulling locations, and the grading of access roads, has the potential to disturb vegetation utilized by nesting birds. The construction and use of access roads could also disturb nesting birds. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Noise and human disturbance impacts to special status birds would be largely the same as those described for riparian birds (see Impact B-15) and spotted owls (see Impacts B-30 and B-31) and could result in the displacement from territories, interference with breeding, and abandonment of nests. The removal of habitat during the breeding season would likely result in the displacement of breeding birds and the abandonment of active nests. Increased noise from helicopter construction could also adversely impact nesting birds, particularly where helicopters are required to hover in or adjacent to riparian areas for extended periods of time. Breeding birds and other wildlife may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality.

While Project implementation would not substantially reduce habitat available for these species, restrict their range, or cause their regional populations to drop below self-sustaining levels, the direct or indirect loss of nests through physical removal, nest abandonment, or reproductive suppression of these regionally rare species would violate the MBTA and would constitute an adverse impact without mitigation. To reduce the effects of the proposed Project these species SCE would implement the same measures utilized for both common nesting birds and rare riparian species. This would include the replacement of lost habitat functions through the restoration of habitat, construction monitoring, pre-construction surveys, and the avoidance of nest locations. Therefore, to further reduce effects of the proposed Project on nesting birds SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan). Many special-status birds on NFS lands will also benefit from the limited operating periods that would be in place to reduce effects of the Project on spotted owls.

#### Mitigation Measures for Impact B-32

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program**. (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-5** **Conduct pre-construction surveys and monitoring for breeding birds.** (See full description under discussion for Impact B-5)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Construction disturbance including the use of helicopters during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort would constitute a significant impact and violate the MBTA, without implementation of the mitigation measures. However, implementation of APMs BIO-4 through BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce potential impacts to a less-than-significant level **(**Class II**)**.

### Special-Status Mammals

The proposed Project area supports a variety of special-status mammal species including several species of bats, small rodents, larger carnivores, and the ringtail. Some of the species have widespread distributions such as the black-tailed jackrabbit; whereas other species including bats, pocket mice, and the ringtail occur in very limited areas and are often reliant on specific habitat types such as rocky canyons in riparian areas for the ringtail or caves and other structures for many species of bats.

Impacts to special-status mammals would be similar to those described for common wildlife (see Impact B-4). Wide-ranging species such as black-tailed jackrabbit are not likely to be affected by the proposed Project. These species are able to quickly egress an area and the short duration of construction at any single point would not result in adverse impacts to the species; however, other species may be affected by the proposed Project. These are discussed in greater detail below.

#### *Impact B-33: The Project could result in mortality of, and loss of habitat for, special-status bat species.*

Pallid bat, Townsend's big-eared bat, western red bat, hoary bat, spotted bat, western mastiff bat, big free-tailed bat, and pocketed free-tailed bat are all California Species of Special Concern that have the potential to occur within the proposed Project. Pallid bat, Townsend's big-eared bat, and western red bat are also FS Sensitive species. Several of these species, most notably the pallid bat, have CNDDB and other records of

occurrence within the proposed Project. Five pallid bats were located in artificial "bat houses" under a bridge about 325 yards northwest of Alternative 6 helicopter site 3 near Aliso Canyon. Furthermore, the Western red bat, pallid bat, pocketed free-tailed bat and Western mastiff bat are known to occur within the Puente Hills Landfill Native Habitat Preservation Authority lands. The proposed Project area includes numerous locations that constitute suitable bat foraging and roosting habitat, including rock outcroppings, mine shafts, hollow trees, dense forests, and abandoned water tanks. The steep rocky canyon and dense riparian forest at the West Fork of the San Gabriel River located along the West Fork Cogswell Road provides many opportunities for both foraging and roosting.

The decline of bat populations is often due to roost site disturbance, loss of foraging habitat, and loss of roost sites. Activities that have been documented to impact bats include livestock grazing, vegetation treatments, and water reclamation that could lead to loss of a water source or riparian habitat. Due to their sensitivity to human disturbance, roost protection is vitally important for bats. Roost protection measures may include seasonal use restrictions or physical closures as necessary.

Depending on the species bats may be found in a number of areas along the proposed Project alignment. For example, the Townsend's big-eared bat occurs in a variety of habitats and roosts in the open, hanging from rock walls and ceilings. During spring and summer, females establish maternity colonies in the warm parts of caves, mines, and buildings. Other species utilize large trees to roost in. The proximity of good foraging habitat, which includes the presence of water, appears to be a determining factor in roost selection for many species.

Direct impacts to these species include mortality of individuals during construction activities, permanent loss of habitat due to construction of permanent structures (e.g., new towers or access roads) or other construction activities (removal of roosting habitat at pulling and assembly sites), and temporary disturbance during construction (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment).

Bats that forage near the ground, such as the pallid bat, would also be subject to crushing or disturbance by vehicles driving at dusk, dawn, or during the night. The construction and use of access roads could also disturb bats. This may be higher in areas such as the West Fork Cogswell Road, Big Tujunga Canyon, or along portions of the Shortcut trail. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Construction-related activities, which would generate noise, traffic, dust, and diesel fumes, could result in the direct loss of roosting habitat and subsequent mortality to adult bats or pups if any bats were present in the proposed Project area. Indirect effects could include increased traffic, dust, and human presence in the project area that could result in bats abandoning their roosts or maternal colonies. For example, Townsend's big-eared bat is known to abandon young when disturbed. Impacts to bats during operation of the proposed Project include disturbance by vehicles and individuals utilizing new or improved access and spur roads, and the spread of noxious weeds.

The construction and operation of the transmission line would not result in a barrier for, or restrict the range of, special-status bat species. However, the construction activities described above could result in direct impacts to these species. To reduce effects of the proposed Project on bats SCE shall implement a variety of measures designed to avoid roost colonies, limit travel at riparian areas during dusk or early morning, reduce fugitive dust, and provide alternative roost sites if bat roosts are affected by construction activities. Although SCE has committed to implementing APMs BIO-1, BIO-4 and BIO-6, these measures do not provide specific language regarding the protection of bats. Therefore, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a

Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts).

### Mitigation Measures for Impact B-33

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-33a** **Maternity colony or hibernaculum surveys for roosting bats.** SCE shall conduct a pre-activity (e.g., vegetation removal, grading) survey for roosting bats within 200 feet of project activities within 15 days prior to any grading of rocky outcrops or removal of towers or trees (particularly trees 12 inches in diameter or greater at 4.5 feet above grade with loose bark or other cavities).

SCE shall also conduct surveys for roosting bats during the maternity season (1 March to 31 July) within 300 feet of project activities. Trees and rocky outcrops shall be surveyed by a qualified bat biologist (i.e., a biologist holding a CDFG collection permit and a Memorandum of Understanding with CDFG allowing the biologist to handle bats). Surveys shall include a minimum of one day and one evening. The resume of the biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities.

If active maternity roosts or hibernacula are found, the rock outcrop or tree occupied by the roost shall be avoided (i.e., not removed) by the Project, if feasible. If avoidance of the maternity roost is not feasible, the bat biologist shall survey (through the use of radio telemetry or other CDFG/FS/USACE approved methods) for nearby alternative maternity colony sites. If the bat biologist determines in consultation with and with the approval of the CDFG, FS, USACE (as appropriate), and CPUC that there are alternative roost sites used by the maternity colony and young are not present then no further action is required, and it will not be necessary to provide alternate roosting habitat (i.e., Mitigation Measure B-33b would not apply although Mitigation Measure B-33c would still apply). However, if there are no alternative roosts sites used by the maternity colony, Mitigation Measure B-33b is required. If no active roosts are found, then no further action is required. If active maternity roosts are absent, but a hibernaculum (i.e., a non-maternity roost) is present, then Mitigation Measure B-33b is not necessary, but Mitigation Measure B-33c is required.

**B-33b** **Provision of substitute roosting bat habitat.** If a maternity roost will be impacted by the Project, and no alternative maternity roosts are in use near the site, substitute roosting habitat for the maternity colony shall be provided on, or in close proximity to, the Project site no less than three months prior to the eviction of the colony. Alternative roost sites will be constructed in accordance with the specific bats requirements in coordination with CDFG and the FS. By making the roosting habitat available prior to eviction (Mitigation Measure B-33c), the colony will have a better chance of finding and using the roost. Large concrete walls (e.g., on bridges) on south or southwestern slopes that are retrofitted with slots and cavities are an example of structures that may provide alternative roosting habitat appropriate for maternity colonies. Alternative roost sites must be of

comparable size and proximal in location to the impacted colony. The CDFG shall also be notified of any hibernacula or active nurseries within the construction zone.

**B-33c** **Exclude bats prior to demolition of roosts.** If non-breeding bat hibernacula are found in towers or trees scheduled to be removed or in crevices in rock outcrops within the grading footprint, the individuals shall be safely evicted, under the direction of a qualified bat biologist, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). The resume of the bat biologist shall be provided to the CPUC, FS, and USACE (as appropriate) for concurrence prior to any Project activities. In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures should be sufficiently warm for bats to exit the roost because bats do not typically leave their roost daily during winter months in southern coastal California. This action should allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the use of one-way doors is not necessary in the judgment of the qualified bat biologist shall first be disturbed by various means at the direction of the bat biologist at dusk to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day (i.e., there shall be no less or more than one night between initial disturbance and the grading or tree removal).

If an active maternity roost is located in an area to be impacted by the Project, and alternative roosting habitat is available, the demolition of the roost site must commence before maternity colonies form (i.e., prior to 1 March) or after young are flying (i.e., after 31 July) using the exclusion techniques described above.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Construction activities associated with Project implementation could substantially reduce active maternity roosts for special-status bat species. If active hibernacula and maternity roosts cannot be avoided, impacts would be significant, without implementation of the mitigation measures. However, implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-32a (Maternity colony or hibernaculum surveys for roosting bats), B-32b (Provision of substitute roosting bat habitat), and B-32c (Exclude bats prior to demolition of roosts) would reduce impacts to a less-than-significant level (Class II).

### *Impact B-34: The Project could result in transmission line strikes by special-status bat species.*

Special-status bat species with the potential to occur in the proposed Project include the pallid bat, Townsend's big-eared bat, western red bat, hoary bat, spotted bat, western mastiff bat, big free-tailed bat, and pocketed free-tailed bat. A potential impact to these species resulting from Project implementation is the direct loss of individuals from fatal strikes with transmission lines. Many studies have quantified bird strikes with transmission lines, but analogous information on bats is very limited (Manville 2005).

The pallid bat and Townsend's big-eared bat generally fly too low while foraging to be impacted by additional transmission lines; the number of fatal strikes for these species is expected to be very low and not significant. In addition, pallid bats primarily forage on the ground for terrestrial insects such as scorpions and beetles. The western mastiff bat, big free-tailed bat, pocketed free-tailed bat, spotted bat, hoary bat, and western red bat all

fly high enough to potentially be impacted by additional transmission lines. However, given that most bat species can use echolocation to discriminate objects as small as 0.4 to 0.004 inch in size (Vaughan 1986), and the size of guard lines and 500-kV or 220-kV transmission lines are typically equal to or greater than 0.5 inch in diameter (SCE 2007), the frequency of transmission line strikes is expected to be extremely low. Therefore, the number of fatal strikes is still expected to be quite low and insufficient to substantially reduce the number of these species.

**CEQA Significance Conclusion**

Line strikes as a result of Project implementation will not substantially reduce the number of special-status bat species, cause their populations to drop below self-sustaining levels, restrict their range, or threaten to eliminate their populations. Therefore, impacts to special-status bat species resulting from transmission line strikes are less than significant **(**Class III**)**.

### *Impact B-35: The Project could result in mortality of, and loss of habitat for, special-status mammals.*

The Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit are all California Species of Special Concern that have the potential to occur along the proposed Project (the Los Angeles pocket mouse and Tehachapi pocket mouse are also FS Sensitive species). The Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, and Tulare grasshopper mouse could occur within marginal habitat within the proposed Project area, but the proposed Project will not eliminate suitable habitat for these species within their current geographic range (Table 6-6). The Northwestern San Diego pocket mouse, Southern grasshopper mouse, and San Diego black-tailed jackrabbit occur within the proposed Project area, and the proposed Project will eliminate suitable habitat for these species. However, the amount of suitable habitat that will be impacted by the Project is small (Table 6-6) relative to their geographic range and the availability of suitable habitat for these species within the San Gabriel Mountains (36,455 acres of coastal sage scrub; 253,302 acres of mixed chaparral; and 11,177 acres of coast live oak woodland in the San Gabriel Mountains; Stephenson and Calcarone 1999), and the Chino and Puente Hills (more than 20,000 acres of coastal sage scrub, California annual grassland, coast live oak woodland, and California walnut woodland; Cooper 2000, LSA 2007) Therefore, Project implementation will not result in a significant loss of suitable habitat for these species.

**Table 6-6. Estimated Loss of Suitable Habitat for Special-Status Mammals Within the Proposed Project Area**

| Species | Suitable Habitat | Location of Suitable Habitat | Acres of Suitable Habitat Impacted |
|---|---|---|---|
| Los Angeles pocket mouse | Coastal sage scrub and grassland with fine sandy soils | East of Segments 6 & 11 | 0 |
| Tehachapi pocket mouse | Joshua tree woodland, pinyon-juniper woodland, oak woodlands, and grasslands in friable, sandy soil | West of Segment 4 | 0 |
| San Joaquin pocket mouse | Grasslands and desert scrub on fine or sandy soils | West of Segments 4 & 10 | 0 |
| Northwestern San Diego pocket mouse | Coastal sage scrub and grasslands in moderately gravelly or rocky substrates and sandy-loam to loam soils | Chino Hills of Segment 8 | 32.2 |
| Southern grasshopper mouse | Grassland and sparse coastal sage scrub habitats | Chino Hills of Segment 8 | 35.6 |

**Table 6-6. Estimated Loss of Suitable Habitat for Special-Status Mammals Within the Proposed Project Area**

| Species | Suitable Habitat | Location of Suitable Habitat | Acres of Suitable Habitat Impacted |
|---|---|---|---|
| Tulare grasshopper mouse | Alkali desert scrub, succulent shrub, arid grassland, and desert wash or riparian communities | West of Segment 10 | 0 |
| San Diego black-tailed jackrabbit | Open grasslands or sparse coastal scrub | Foothills of San Gabriel Mountains (Segments 6, 7, 11) and Chino and Puente Hills (Segment 8) | 51.8 |

Direct impacts to special-status mammals are similar to those described for other small, fossorial animals and include mechanical crushing by vehicles and construction equipment, trampling, dust, and loss of habitat. See Impact B-4 for a complete discussion of the impacts of the use and construction of access roads. Construction disturbance can also result in the flushing of small animals from refugia which increases the predation risk for small rodents. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. Operational impacts include risk of road kill on access and spur roads by the public and maintenance personnel, the spread of noxious weeds, and disturbance due to increased human presence. However, these impacts will not substantially reduce regional populations below self-sustaining levels or restrict the range of these species. SCE indicates that APM BIO-1 and APM BIO-5 would be implemented, which would include preconstruction clearance surveys and the use of biological monitors during construction of the proposed Project. In addition, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would minimize impacts to special-status mammal species.

### Mitigation Measures for Impact B-35

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

The area of suitable habitat for the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit potentially impacted by the Project would be quite small relative to the overall population size and range of these species. However, these animals would still be subject to potential mortality from construction activities. Nonetheless Project implementation would not substantially reduce

available habitat, restrict the range, or cause regional populations to drop below self-sustaining levels. In addition, the implementation of Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species to less-than-significant levels (Class II).

### *Impact B-36: The Project could result in mortality of San Diego desert woodrats.*

The San Diego desert woodrat is a California Species of Special Concern that has the potential to occur along the proposed Project. This species is known from the Puente Hills Landfill Native Habitat Preservation Authority lands. Direct impacts from construction activities could include the mortality of individual San Diego desert woodrats or disturbance (noise, air turbulence, dust, and ground vibrations from helicopters and construction equipment) to occupied desert woodrat nests. Construction and use of access roads could also result in impacts to this species. See Impact B-4 for a full discussion of the impacts of access roads on wildlife. The Project would result in the loss of 80.2 acres of suitable habitat for San Diego desert woodrat. Indirect impacts to San Diego desert woodrats include the spread of noxious weeds that would degrade habitat quality and alteration of soils. Operational impacts would include disturbance to woodrat nests, clearing and trimming of vegetation during maintenance activities, the spread of noxious weeds, and disturbance due to use of new or improved access and spur roads by the public and maintenance personnel.

Construction impacts for the San Diego desert woodrat would be most likely within the Puente and Chino Hills, where this species was frequently captured in recent surveys (LSA 2005). Potential San Diego desert woodrat nests were also frequently observed during reconnaissance surveys in 2007 and 2008 of the proposed Project in the Puente and Chino Hills and portions of the ANF.

The primary mechanism for reducing impacts to this species would be through the identification of nests, avoidance where possible, or through the passive relocation of the animals prior to ground disturbance. To accomplish this SCE shall implement APMs BIO-1 and BIO-4 through BIO-6 which provide for monitoring and pre-construction surveys. While these measures would require surveys for special-status species there is no specific language regarding this species. Therefore to reduce effects of the proposed Project SCE shall implement Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

#### Mitigation Measure for Impact B-36

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-36** **Conduct focused surveys for San Diego desert woodrats and passively relocate.** SCE shall implement pre-construction surveys for the San Diego desert woodrat in suitable habitats. If present,

active woodrat nests will be flagged and ground-disturbing activities shall be avoided within a minimum of 10 feet surrounding each active nest unless otherwise authorized by the CDFG and CPUC. If avoidance is not possible, SCE will take the following sequential steps: (1) all understory vegetation will be cleared in the area immediately surrounding active nests followed by a period of one night without further disturbance to allow woodrats to vacate the nest, (2) each occupied nest will then be disturbed by a qualified wildlife biologist until all woodrats leave the nest and seek refuge off-site, and (3) the nest sticks shall be removed from the Project site and piled at the base of a nearby hardwood tree (preferably a coast live oak or California walnut). Relocated nests shall not be spaced closer than 100 feet apart, unless a qualified wildlife biologist has determined that a specific habitat can support a higher density of nests. SCE shall document all woodrat nests moved and provide a written report to the CPUC, State Parks (for activities in CHSP associated with Alternative 4), USACE (as appropriate), and CDFG. The resumes of the proposed biologists shall be provided to the CPUC, State Parks, and USACE (as appropriate) for concurrence.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

Project implementation would not substantially reduce available habitat or restrict the range of the San Diego desert woodrat. However, construction activities could impact individual nests of this species in the Chino and Puente Hills should they occur at the proposed tower locations. To ensure impacts of the Project are reduced to a less-than-significant level (Class II), SCE will implement APMs BIO-1 and BIO-4 through BIO-6, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan).

### *Impact B-37: The Project could result in mortality of, and loss of habitat for, the ringtail.*

Ringtail, a fully protected species in California, has the potential to occur in chaparral, oak woodlands, bigcone Douglas fir and canyon oak forest, or riparian habitats within canyons of the proposed Project; especially on steeper south or west-facing slopes with oaks or other hardwoods present (Grinnell et al., 1937; Vaughan, 1954; Campbell, 2004). In the San Gabriel Mountains, Vaughan (1954) reported that ringtails occurred in canyons in the chaparral belt. Ringtails are similar to raccoons in that they are often found within 0.6 mile (1 kilometer) of a permanent water source (Zeiner and others, 1990). Ringtails have been observed in Big Tujunga Canyon and near Mt. Gleason (AMEC, 2007) in the vicinity of the Project area. Areas within the proposed Project that contain suitable habitats include Amargosa Creek, Upper Big Tujunga Creek, Santa Anita Canyon, San Gabriel River, Monte Cristo Creek, Mill Creek, Saucer Branch/Millard Canyon, and Tonner Canyon. In addition, many of the small riparian drainages that are crossed by access roads on the ANF support suitable ringtail habitat. The dense riparian forest and adjacent rocky canyons that occur at the West Fork of the San Gabriel River provide excellent habitat for this species. The amount of habitat impacted by the proposed Project will be small (approximately 7 acres of riparian and 2 acres of upland habitats along Segments 6, 7, 8, and 11) relative to the home range requirement of a ringtail, which is between 50 and 336 acres (Poglayen-Neuwall and Toweill, 1988). This small loss of habitat spread over four segments will not contribute to a significant loss of habitat for ringtail, and construction and operation of the transmission lines would not physically divide territories or result in a barrier for ringtail. The degradation of riparian areas has been identified by the ANF as a potential threat to the species on NFS lands (Stephenson and Calcarone,

1999). However, the total area of riparian habitat affected by the Project is low and it is not likely to make this species highly vulnerable to adverse effects from land use activities occurring on NFS lands. The most likely cause of disturbance to this species is through the disruption of breeding or loss of denning areas if present.

Direct impacts due to construction activities would include mortality of individual ringtail or disturbance of ringtail maternity dens during the pup-rearing season (1 May to 1 September). The construction and use of access roads in riparian areas could also disturb denning ringtails. See Impact B-4 for a complete discussion of the effects of access roads on wildlife. Dens may be in a hollow tree, a rock pile, a crevice in a cliff, or in abandoned burrows or woodrat nests (Ingles, 1965; Zeiner and others, 1990). Ringtails change dens frequently and an individual rarely spends more than three days in the same shelter. However, females with young remain in the same den for 10 to 20 days after giving birth. After that time dens may be changed daily (Poglayen-Neuwall and Toweill, 1988). Construction noise, dust, human presence, or ground disturbance could result in the abandonment of these nest sites or result in mortality of juvenile animals. Indirect impacts to ringtail could include the spread of noxious weeds that would degrade habitat quality, degradation of water quality due to siltation, and alteration of soils. Operational impacts would include disturbance to ringtail dens, clearing and trimming of vegetation during maintenance activities, the spread of noxious weeds, and disturbance due to use of new or improved access and spur roads by the public and maintenance personnel.

This is a California fully protected species and direct loss of this species is prohibited. Construction activities that occur in areas potentially supporting this species would require the completion of preconstruction surveys to evaluate the potential presence of this species in or adjacent to the proposed work area. If present, work would be redirected to adjacent areas. With the exception of the denning period this species is highly motile and may leave the work area undetected. However, as this species is primarily nocturnal (although this species has been observed during the day in remote canyons) there is some potential to disturb denning or resting animals. To reduce these effects on ringtail SCE would implement APMs BIO-1, BIO-4, and BIO-6 that provide measures to survey for special-status wildlife and educate workers regarding the sensitivity of wildlife. However, there are no specific measures addressing effects to ringtails. To ensure the Project does not affect this species SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measure for Impact B-37

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-37** **Conduct focused surveys for ringtail and passively relocate during the non-breeding season.** SCE shall conduct pre-construction ringtail surveys on non-NFS lands at sites with suitable denning habitat within the Project area. This includes at a minimum Amargosa Creek, Santa Anita Canyon, San Gabriel River, and Tonner Canyon within 200 feet of any ground disturbing activity. SCE shall provide a list to the CPUC and State Parks (for activities in CHSP associated with Alternative 4) of

the proposed survey areas for approval. Occupied dens will be flagged and ground-disturbing activities within 200 feet will be avoided. If occupied dens are found in the Project area and avoidance is not possible, denning ringtail shall be safely evicted under the direction of a qualified biologist (as determined by a Memorandum of Understanding with CDFG). The qualified biologist shall facilitate the removal of ringtail by delaying construction activity for a minimum 20 days during the early pup-rearing season (1 May to 15 June) and a minimum of 5 days during the rest of the year (16 June to 30 April). If the qualified biologist documents ringtail voluntarily vacating the den site during this period, then construction may begin within 7 days following this observation. If the ringtails do not vacate the den voluntarily within the required period, then the qualified biologist will coordinate with CDFG to passively relocate ringtail (excluding the early pup-rearing season: 1 May to 15 June). All activities that involve the ringtail shall be documented and reported to the CDFG, State Parks (as appropriate), and CPUC within 30 days of the activity.

**AQ-1a Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

#### CEQA Significance Conclusion

The ringtail is a fully protected species and uncommon in southern California. Therefore, the destruction or elimination of active dens during construction activities is considered a significant impact. However, these impacts would be reduced to a less-than-significant level (Class II) with implementation of APMs BIO-1, BIO-4, and BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### *Impact B-38: The Project could result in mortality of American badgers.*

American badgers occur in the drier, open habitats with friable soil within the proposed Project, including grassland, desert scrub, Mojave juniper woodland and scrub, Mojave pinyon woodland, Joshua tree woodland, and herb-dominated habitats. Areas within the proposed Project that contain these suitable habitats include the Antelope Valley and Chino and Puente Hills. American badgers have been observed within the Puente Hills Landfill Native Habitat Preservation Authority lands. Foothill sections of the ANF may also support this species. A combined total of approximately 684 acres of these habitats will be impacted along Segments 4, 5, 6, 7, 8, 10 and 11. This loss of potential habitat spread over seven segments will not contribute to a significant loss of habitat for American badger, which has a large home range requirement (338 to 1,549 acres; Ziener et al., 1990) and extensive available, suitable habitat in the West Mojave Desert (5.84 million acres of desert scrub habitat and 62,986 acres of juniper woodland; BLM, 2005) and Puente and Chino Hills (more than 49,000 acres of primarily grassland habitat; Cooper, 2000). This extremely large home range size would allow any individual badger utilizing the Project site to avoid adverse impacts from the associated construction activities or habitat loss. Construction and operation of the transmission lines would not physically divide territories or result in a barrier for this species.

Direct impacts to American badger include mechanical crushing of individuals or burrows by vehicles and construction equipment, noise, dust, and loss of habitat. Indirect impacts include alteration of soils, such as compaction that could preclude burrowing, and the spread of exotic weeds. Operational impacts include risk of

road kill on access and spur roads by the public and maintenance personnel, the spread of noxious weeds, and disturbance due to increased human presence. Construction activities including clearing and grading of tower sites, staging areas, and access roads could result in mortality of individual badgers or disturbance of badger maternity dens during the pup-rearing season (15 February to 1 July). See Impact B-4 for a complete discussion of the impacts of access roads on wildlife. Therefore, SCE shall implement APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

### Mitigation Measures for Impact B-38

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-38** **Conduct focused surveys for American badgers and passively relocate during the non-breeding season.** SCE shall implement pre-construction surveys for American badger within suitable habitat on non-NFS lands. If present, occupied badger dens shall be flagged and ground-disturbing activities avoided within 50 feet of the occupied den avoided. Maternity dens shall be avoided during pup-rearing season (15 February through 1 July) and a minimum 200-foot buffer established. Buffers may be modified with the concurrence of CDFG and CPUC. Maternity dens shall be flagged for avoidance, identified on construction maps, and a biological monitor shall be present during construction.

If avoidance of a non-maternity den is not feasible, badgers shall be relocated by slowly excavating the burrow (either by hand or mechanized equipment under the direct supervision of the biologist, removing no more that 4 inches at a time) before or after the rearing season (15 February through 1 July). Any relocation of badgers shall occur only after consultation with the CDFG, USACE (as appropriate), State Parks (for activities in CHSP associated with Alternative 4), and CPUC monitor. A written report documenting the badger removal shall be provided to the CDFG, USACE (as appropriate), State Parks (as appropriate), and CPUC within 30 days of relocation.

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

Project implementation would not restrict the range of or substantially reduce suitable habitat for American badger, but construction activities that result in the loss of badgers would be considered significant absent mitigation. However, impacts to the American badger would be reduced to a less-than-significant level **(**Class II**)** with the implementation of APMs BIO-1, BIO-4, BIO-5, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan),

B-37 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

## Have a substantial adverse effect on federally protected wetlands (Criterion BIO4)

### *Impact B-39: The Project could result in the loss of wetland habitats.*

Specific construction-related impacts to jurisdictional waters are discussed in detail under Impact B-2 (The Project would result in the loss of desert wash or riparian habitat). SCE has indicated that all areas meeting the regulatory definition of "Waters of the U.S." (jurisdictional waters) and wetlands as defined by Section 404 of the Clean Water Act will be spanned by the high voltage lines and that disturbance, fill, or removal of jurisdictional waters and wetlands will be avoided to the extent practicable. However, the Project ROW crosses numerous drainages that could qualify as jurisdictional waters. While SCE has indicated that the proposed transmission lines would span these areas, many tributaries and drainages are crossed by access roads that could utilize these crossings during periods of water flow. Some of the creeks and drainages that occur in the Project area include Amargosa Creek, Oak Creek, and Cottonwood Creek in the Northern Region; Big Tujunga Creek, the San Gabriel River, and Mill Creek in the Central Region; and the San Gabriel River, the Rio Hondo, and Walnut Creek in the Southern Region. In addition to these and other perennial, ephemeral, and intermittent drainages are numerous other tributaries, unnamed drainages, gullies, and rills that are crossed by the proposed Project. In some areas these crossings would be subject to improvement or grading to ensure the safe passage of vehicles and equipment. This may involve the placement of rock or the construction of culverts. At two locations, SCE has proposed major stream crossing repairs or upgrades. This includes repairing the washed-out Falls Creek crossing at Big Tujunga, a span of over 200 feet, and major upgrades to the San Gabriel River crossing, an existing damaged concrete Arizona crossing. In addition, the maintenance of existing access roads, which includes grading the road to a minimum of 16 feet in many areas; the construction of new access and spur roads in areas above jurisdictional waters such as Mill Creek, Tujunga Reservoir, and the San Gabriel River; and the installation or replacement of culverts in and adjacent creeks and drainages could result in the discharge of fill into drainages under the jurisdiction of the USACE. Alteration of jurisdictional waters in turn could result in adverse impacts to plant and wildlife species that are dependent on these areas. See Impact B-4 for a complete discussion of the effects of the use and construction of access roads.

Direct impacts to wetland habitats could include the removal of native riparian vegetation, the discharge of fill, degradation of water quality, and increased erosion and sediment transport. Most of these impacts would occur during access road improvements and heavy equipment and vehicle passage where jurisdictional waters traverse access roads. Indirect impacts could include alterations to the existing topographical and hydrological conditions and the introduction of non-native, invasive plant species. Operational impacts to wetland habitats would be similar to indirect impacts and would primarily occur as a result of facilitated use of new or improved spur roads and access roads.

As required by law SCE would comply with the regulations regarding conducting Project activities in water bodies under the jurisdiction of the State and federal government. As such SCE would obtain required permits pursuant to Section 401 and 404 of the CWA and the State Porter-Cologne Act and CDFG Code 1602. On NFS lands SCE would comply with the Forest requirements regarding RCAs. In accordance with the Clean Water Act, there would be no net loss of wetlands from the implementation of the proposed Project. As such, SCE would mitigate permanent and temporary impacts at a minimum 1:1 ratio for riparian vegetation

(Mitigation Measure B-1a). Mitigation would include restoration, enhancement, and/or compensation, as appropriate. Biological resources associated with jurisdictional habitats have been discussed in detail and mitigation has been presented to reduce or avoid effects to both plant and wildlife that may occur in these areas. In addition, SCE would implement APM BIO-3 (Obtain a Streambed Alteration Agreement) as well as APMs BIO-1, BIO-2, and BIO-4 through BIO-7, which will reduce impacts to riparian and wetland habitat. However, these measures do not provide for reporting nor do they establish specific actions to reduce the effects of the proposed Project. For these reasons, as well as the value of these resources to wildlife species, SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and AQ-1a (Implement Construction Fugitive Dust Control Plan). These measures would ensure that impacts from erosion and sedimentation that could occur during tower or road construction upslope of a jurisdictional waterway would be minimized, and would also ensure that SCE obtain all appropriate permits. Where avoidance of impacts is not feasible, SCE shall mitigate through the restoration, enhancement, and/or preservation of existing wetlands.

### Mitigation Measures for Impact B-39

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-12** **Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms.** (See full description under discussion for Impact B-12)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

### CEQA Significance Conclusion

As described above for riparian vegetation (Impact B-2), due to the importance of riparian communities, the ongoing loss of wetland habitat within California, and its suitability to support special-status species, any loss of these habitats associated with the proposed Project is significant. As required by law SCE would comply with the regulations regarding conducting Project activities in water bodies under the jurisdiction of the State and federal government. As such SCE would obtain required permits pursuant to Section 401 and 404 of the CWA and the State Porter-Cologne Act and CDFG Code 1602. On NFS lands SCE would comply with the Forest requirements regarding RCAs. To reduce impacts of the proposed Project to less-than-significant levels (Class II), SCE shall implement Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an

Erosion Control Plan and demonstrate compliance with water quality permits), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and AQ-1a (Implement Construction Fugitive Dust Control Plan).

## Interfere substantially with native fish or wildlife movements, corridors, or nursery sites (Criterion BIO5)

In southern California, fragmentation of the landscape has reduced much of the remaining habitat available to native species (Haas, 2000). In addition, recent studies suggest that habitat fragmentation and isolation of natural areas ultimately results in the loss of native species within those communities (Soulé et al., 1988). In the Chino Hills area data indicate that fragmentation of habitat and a reduction in useable wildlife corridors can affect the population dynamics of predators including bobcat, coyote, and mountain lions (Haas, 2000). Likewise, the Puente Hills area supports some of the last remaining wildlife habitat within the urbanized San Gabriel Valley. The amount and distribution of suitable habitat is an essential element to consider for the management of wildlife. In fact, some species require, and are often limited to, unique vegetation types for breeding or foraging.

On NFS lands, some of the management strategies regarding wildlife are to play an important regional role in maintaining large blocks of wildland habitat within one of the most highly urbanized landscapes in the United States. This includes maintaining diverse habitats of native and desired nonnative plant, fish, and animal species and protecting areas that are the only remaining habitat refugia for species imperiled by the loss or degradation of habitat off-forest.

As described in Section 2.1.4, wildlife corridors provide a variety of functions and can include habitat linkages between natural areas; provide greenbelts and refuge systems; and divert wildlife across permanent physical barriers to dispersal such as highways and dams by roadway underpasses and ramps (Hass, 2000; Simberloff et al., 1992). Generally, the accepted definition describes a wildlife corridor as a linear habitat, embedded in a dissimilar matrix that connects two or more larger blocks of habitat (Beier and Noss, 1998). Noss (1987) also suggests several potential advantages to corridors, including increased species richness and diversity, decreased probability of extinction, maintenance of genetic variation, a greater mix of habitat and successional stages, and alternative refugia from large disturbances.

The proposed Project crosses three geographically important wildlife movement areas including the high desert, the ANF, and the Puente/Chino Hills Corridor area. Each of these areas plays an important role by providing habitat, wild lands, and connectivity to other regions of southern California. Portions of the Antelope Valley act as movement corridors for both common and special-status wildlife from the Tehachapi Mountains to the ANF and Los Padres Forests. The ANF remains one of the largest non-urbanized areas adjacent to Metropolitan Los Angeles with links to regions ranging from the San Bernardino Mountains to the east to the Los Padres Mountains in the west.

Linkages and corridors facilitate regional animal movement and are generally centered around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals. Ridgelines that occur throughout the Project area may also serve as movement corridors depending on the topography.

With the exception of a short segment in the northern Antelope Valley, the proposed Project would not result in a new barrier to wildlife movement. Currently, the construction of the proposed Project would involve the removal and replacement of an existing line. While the line would be larger and some new access roads would be constructed, new barriers to movement would not be constructed. On both private and federal lands some of the major barriers to movement include highways such as State Route 14, Highway 2, Interstate 210, and the 605 Freeway. Large urban areas in the San Gabriel Valley, agricultural lands, and residential areas occur across the Project alignment. Due to the intermittent locations of construction activity and its temporary nature, wildlife would not be physically prevented from moving around Project equipment in the transmission corridor. During Project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers.

## Aquatic Wildlife

The proposed Project would not substantially interfere with the movement of any native resident or migratory fish, reptile, or amphibian species. Native and migratory fish are limited within the proposed Project due to the seasonal nature of the creeks and drainages. However, several special-status fish species including the Santa Ana sucker, unarmored threespine stickleback, arroyo chub, and Santa Ana speckled dace may occur in Big Tujunga and the San Gabriel Rivers. These species may also occur in upstream portions of the tributary drainages to these waterbodies during seasonally wet years. Riparian habitat and portions of the streambed would be impacted at Amargosa Creek, Monte Cristo Creek, the San Gabriel River, Upper Big Tujunga Creek, Mill Creek, Aliso Creek, and many other riparian-dominated drainages during the expansion of the existing access roads. While some of these are dry for most of the year and any improvements would be conducted in compliance with State and federal law (CDFG 1602, RWQCB 401/402, USACE 404) and mitigation would be applied for minimizing potential barriers to upstream or downstream movement of fish or wildlife; it is likely that expansion of access roads in some locations would require the temporary diversion of the active stream channel. Activities that involve modification of the bed or bank of a State jurisdictional waterway would be regulated by the CDFG, Regional Board, and USACE. On NFS lands, the FS would have to approve any modification to the stream channel or bed prior to implementation. SCE would implement APM BIO-3 (Obtain a Streambed Alteration Agreement), which would contain conditions for avoiding or minimizing impacts to aquatic species. In addition, SCE would implement Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), and H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits). Implementation of B-2 (Implement RCA Treatment Plan) would likely limit or restrict the use or expansion of some access roads during the breeding season for nesting birds and other wildlife and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would provide measures to protect aquatic species and prevent construction of barriers to movement. These measures would ensure that any activities in riparian areas do not result in an obstruction to wildlife movement.

### Terrestrial Wildlife

Ground-disturbing activity, including tower pad preparation and construction, grading of new access roads, tower removal, and use or improvement of existing access roads could interfere with terrestrial wildlife movement during construction. As described for Impact B-4 (Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and result in wildlife mortality.), clearing, grading, and helicopter noise would generate the greatest construction impacts on

wildlife, especially in undisturbed portions of the ANF. Construction would affect wildlife in adjacent habitats by interfering with movement patterns or cause animals to temporarily avoid areas adjacent to the construction zone. In general, nocturnal (i.e., active at night) wildlife would be affected less by construction than diurnal (i.e., active during the day) species since construction would occur primarily during daylight hours. More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during the land clearing and grading phases associated with tower construction.

Construction activities may temporarily limit terrestrial wildlife movement at tower locations; however, the broad geographic range and habitat that occurs in many sections of the proposed Project would remain available to wildlife. Mobile wildlife would be able to respond to construction activities by moving to adjacent habitats, and as many large species move during the evening or early morning when construction activities would be limited, construction would not interfere with their movement. In addition, large sections of the proposed Project located in the Northern Region are located in developing and agricultural communities that do not support large populations of wildlife.

The construction of new transmission towers and the installation of new transmission line cables could interfere with aerial migratory movements of some birds or bats (See Impact B-40 below). Construction activities would also interfere with the movement of desert tortoise, if present, in the proposed Project area (See Impact B-39 below). However, for species other than desert tortoise, the modification of habitat would consist of relatively small footprints and would not change the local topography to the extent that movement would be substantially impeded. Alternative movement corridors would also remain intact for the majority of wildlife species that may occur in the proposed Project area. Implementation of measures that require worker training such as Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program) and Mitigation Measure B-2 (Implement RCA Treatment Plan) would reduce impacts of the proposed Project on wildlife movement.

### *Impact B-40: The Project could interfere with established bird and bat migratory corridors.*

A potential impact to migrating bird and bat species resulting from Project implementation is the interference with established migratory corridors as a result of fatal collisions with transmission lines. Many studies have quantified bird strikes with transmission lines, but analogous information on bats is very limited (Manville 2005). Land bird migration in California is protracted in time and space, with migration occurring virtually throughout the year and migrants spread over a broad front with few concentration areas. In California, land bird migrants concentrate along the Pacific coast, large rivers, and desert oases; water birds concentrate along the Pacific coast and in coastal estuaries and freshwater and saline wetlands; and diurnal raptors such as hawks concentrate along the Pacific coast and coastal and interior mountain ranges. Although large numbers of migrating raptors occur along the San Gabriel Mountains, these raptors primarily follow ridgelines oriented north/south. There are few such areas in the proposed Project and none with a bottleneck that results in large concentrations of migrants. Specific impacts and mitigation associated with potential bird strikes are discussed in Impact B-20 (The Project would result in collision with overhead wires by State and/or federally protected birds.).

#### CEQA Significance Conclusion

There are no known bird or bat migratory corridors that would be directly impeded by the proposed Project. Large concentrations of migrants are not known to utilize any portion of the proposed Project (See Appendix B, Avian Risk Assessment). Further, bats are expected to avoid transmission lines because they can detect objects as small as 0.4 to 0.004 inch in size through echolocation (Vaughan, 1986), and the size of guard lines

and transmission lines is typically greater than or equal to 0.5 inch in diameter (SCE, 2007). Therefore, the impact to bird and bat migratory corridors from the proposed Project would be less than significant (Class III).

### *Impact B-41: Corona noise could result in disturbance to wildlife.*

As discussed in Section 3.10.2 (Affected Environment: Noise), the most notable noise source in the immediate vicinity of the majority of the proposed route is the corona noise from the existing transmission lines. Corona generates audible noise during operation of transmission lines. The noise is generally characterized as a crackling, hissing, or humming sound and is most noticeable during wet conductor conditions such as rain or fog. Audible noise from transmission lines is often masked by the background noise at locations beyond the edge of the ROW, particularly where the line runs near a source of background noise such as a freeway, creek, or river channel. In addition, wind, OHV use, and highways noise can often be much louder than corona noise, even in relatively undisturbed areas such as the ANF. The amount of corona produced by a transmission line is a function of the voltage of the line, the diameter of the conductor (or bundle of conductors), the elevation of the line above sea level, the condition of the conductor and hardware, and the local weather conditions. This noise increases with the voltage of the line, irregularities on the conductor surface caused either by age or moisture, and wet ambient meteorological conditions, when high humidity, fog, or rain occur.

While a wealth of information related to the effects of anthropogenic noise on wildlife is available in the literature, studies focused on corona noise are extremely limited. The lack of directed research or clear evidence becomes even more evident at the species level. Among the reasons for this lack of information appear to be a deficiency of reliable knowledge on long-term patterns of behaviors and auditory functions in many species as related to transmission lines. For example, Reimers et al. (2000) states that reliable knowledge is lacking on the effects of transmission lines on reindeer ecology due to the lack of long-term monitoring of reindeer migration patterns in relation to existing lines and the fact that nothing is known about hearing in reindeer in relation to transmission line noise. This is likely the case for other common species expected to occur in the vicinity of the proposed transmission line. Subsequent studies on reindeer and corona noise found that reindeer are able to hear corona noise at levels above 250 Hz. By comparison, humans are better able to hear corona noise than reindeer, at least at the lowest frequencies (Flydal, 2003). It is possible that other species follow the same general pattern; however, scientific literature on this subject is limited.

Although the specific effects of corona noise on wildlife are not clearly understood, it has been shown that population-level effects are more substantial when animals are exposed to sounds that repeatedly occur over extended periods of time as compared to noises resulting in one-time acute responses (OSB, 2003). This is likely a result of sustained background noise reducing (masking) the detection and discrimination of communication signals. These signals may be important for mate attraction, social cohesion, predator avoidance, prey detection, navigation, and other basic behaviors. Masking may be one of the most significant effects of a general increase in background noise on most vertebrates (OSB, 2003). For example, reproduction in many frog species is initiated when sexually mature males use vocalizations to advertise their sex, receptiveness, location and species identity (Odendaal et al., 1986 as in AMEC, 2005). Noisy environments can interfere with this communication process, and create problems with respect to detection, discrimination, and localization of appropriate signals (Wollerman, 1998 as in AMEC, 2005).

In some cases, species may adapt to alterations of the environmental soundscape, either through habituation or modifications in behavior. Habituation may occur if a stimulus occurs repeatedly without negative consequence and if the benefits, such as access to food, outweigh the costs of not reacting (OSB, 2003 as in AMEC, 2005). Moen et al. (1982) concluded that deer learned to associate the sound of chainsaws with felled trees, leading to

new foraging supplies. Thus, the detrimental consequences of human activities were undermined by the habitual recognition of noise resulting in access to food. Additionally, raptors are known to associate military training exercises with activities that scare prey into the open (Andersen et al., 1986, 1990). Brumm (2004) identified a modification in bird behavior as territorial males demonstrated singing with higher amplitudes to mitigate for masking noise in the natural environment. However, birds forced to sing with higher amplitudes must bear the increased costs of singing.

With the exception of Segments 4 and 9, the transmission line upgrade would result in a substantial increase in ambient noise levels due to increased corona noise along the proposed route. According to noise modeling surveys, corona noise is estimated to increase by amounts in excess of 30 dBA on Segment 10 due to the lack of existing structures and on other Segments during rainy conditions only. Under more typical fair weather conditions, only Segment 10 will result in an increase exceeding 30 dBA due to the lack of existing structures along the proposed route (CH2M Hill, 2007). It is important to note that these changes are specific to corona noise and would occur within the immediate vicinity of the ROW. At areas beyond the immediate edges of the ROW, noise signals are subjected to attenuation. Attenuation is the process by which all signal components decline equally in intensity due primarily to spherical spread, the dispersion of signal energy over an expanding sphere during transmission. Aside from decreasing intensities due to simply moving away from the point source of a particular noise, other factors contributing to attenuation effects include atmospheric absorption, scattering, and boundary interference. These factors can be further modified by environmental elements such as topography, foliage, and temperature and humidity gradients (Rabin et. al, 2003).

As the effects of corona noise on wildlife are poorly understood, it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. Animals, especially breeding birds and other wildlife that use sound for communication, would be expected to move away from the line in order to minimize interference with communication. However, because of the availability of habitats in the project area, this would not be expected to constitute a substantial impact. Corona noise is already present along most of the proposed Project, and while the proposed Project will result in louder corona noise for most segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance.

#### CEQA Significance Conclusion

As described above the effects of corona noise on wildlife are poorly understood, and it is difficult to predict the degree to which the increase in corona noise will impact local wildlife. In the project area, animals are already subject to existing corona noise from about <20–51dBA (see Table 3.10-3, of Section 3.10, Noise), and while the proposed Project will result in louder corona noise for most segments (estimated to be at about 22–60 dBA; see Table 3.10-5, of Section 3.10, Noise), wildlife can be expected to have already been exposed and likely habituated to this disturbance. Thus, corona noise from the proposed Project would be less than significant (Class III).

### *Impact B-42: The Project would result in effects to Management Indicator Species.*

The ANF NF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. Detailed information addressing effects to MIS are incorporated by reference and have been included in Appendix F of the TRTP EIR/EIS (Aspen 2009). Table 6-7 identifies the impacts to MIS habitats that would occur during implementation of the proposed Project.

**Table 6-7. Alternative 2 Impacts to Management Indicators and Management Indicator Species for the ANF**

| Management Indicator (MI) | Management Indicator Species (MIS) | Acres Directly Impacted by Alternative 2 |
|---|---|---|
| Fragmentation | Mountain lion | 272 |
| Healthy Diverse Habitats | Mule deer | 272 |
| Aquatic Habitat | Arroyo toad | 5 |
| Riparian Habitat | Song Sparrow | 0.7 |
| Bigcone Douglas fir Forest | Bigcone Douglas fir | 7 |
| Coulter Pine Forest | Coulter pine | 8 |
| Montane Conifer Forest | California spotted owl | 43 |

**Healthy Diverse Habitats (Mule Deer).** Mule deer are used by the ANF as an indicator of healthy diverse habitats. Availability of suitable vegetation for fawning, forage, and cover in close proximity to water is the most limiting factor for mule deer. The ANF LRMP (USDA, 2005) considers all habitat types as potentially suitable for mule deer. Therefore, the entire project area is considered suitable habitat for mule deer. Implementation of the proposed Project would impact approximately 272 acres of mule deer habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

Forest-wide deer population distribution is stable. The proposed Project would result in a slight decrease in forest-wide habitat (0.04 percent of forest-wide habitat) for deer. This decrease is equivalent to less than one deer home range; therefore, the slight decrease in habitat may lead to a slight decrease in population numbers especially if the population is at carrying capacity. Based on the small amount of the decrease, the Project-level habitat impacts will not decrease the existing stable forest-wide population distribution trend.

Mule deer are known to inhabit the entire forest, consisting of a total of 701,122 acres.

**Fragmentation (Mountain lion).** Availability of adequate prey base and habitat connectivity between subpopulations has been identified as the limiting factors for mountain lion populations. The Forest LRMP (USDA, 2005) considers all habitat types as potentially suitable for the mountain lion. Therefore, the entire Project area is considered suitable habitat. Implementation of the proposed Project would impact approximately 272 acres of mountain lion habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

Forest-wide mountain lion population distribution is stable. The proposed Project would result in a slight decrease in forest-wide habitat (0.04 percent of forest-wide habitat) for mountain lion. This decrease is equivalent to less than one mountain lion home range; therefore, the slight decrease in habitat is not expected to lead to a decrease in population numbers. Based on the small amount of the decrease, the Project-level habitat impacts will not decrease the existing stable forest-wide population distribution trend.

Mountain lions are known to inhabit the entire forest, consisting of a total of 701,122 acres.

**Montane Conifer Forest (California spotted owl).** The greatest threat to this species on NFS lands is the loss of habitat and subsequent population loss due to large stand-replacement wildfires. California spotted owls are known to be present within Segments 6 and 11 of the proposed Project where they primarily use Bigcone Douglas Fir-Canyon Oak Forest or Canyon Oak Forest. Acres of suitable habitat are used to assess the effects of the proposed Project and alternatives on California spotted owl habitat. Implementation of the proposed Project would impact approximately 43 acres of California spotted owl habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in little impact to the forest-wide habitat (0.03 percent of forest-wide habitat) for California spotted owls. Therefore, the project-level habitat impacts will not alter or contribute to the existing forest-wide population trends for the California spotted owl.

**Riparian Habitat (Song Sparrow).** The primary threat to song sparrows and other riparian birds is the destruction of riparian habitat and loss of water (USDA, 2005). Acres of suitable habitat are used to assess the effects of the proposed Project and alternatives on song sparrow habitat. Implementation of the proposed Project would impact approximately 0.7 acres of song sparrow habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in a slight decrease in forest-wide habitat (0.015 percent of forest-wide habitat) for song sparrow. This decrease is equivalent to 2.2 song sparrow home ranges (Zeiner et al., 1990); therefore, the slight decrease in habitat would not likely lead to a decrease in population numbers. Based on the small decrease in habitat, the Project-level habitat impacts will not modify the existing declining forest-wide population distribution trend.

**Aquatic Habitat (Arroyo toad).** Acres of suitable aquatic and riparian habitats is used to assess the effects of the proposed Project and alternatives on arroyo toad habitat. Implementation of the proposed Project would impact approximately 5 acres of FS modeled arroyo toad habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The effects of the proposed Project will result in a small decrease in forest-wide modeled habitat for arroyo toad (0.01 percent of the forest-wide modeled habitat). The proposed Project will not alter or contribute to the existing forest-wide habitat or population trend.

**Oak Regeneration (Blue oak, Engleman oak, and Valley oak).** Blue oak, valley oak, and Engelmann's oaks were not identified in the proposed utility corridor and would not be impacted by Project construction. Oak woodlands occur in the valley bottoms and drainages at several locations along the designated utility corridor for the proposed Project on NFS lands and along portions of the ROW in Haskell Canyon on non-NFS lands; however, these three MIS were not found within these oak woodlands. Therefore, the Project-level habitat impacts will not alter or contribute to the existing forest wide population trends for blue oak, Engleman oak, and valley oak.

**Bigcone Douglas-fir Forest (Bigcone Douglas-fir).** According to the Forest LRMP (2005), the objective for bigcone Douglas fir on the ANF is to maintain bigcone Douglas fir stands. Acres of bigcone Douglas fir within the Project area will be used to assess the effects of the proposed Project. Implementation of the proposed Project would impact approximately 7 acres of bigcone Douglas fir habitat.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The total area impacted by the proposed Project is relatively small and includes 7 acres of disturbance in bigcone Douglas fir habitat. This represents less than 0.02 percent of the total bigcone Douglas fir habitat on the ANF. Key habitat elements for bigcone Douglas fir will not be modified. The Project-level habitat impacts will not alter or contribute to the existing forest-wide population trends for bigcone Douglas fir.

**Coulter Pine Forest (Coulter pine).** An altered fire regime (fire severity and/or fire return interval) and drought-related bark beetle mortality are the primary factors affecting the abundance and distribution of Coulter pine. Acres of Coulter pine habitat within the Project area will be used to assess the effects of the proposed Project. Approximately 8 acres of Coulter pine habitat would be impacted by the proposed Project.

#### Relationship of Project-Level Impacts to Forest Scale Habitat and Population Trends for the Species

The proposed Project would result in little impact to the forest-wide habitat (0.17 percent of forest-wide habitat) for Coulter pine. Therefore, the Project-level habitat impacts will not alter or contribute to the existing forest-wide trends for the Coulter pine.

To reduce effects of the proposed Project on MIS SCE would implement APM BIO-1, APM BIO-2, AMP BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction).

#### Mitigation Measure for Impact B-42

**B-1a** **Provide restoration/compensation for impacts to native vegetation communities.** (See full description under discussion for Impact B-1)

**B-1b** **Implement a Worker Environmental Awareness Program.** (See full description under discussion for Impact B-1)

**B-1c** **Treat cut tree stumps with Sporax.** (See full description under discussion for Impact B-1)

**B-2** **Implement RCA Treatment Plan.** (See full description under discussion for Impact B-2)

**B-3a** **Prepare and implement a Weed Control Plan.** (See full description under discussion for Impact B-3)

**B-3b** **Remove weed seed sources from construction routes.** (See full description under discussion for Impact B-3)

**B-3c** **Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads.** (See full description under discussion for Impact B-3)

**B-5** **Conduct pre-construction surveys and monitoring for breeding birds.** (See full description under discussion for Impact B-5)

**B-8b** **Conduct biological monitoring.** (See full description under discussion for Impact B-8)

**B-9** **Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas.** (See full description under discussion for Impact B-9)

**B-30** **Conduct pre- and during construction nest surveys for spotted owl.** (See full description under discussion for Impact B-29)

**AQ-1a** **Implement Construction Fugitive Dust Control Plan.** (See full description under discussion for Impact B-1).

**H-1a** **Implement an Erosion Control Plan and demonstrate compliance with water quality permits.** (See full description under discussion for Impact B-1).

**H-1b** **Dry weather construction.** (See full description for Impact B-8).

#### CEQA Significance Conclusion

Impacts to MIS would occur during construction of the proposed Project and are evaluated in the context of habitat loss. For all MIS in the Project area, loss of habitat occurring from implementation of the proposed Project would be minimal (see Table 6-7). However, any loss of habitat would be considered significant without mitigation. To reduce impacts of the proposed Project to less-than-significant levels (Class II), SCE shall implement APM BIO-1, APM BIO-2, AMP BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction).

## Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinances (Criterion BIO6)

The following local and regional policy documents were reviewed for consistency with the proposed Project:

- South Coast Resource Management Plan
- Southern California Association of Governments Regional Comprehensive Plan and Guide
- Los Angeles County Draft Preliminary General Plan
- Hacienda Heights Community Plan
- Rowland Heights Community Plan
- Altadena Community Plan
- City of La Cañada Flintridge General Plan
- City of Rosemead Draft General Plan
- City of Duarte Comprehensive General Plan Preliminary Draft
- City of Pasadena Comprehensive General Plan
- City of Baldwin Park 2020 General Plan
- Comprehensive General Plan of the City of San Gabriel, California
- Puente Hills Landfill Native Habitat Preservation Authority Resource Management Plan
- Rio Hondo Watershed Management Plan
- County of San Bernardino 2007 General Plan
- Land Management Plan: Southern California National Forests
- Antelope Valley Areawide General Plan
- Food and Agricultural Code Division 23: California Desert Native Plants Act
- Lancaster General Plan
- Palmdale Municipal Code

Generally, these policies and ordinances support the preservation, enhancement, and restoration of natural habitats. Detailed descriptions of the relevant biological policies and actions within these documents are presented in Section 3, above.

Furthermore, as described in Section 3, a total of six SEAs overlap with the proposed Project: Joshua Tree Woodlands, San Andreas Rift Zone, Santa Clara River, San Gabriel Canyon, Rio Hondo Wildlife Sanctuary, and Puente Hills. Mitigation proposed above for special-status and unique resources would apply to SEAs as well to protect those resources.

The Project, as designed, may require the removal of oak trees and compliance with Section 22.56 of the Los Angeles County Zoning Code (Part 16). This ordinance requires a permit for the removal of any native oak tree greater than 8 inches in diameter (25 inches or greater in circumference) at breast height. Removed oak trees must be replaced at a ratio of 2:1 (using 15-gallon oaks of the same species, or greater, as determined by the hearing officer), maintained for two years, and replaced if mortality occurs. In addition, a permit is required for the removal of any vegetation on terrain with an 8 percent slope or greater (County Zoning Code Section 12.28). As described in Impact B-1 and consistent with the Los Angeles Zoning Code, all native oak trees shall be avoided where possible. Where avoidance is not possible, SCE shall replace or relocate impacted trees, or pay into the Oak Forest Special Fund.

Furthermore, the Project may result in the loss of Joshua trees and juniper trees in the Northern Region. As described in Section 3, these species receive protection from the Palmdale Native Desert Vegetation Ordinance. Chapter 14.04 of the City of Palmdale Municipal Code requires a desert vegetation preservation plan with minimum preservation standards for removal of vegetation at sites with Joshua trees and other species included in the California Desert Native Plants Act, California Food and Agriculture Code, Division 23. In compliance with these regulations, SCE shall obtain permits from both Los Angeles and Kern counties for the removal of Joshua trees and other native vegetation. If onsite preservation is not feasible, in lieu, fees will fulfill the requirements of these regulations.

Because of the extensive planning involved in Project design, including implementation of APMs BIO 1 through BIO-7, and the mitigation measures described above in Criteria BIO1 through BIO5, the proposed Project is consistent with the local and regional policies and ordinances protecting biological resources including the Los Angeles County Tree Removal requirements, the Palmdale Municipal Code, and the California Desert Native Plants Act. Therefore, no impact would occur.

## Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or state HCP (Criterion BIO7)

The Northern Region of the proposed Project is included in the West Mojave Plan Habitat Conservation Plan (WMPHCP):

> The WMPHCP and proposed BLM plan amendment provides a comprehensive strategy to conserve and protect more than 100 listed or sensitive wildlife species and their habitats, including the desert tortoise and Mohave ground squirrel. The plan also provides a streamlined program for public agencies and private parties to comply with requirements of the state and federal Endangered Species Acts. In addition to being a multi-agency HCP, it is also an amendment to the 1980 California Desert Conservation Area (CDCA) Plan and includes a final EIS/EIR analyzing the impacts of the plan's provisions.

The WMP was completed in March 2006 but has not been formally adopted. More details related to the WMP can be found in Section 3.

Through Project design and implementation of APMs BIO-1 through BIO-7 and the mitigation measures described in Criteria BIO1 through BIO5, SCE shall ensure consistency with the conservation goals of the WMPHCP. Therefore, no impact would occur.

## 6.2 Cumulative Effects Analysis

A cumulative impact is one which results from the incremental impact of the proposed Project when combined with other past, present, and reasonably foreseeable future actions that occur within the geographic extent of the cumulative impacts analysis.

### 6.2.1 Geographic Extent

The geographic extent of this cumulative effects analysis contains the same vegetation mapping area and the extent of the regional setting, as described in Section 2 (Affected Environment). It is important to note that while the regional extent of these habitat types was considered, only a small area surrounding the footprint of the Project (i.e., 500 feet on either side of the transmission line route) was mapped for the purposes of characterizing vegetation capable of supporting special-status plant and wildlife species, as described in Section 2. The cumulative effects were analyzed within the context of three separate geographic regions: the Northern Region, which includes parts of southern Kern County and northern Los Angeles County; the Central Region, which encompasses the ANF; and the Southern Region, which begins at the southern border of the ANF and includes lands within southern Los Angeles County and western San Bernardino County.

Expanding our analysis to a regional scale from the localized scale primarily used for vegetation mapping in Section 2 allows for the consideration of wildlife corridors, the regional extent of vegetation types, and the regional distribution of special-status species. We have expanded our analysis from that conducted within Section 2 to include biologically distinct geographic formations: the Antelope Valley in the Northern Region; the San Gabriel Mountain Range within the ANF in the Central Region, including the foothill regions adjacent to the Antelope Valley and the Los Angeles Basin; and the Los Angeles Basin, including the Chino/Puente Hills in the Southern Region. This regional geographic scope is appropriate for analyzing cumulative impacts to biological resources because, although impacts of the proposed Project are primarily localized to the limited impact areas, losses of vegetation types or fragmentation of wildlife corridors would combine with similar impacts of other projects beyond these limited impact areas.

### 6.2.2 Existing Cumulative Conditions

#### Northern Region

The Northern Region of the proposed Project is located in the Antelope Valley of the western Mojave Desert and extends north from the northern boundary of the ANF to the proposed Windhub substation at Oak Creek Road, approximately 6 miles west of the City of Mojave (see Section 2 for complete Existing Conditions). Existing cumulative conditions are defined by past and present agricultural, military, and development activities within the Antelope Valley. The Antelope Valley is an internally drained basin bordered by the San Gabriel and Tehachapi Mountains. Near the center of the Antelope Valley, the dry basins, or playas, of Rosamond and Rogers lakes form the dominant natural landscape feature. Surface flows from the mountainous watersheds to the west and south move overland towards Rosamond Lake as sheet flow, or within natural or

artificial channels. Historically, much of the area was cultivated with alfalfa and small grain crops before groundwater withdrawals were restricted in the 1950s due to a reduction in aquifer levels. However, extensive areas of undisturbed saltbush scrub (*Atriplex confertifolia* and *Atriplex polycarpa*) and Joshua tree (*Yucca brevifolia*) woodland habitats occur in areas where high soil salinity/alkalinity renders the land unsuitable for agriculture.

Expansion of the cities of Lancaster and Palmdale in the Antelope Valley has resulted in the continued loss of open space and the degradation of riparian and natural areas that historically supported populations of common, unique, or rare species. Riparian, desert wash, and Joshua tree woodland habitats are gradually being displaced by development, wildlife movement corridors have been modified to the extent that the dispersal and movement of wildlife is curtailed or limited, and expanding population centers are degrading the habitat values where urban and wilderness areas interface.

### Central Region

The Central Region of the proposed Project consists of the ANF within the San Gabriel Mountains, north of the Los Angeles Basin and south of the Vincent substation near Forest Ridge Road (see Section 3.4.2 for complete Existing Conditions). Existing cumulative conditions in the Central Region are defined by the efforts of management of public lands on the ANF. The Existing Conditions, as they pertain to biological resources, consist of largely undeveloped, natural vegetation with vast, contiguous open space consisting primarily of mixed chaparral vegetation bisected by dirt roads used by OHVs and hikers. Along these roads and trails, primarily at their intersection with major roads, invasive weed species dominate and are of major concern for management and removal within the ANF. From a biological perspective, present projects within the ANF are characterized by FS activities such as restoration (including fuels reduction and habitat improvement), operation and maintenance of existing features (including Big Tujunga Dam, special use permits issued to private groups, etc.), management of utility lines (power and crude oil lines), management of road use and safety, and maintenance of trails and recreational features. In addition to these projects located across the ANF, the increase in the population density surrounding the ANF (in the Northern and Southern regions) presents additional threats to existing biological conditions. These threats include increased recreational use, increased air pollution and subsequent nitrogen deposition, greater intensities of "edge effects" at the interface between ANF lands and adjacent privately owned lands, and increased road use. As many residents of Lancaster and Palmdale use Highway 59 and Highway 2 as regular commuting routes through the ANF to the Los Angeles Basin, population increases in these communities (see Northern Region, above) are likely to directly contribute to increased cumulative impacts related to motorized vehicle travel through the ANF.

### Southern Region

The Southern Region of the proposed Project occurs in the Los Angeles Basin from the San Gabriel Mountains in the north, through the urban areas of the Basin, to the Puente and Chino Hills. Only the foothills of the San Gabriel Mountains, Puente Hills, Chino Hills, and portions of the Montebello Hills remain as native, relatively intact habitat in the Southern Region (see Section 2 for a complete description of Existing Conditions). Existing cumulative conditions in the Southern Region are defined primarily by the urban/suburban interface within these few remaining natural areas, often protected from development by communities containing remnant native hillsides. In the past, open space areas in the Southern Region have been consistently converted to other land uses to accommodate the increasing population. However, as natural areas have diminished in size to a few large parks, such as the Santa Fe Dam and Recreation Area, Whittier Narrows Dam and Recreation Area, and the Emerald Necklace Corridor, these areas have been protected and comprise the few remaining wildlife corridors and natural areas capable of supporting special-status species.

## 6.2.3 Reasonably Foreseeable Future Projects and Changes

Reasonably foreseeable future projects within the Project Area are expected to be characteristic of past and ongoing projects. As discussed above, ongoing development is dominated by residential home construction, clustered in and around communities on non-FS lands. This trend in residential development is also representative of reasonably foreseeable future projects supported by the population growth forecasted throughout much of the Project Area. Cumulative projects that are expected to occur in each of the three Regions are described below.

### Northern Region

As previously discussed, the North Region is currently undergoing rapid population growth and development, particularly in and surrounding Lancaster and Palmdale. The current growth and expansion in the Antelope Valley described above is also representative of reasonably foreseeable future projects, based upon population forecasts for the region. Furthermore, the impacts to biological resources resulting from the loss, fragmentation, and/or degradation of habitat from past and ongoing projects are likely to continue and increase in the future.

The cumulative impact scenario presents data regarding population growth in Kern and Los Angeles counties. According to this information, the population in Kern County is expected to rise by 113 percent between the years 2000 and 2050. The population in Los Angeles County is expected to rise by varying degrees, depending on the city, with the cities of Lancaster and Palmdale experiencing growth of 117.5 percent and 186.5 percent, respectively. Residential and non-residential development has been necessary to accommodate the increase in population. Proposed and on-going plans demonstrate this growth, and are suitable for analyzing cumulative impacts. Development and urbanization in the Northern Region is expected to continue and increase substantially to accommodate the increasing population. This will continue to adversely affect biological resources, further fragmenting wildlife corridors and contributing to the loss and degradation of habitat capable of supporting special-status species. Some developments will occur directly within or adjacent to riparian areas, desert washes, Joshua tree woodland, or within habitats suitable for special-status species.

This regional cumulative analysis takes into account the future development of the cities of Palmdale and Lancaster, including planned developments proposing to construct 3,715 single-family homes in Palmdale and 9,798 single-family homes in Lancaster and planned developments within Tejon Ranch (23,000 dwelling units in Centennial and 3,450 dwelling units in the Tejon Mountain Village).

The regional context also extends north to the foothills of the Tehachapi Mountains near Oak Creek Road, where several windfarm projects are planned (proposing to provide the capacity to generate 5,587.1 MW wind generated energy). In addition, due to the rapid growth in this region, several large-scale transportation projects are planned, including portions of the California High Speed Rail and portions of the Orangeline High Speed Maglev Project. The Antelope Valley Water Bank Project also proposes to store water on approximately 640 acres near Rosamond Boulevard between 170th Street and 160th Street West. The Bureau of Land Management (BLM) has received more than 40 applications for solar energy projects located in the California Desert Conservation Area (CDCA). Several projects are located in the vicinity of the TWRA and could potentially interconnect with the proposed Project.

### Central Region

The currently proposed project types described previously for past and ongoing ANF activities are representative of future ANF projects. Most of these proposed projects are focused on restoration, habitat

improvement, and maintenance of existing facilities. As presented in the cumulative scenario, some of the projects that are planned or underway in the ANF include activities to operate and maintain existing features (including Big Tujunga Dam, special use permits issued to private groups, etc.), reduce fuel loads for fire safety, manage utility lines (SCE and crude oil lines), manage road use and safety, and maintain trails and recreational features. These projects demonstrate FSFS's commitment to preserve natural resources within the ANF while providing recreational opportunities for the public. Reasonably foreseeable changes to biological resources in the ANF may include improvements to and expansion of existing facilities and infrastructure (including roads), as well as the establishment of additional resources or facilities. Existing wilderness areas in the ANF will continue to be protected from development and expanded if possible (for instance, through the conversion of an Inventoried Roadless Area under consideration for wilderness designation to a designated Wilderness Area). Cumulative impacts such as increasing habitat degradation near roads resulting from noxious weed infestations may intensify.

#### Southern Region

The Southern Region is predominately urban in nature, with small patches of fragmented natural habitat throughout the majority of the Los Angeles Basin. Only the foothills of the San Gabriel Mountains, Puente Hills, Chino Hills, and portions of the Montebello Hills remain as native, relatively intact habitat in the Southern Region. This general setting will likely persist into the future. Expected population growth in the Southern Region ranges from about five percent or less (City of Industry, La Cañada Flintridge, San Marino) to more than 90 percent (City of Ontario), between the years 2000 and 2030. Proposed and ongoing plans previously described demonstrate this growth. The most highly urbanized areas cannot physically accommodate lateral growth, and the General Plan for each city prescribes maintaining open space and natural areas capable of supporting biological diversity. The few large housing developments planned are in-fill sites not suitable to special-status species, in most cases. Local future growth is reasonably expected be located within in-fill sites. Remaining native habitat is protected by local ordinances, is likely to be protected, or is likely to be conserved through conservation easements and managed by entities, such as the Puente Hills Landfill Native Habitat Authority.

Reasonably foreseeable cumulative projects in the Southern Region include approximately 6,400 single-family or multi-family units, the construction of five natural gas-fired turbine generators near the City of Industry, and portions of transportation projects such as the California High Speed Rail, and the Orangeline High Speed Maglev Project. These projects continue to threaten native habitats of the Region, as available space for building diminishes. For example, coastal sage scrub habitat, although regionally abundant, has experienced rapid declines in the past decade from increasing development of coastal areas. Similarly, southern California black walnut, once prolific, is now extremely limited in distribution with fragmented populations of these trees forming disjunct, somewhat degraded communities.

### 6.2.4 Cumulative Impact Analysis

Impacts of the proposed Project would be cumulatively considerable if they combine with similar impacts of other past, present, or reasonably foreseeable projects. Table 6-8, below, identifies which impacts of the proposed Project would be cumulatively considerable and of those, what the cumulative significance of each impact would be. Impacts that are not cumulatively considerable would not have an incremental effect on the cumulative scenario. Impacts are evaluated with mitigation measures incorporated, where mitigation has been proposed.

In order to understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that have affected the environment and might contribute to cumulative effects.

This cumulative effects analysis does not attempt to quantify the effects of past human actions by adding up all prior actions on an action-by-action basis. There are several reasons for not taking this approach. First, a catalog and analysis of all past actions would be impractical to compile and unduly costly to obtain. Current conditions have been impacted by innumerable actions over the last century (and beyond), and trying to isolate the individual actions that continue to have residual impacts would be nearly impossible. Second, providing the details of past actions on an individual basis would not be useful to predict the cumulative effects of the proposed action or alternatives. In fact, focusing on individual actions would be less accurate than looking at existing conditions, because there is limited information on the environmental impacts of individual past actions, and one cannot reasonably identify each and every action over the last century that has contributed to current conditions. Additionally, focusing on the impacts of past human actions risks ignoring the important residual effects of past natural events, which may contribute to cumulative effects just as much as human actions. By looking at current conditions, we are sure to capture all the residual effects of past human actions and natural events, regardless of which particular action or event contributed those effects. Third, public scoping for this project did not identify any public interest or need for detailed information on individual past actions. Finally, the Council on Environmental Quality issued an interpretive memorandum on June 24, 2005 regarding analysis of past actions, which states, "agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions."

The cumulative effects analysis in this EIR/EIS is also consistent with Forest Service National Environmental Policy Act (NEPA) Regulations (36 CFR 220.4(f)) (July 24, 2008), which state, in part:

> CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions. Once the agency has identified those present effects of past actions that warrant consideration, the agency assesses the extent that the effects of the proposal for agency action or its alternatives will add to, modify, or mitigate those effects. The final analysis documents an agency assessment of the cumulative effects of the actions considered (including past, present, and reasonable foreseeable future actions) on the affected environment. With respect to past actions, during the scoping process and subsequent preparation of the analysis, the agency must determine what information regarding past actions is useful and relevant to the required analysis of cumulative effects. Cataloging past actions and specific information about the direct and indirect effects of their design and implementation could in some contexts be useful to predict the cumulative effects of the proposal. The CEQ regulations, however, do not require agencies to catalogue or exhaustively list and analyze all individual past actions. Simply because information about past actions may be available or obtained with reasonable effort does not mean that it is relevant and necessary to inform decisionmaking. (40 CFR 1508.7)"

Past actions in the cumulative analysis area include projects such as commercial, residential, and infrastructure developments in the Northern and Southern Regions and infrastructure, fuels reduction, fire management, and recreational facility development in the Central Region as well as natural events such as fires, floods, and earthquakes. Most of these types of actions are ongoing in the analysis area, and the types of impacts associated with them are evident in current conditions and continue to occur. For these reasons, the analysis of past actions in this section is based on current environmental conditions.

**Table 6-8 Cumulative Impacts for Biological Resources – Alternative 2**

| Impact | Cumulatively Considerable? | Cumulative Significance |
|---|---|---|
| B-1: Construction activities would result in temporary and permanent losses of native vegetation. | Yes | Class I |
| B-2: The Project would result in the loss of desert wash or riparian habitat. | Yes | Class I |
| B-3: The Project would result in the establishment and spread of noxious weeds. | Yes | Class I |
| B-4: Construction activities, including the use of access roads and helicopter construction, would result in disturbance to wildlife and may result in wildlife mortality. | Yes | Class I |
| B-5: Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors. | Yes | Class I |
| B-6: The Project would cause the loss of foraging habitat for wildlife. | Yes | Class I |
| B-7: The Project could disturb endangered, threatened, or proposed plant species or their habitat. | Yes | Class I |
| B-8: The Project could result in the loss of California red-legged frogs and mountain yellow-legged frogs. | Yes | Class I |
| B-9: The Project would result in the loss of arroyo toads. | Yes | Class I |
| B-10: The Project could result in the loss of desert tortoises. | Yes | Class I |
| B-11: The Project could result in mortality of desert tortoises as a result of increased predation by common ravens. | No | Class III |
| B-12: The Project could result in the loss of special-status fish. | Yes | Class I |
| B-13: The Project could result in the loss of Critical Habitat for the Santa Ana sucker. | No | Class III |
| B-14: The Project could result in loss of California condors. | Yes | Class I |
| B-15: The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat. | Yes | Class I |
| B-16: The Project would result in the loss of coastal California gnatcatchers. | Yes | Class I |
| B-17: The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatcher. | Yes | Class I |
| B-18: The Project could disturb nesting Swainson's hawks. | Yes | Class I |
| B-19: The Project would result in the loss of foraging habitat for Swainson's hawks. | Yes | Class I |
| B-20: The Project could result in electrocution of State and/or federally protected birds. | No | Class III |
| B-21: The Project could result in collision with overhead wires by State and/or federally protected birds. | Yes | Class I |
| B-22: The Project could result in disturbance to Mohave ground squirrels. | Yes | Class I |
| B-23: The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species. | Yes | Class I |
| B-24: The Project could result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles. | Yes | Class I |
| B-25: The Project could result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes. | Yes | Class I |
| B-26: The Project could result in injury or mortality of, and loss of habitat for, Coast Range newts. | Yes | Class I |
| B-27: The Project could result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species. | Yes | Class I |
| B-28: The Project could disturb wintering mountain plovers. | Yes | Class I |
| B-29: The Project would result in the loss of occupied burrowing owl habitat. | Yes | Class I |
| B-30: The Project would result in the loss of occupied California spotted owl habitat. | Yes | Class I |
| B-31: The Project could disturb nesting California spotted owls. | No | Class III |
| B-32: The Project could disturb nesting avian "species of special concern." | Yes | Class I |
| B-33: The Project could result in mortality of, and loss of habitat for, special-status bat species. | Yes | Class I |
| B-34: The Project could result in transmission line strikes by special-status bat species. | No | Class III |
| B-35: The Project could result in mortality of, and loss of habitat for, special-status mammals. | Yes | Class I |
| B-36: The Project could result in mortality of San Diego desert woodrats. | Yes | Class I |
| B-37: The Project could result in mortality of, and loss of habitat for, the ringtail. | Yes | Class I |
| B-38: The Project could result in mortality of American badgers. | Yes | Class I |
| B-39: The Project could result in the loss of wetland habitats. | Yes | Class I |

| Table 6-8 Cumulative Impacts for Biological Resources – Alternative 2 | | |
|---|---|---|
| Impact | Cumulatively Considerable? | Cumulative Significance |
| B-40: The Project could interfere with established bird and bat migratory corridors. | No | Class III |
| B-41: Corona noise could result in disturbance to wildlife. | No | Class III |
| B-42: The Project would result in effects to Management Indicator Species. | Yes | Class I |

As described in Section 6.1 (Direct and Indirect Effects Analysis), any impacts to special-status plant, fish, or wildlife species, or to habitats capable of supporting these species within the Project alignment, is significant and would require mitigation. These Project impacts would also contribute to the cumulative loss of these resources when combined with the effects of past, present, and reasonably foreseeable projects. Mitigation for the loss of special-status species and their habitats is addressed in Section 6.1. It is important to note that present and future actions within the cumulative analysis area will be required to undergo NEPA and/or CEQA analysis (unless exempt) and, therefore, will incorporate mitigation measures that are likely to be similar to the proposed Project. However, even with mitigation incorporated these actions are likely to have incremental effects and these effects are evaluated cumulatively in the following analysis.

Cumulative impacts may occur to formerly undetected populations of special-status plant, fish, and wildlife species that are discovered as a result of future surveys. Should special-status species be observed during future Project surveys, mitigation measures provided within Section 6.1 will minimize impacts to special-status species.

The potential for cumulatively considerable biological resource impacts from the combination of Project impacts and similar impacts of other projects within the geographic scope of this analysis are described below.

- **Construction activities would result in temporary and permanent losses of native vegetation (B-1).** As described in Section 6.1 (Direct and Indirect Effects Analysis), the Project would result in the temporary and permanent loss of native vegetation in the Northern, Central, and Southern regions. Past and foreseeable future actions in these areas would also result in considerable loss of native vegetation. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), as well as fuel treatment and infrastructure projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of several native vegetation types that are limited in distribution within Southern California (see Tables 6-1 and 6-2). Mitigation measures proposed for this Project for these impacts (B-1a [Provide restoration/compensation for impacts to native vegetation communities], B-1b [Implement a Worker Environmental Awareness Program], B-1c [Treat cut tree stumps with Sporax], H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits], and AQ-1a [Implement Construction Fugitive Dust Control Plan]) would reduce these impacts, but they would still be cumulatively considerable. Therefore, because of the historic and ongoing loss of native vegetation communities region-wide, the impacts to native vegetation have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

**Table 6-9. Development Projects Proposed, in Progress, or Recently Completed Within the Antelope Valley of Kern and Los Angeles Counties, California**

| Location and Name of Project | Type of Project | Distance from Proposed Project (mi) | Status | Approximate No. of Acres Impacted |
|---|---|---|---|---|
| Willow Springs, PdV/Manzana | Wind energy generation | 0.1 | Proposed | 400 |
| Tehachapi to Mojave, Alta Wind Energy Center | Wind energy generation | <3 | Proposed | 800 |
| North of Mojave, Pine Tree wind development | Wind energy generation | ~15 | Proposed | 240 |
| Antelope Valley, Antelope Transmission Project Segments 1-3 | Transmission lines and towers | 0 | Approved | ~51 linear mi |
| Antelope Valley, Barren Ridge Transmission Project | Transmission lines and towers | 0 | Proposed | ~90 miles |
| Northern Antelope Valley, El Paso Line 1903 Conversion | Pipeline replacement | 0 | N/A | 6.4 linear mi |
| South of Willow Springs, Pacific Wind | Wind energy generation | <2 | Planning | 5,363* |
| Antelope Valley (near Windhub and Vincent substations), CA high speed rail | Transportation infrastructure | 0 to 2.5 | Planning | ~50 linear mi |
| Acton, Orangeline High Speed Maglev | Transportation infrastructure | 0 | Planning | >20 linear mi |
| Antelope Valley, Antelope Valley Water Bank | Water storage facility | 0 | Planning | 13,440 |
| South of Rosamond, Copa de Oro Planned Community | Residential | 0.2 | Approved | >600 (1,201 housing units) |
| Lancaster, various names | Residential, commercial, open space | 0.5 to 1.0 | Approved | 2,303 (~6,500 housing units, schools, open space) |
| Palmdale, Ritter Ranch Master Planned Community | Residential, commercial, golf course | 0 | Approved | 11,520 (7,200 housing units, 7 schools, 73 acres of commercial development, golf course) |
| Palmdale, Anaverde Master Planned Community | Residential, commercial, schools | 0 | Under construction | 8,320 (5,200 housing units, retail stores, Olympic-sized swimming pool) |
| Palmdale, Rancho Vista Development | Residential, commercial, schools, open space | 0.5 | Proposed | 8,800 (5,500 housing units, schools, golf course, shopping areas, parks) |
| Palmdale, Quail Valley Annexation and Development Plan | Residential, open space | 0 | Proposed | 1,000 (712 housing units and open space) |
| Palmdale, Joshua Ranch Development | Residential, commercial, schools, open space | 0.2 | Proposed | 794 (746 residential units and equestrian center) |
| Palmdale, Ritter Ranch Substation | Substation | 0.1 | Proposed | 3 |
| Quartz Hill, various names | Residential, senior housing | ~2.5 | Planning | 270 (96 housing units) |
| | | | Total | 53,853 |

*Acreage estimate based on the ratio of proposed wind turbines to acres impacted for similar projects in the Antelope Valley.

**Table 6-10. Residential Development Projects Proposed, in Progress, or Recently Completed Within the Chino and Puente Hills.**

| Location (City) | Distance from proposed Project area (mi) | Status | Approximate no. of housing units | Approximate no. of acres impacted |
|---|---|---|---|---|
| Eastern Chino Hills (City of Chino Hills) | 0 | Proposed | 1,330 | 1,552* |
| Central Puente Hills (Brea) | 0 | Proposed | 3,600 | 3,000 |
| Southwestern Chino Hills (Brea) | 2.5 | In progress | 658 | 280 |
| Tonner Hills (Brea) | 0.7 | Approved but not built | 705 | 789 |
| Tonner Hills (Brea) | 2.6 | In progress | 55 | 14 |
| Chino Hills (Carbon Canyon) | 1.2 | Proposed | 176 | 369 |
| Tonner Canyon (Brea) | <1.2 | Proposed | 400 | ~467* |
| Total | — | — | 5,594 | 6,454 |

*Acreage estimate based on the average ratio of housing units to acres impacted for similar projects in the Chino and Puente Hills.

- **The Project would result in the loss of desert wash or riparian habitat (B-2).** As described in Section 6.1 (Direct and Indirect Effects Analysis), the Project would result in the temporary disturbance to, and permanent loss of, desert wash and riparian habitat in the Northern, Central, and Southern regions of the project (See Tables 6-1 and 6-2). Past and foreseeable future actions in these areas would also result in considerable loss of, or degradation of, desert wash and riparian habitat. Desert wash habitat occurs primarily within the Northern Region of the proposed Project (Segment 10) and is a limited resource in the Antelope Valley. This resource is also present in the Kentucky Springs Canyon region north of and transitioning into the ANF. Although this unique hydrogeomorphic landform is relatively common in parts of the Antelope Valley, much of this habitat has been lost over the last several decades due to development and agricultural practices, particularly in undeveloped portions of the Project area where off-road vehicle paths and paved roads transect desert washes. Desert wash habitats play an important role in conveying surface flows during the rainfall season to other habitats located down slope that support special-status plants, such as the alkali mariposa lily. Due to its ability to support wildlife and the ongoing loss of riparian habitat statewide, CDFG considers riparian habitat (and desert wash habitat) to be worthy of consideration, both in general and within each of the specific riparian habitat types described in Section 6.1. SCE has indicated that impacts to most drainages, desert washes, and riparian areas would not occur as these areas would be spanned by the Project. However, some riparian habitat would be impacted from the expansion of the existing access roads. Any activities that involve modification of the bed or bank of a state or U.S.-jurisdictional waterway would be regulated by the CDFG, Regional Water Quality Control Board (RWQCB), and USACE. On NFS lands no activities can occur within designated Riparian Conservation Areas without approval from the FS. This approval will be obtained by SCE by requesting a Forest Plan Amendment for actions in Riparian Conservation Areas that result in effects other than neutral or beneficial. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact would reduce and/or degrade desert wash and riparian habitat types that are limited in distribution within Southern California. Mitigation measures proposed for this Project for these impacts (B-1a: Provide restoration/compensation for impacts to native vegetation communities, B-1b: Implement a Worker Environmental Awareness Program, B-2: Implement RCA Treatment Plan, H-1a: Implement an Erosion Control Plan and demonstrate compliance with water quality permits, and AQ-1a: Implement Construction Fugitive Dust Control Plan) would reduce these impacts, but they would still be cumulatively considerable. Therefore, the impacts to desert wash and riparian habitat types has the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the establishment and spread of noxious weeds (B-3).** As described in Section 6.1 (Direct and Indirect Effects Analysis), noxious weeds often establish following disturbance and/or water or nutrient addition. In addition, once established, populations of weeds are extremely difficult to eradicate. The spread of existing weeds or the introduction of new weed populations is a significant Project impact and would also contribute to the cumulative spread of weeds when combined with weed population establishment and spread occurring from

other past and reasonably foreseeable projects. The habitat degradation resulting from the spread of weeds is significant and any cumulative effects of weed invasion would be significant. Other projects that promote new, or worsen existing, weed invasions are likely to occur concurrent with and in the vicinity of the proposed Project. The spread and establishment of weeds can have direct effects on special-status species as habitat is lost. Mitigation measures imposed on the proposed Project, including B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), and B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), would reduce cumulative impacts, but not to less-than-significant levels. Therefore, the introduction and spread of noxious weeds by the proposed Project has the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **Construction activities, including the use of access roads, would result in disturbance to wildlife and may result in wildlife mortality (B-4).** As described in Section 6.1 (Direct and Indirect Effects Analysis), the Project would result in disturbance to wildlife and wildlife mortality, including special-status species, during construction activities. Past and foreseeable future actions in these areas would also result in considerable disturbance to wildlife, especially common species. Foreseeable future actions include various infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past (as evidenced by current conditions in the study area) and reasonably foreseeable projects, would be potentially adverse and cumulatively considerable. Implementation of APM BIO-1 (pre-construction clearance surveys for wildlife) and Project Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the Project's incremental contribution to cumulative effects to wildlife. However, the Project has the potential to combine with impacts of other past and reasonably foreseeable future projects, and the cumulative impacts stemming from disturbance to wildlife would be cumulatively significant and unavoidable (Class I).

- **Construction activities conducted during the breeding season would result in the loss of nesting birds or raptors (B-5).** The Project could result in loss of nesting birds, including special-status species, if construction activities were conducted during the breeding season. Past and foreseeable future actions in these areas could also result in considerable loss of nesting birds if construction activities were spatially or temporally combined. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past (as evidenced by current conditions in the study area) and reasonably foreseeable projects, is significant because the impact substantially reduces the acreage of several habitat types that are important for nesting birds and limited in distribution in Southern California, such as riparian habitats. Implementation of APMs and mitigation measures (APM BIO-1: SCE pre-construction clearance surveys for wildlife; APM BIO-8: pre-construction clearance surveys for raptors; and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce the proposed Project's incremental contribution to cumulative impacts. However, construction-related impacts to nesting birds have the potential to combine with similar impacts of past and foreseeable future projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would cause the loss of foraging habitat for wildlife (B-6).** As described in Section 6.1 (Direct and Indirect Effects Analysis), the Project would result in loss of foraging habitat for wildlife, including special-status species. Past and foreseeable future actions in these areas would also result in considerable loss of foraging habitat.

Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of several habitat types that are important for wildlife and limited in distribution in Southern California. Mitigation measures proposed for this Project for these impacts (B-1a [Provide restoration/compensation for impacts to native vegetation communities], B-1b [Implement a Worker Environmental Awareness Program], B-2 [Implement RCA Treatment Plan], B-3a [Prepare and implement a Weed Control Plan], AQ-1a [Implement Construction Fugitive Dust Control Plan], and H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits]) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to wildlife foraging habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could disturb endangered, threatened, or proposed plant species or their habitat (B-7).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities could disturb, degrade, or cause permanent loss of habitat for endangered, threatened, or proposed plant species and could also cause loss of endangered, threatened, or proposed plant individuals or populations. Proposed construction locations were surveyed in 2008, and most areas comprised unsuitable habitat for special-status plant species (see Sections 2, Affected Environment, and 6, Alternative 2: Impacts and Mitigation Measures). However, some listed plants may occur within the alignment, particularly within the ANF, and thus, Project implementation may result in permanent loss of suitable habitat for these species due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, introduced species, fire, drought) have resulted in considerable incremental adverse impacts to State and federally listed plants and their habitats. Foreseeable future actions in this area will also result in considerable adverse impacts to these plants and their habitats. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10) and fuel treatments and infrastructure projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat for multiple listed plants in the region. Mitigation measures proposed for this project such as AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and B-7 (Conduct preconstruction surveys for State and federally Threatened, Endangered, Proposed, Petitioned, and Candidate plants and avoid any located occurrences of listed plants) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to endangered, threatened, and proposed plant species or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project could result in the loss of California red-legged frog and mountain yellow-legged frog (Impact B-8).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in "take" of California red-legged frogs and mountain yellow-legged frogs. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to permanent structures and/or roads. California red-legged frogs may occur within the Amargosa Creek watershed in the vicinity of the Amargosa Creek alignment crossing in the Northern Region. California red-legged frogs and mountain yellow-legged frogs are presumed absent from the Southern Region and may occur within the Central Region, where suitable habitat is present at Lynx Gulch, Alder Creek, Big Tujunga Creek (Segment 6), and West Fork San Gabriel River. Past actions and natural events in the Northern and Central regions (e.g., road construction, development, recreational activities, fire, drought) have resulted in considerable adverse effects to California red-legged frogs and mountain yellow-legged frogs. Foreseeable future actions in the Central Region are limited and are expected to have minimal effects on red-legged and yellow-legged frogs; however, foreseeable future actions that could adversely

affect these species in the Northern Region include the Amargosa Creek Improvements Project, which includes road and flood control improvements. Project impacts, should they occur, would contribute substantially to the incremental take of, and loss of habitat for, these species when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects. These impacts would be cumulatively considerable because the aforementioned past actions and natural events have so severely impacted California red-legged frog and mountain yellow-legged frog populations that both species are now at the brink of extirpation in Southern California. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), B-8a (Conduct protocol surveys for California red-legged frogs and implement avoidance measures), and B-8b (Conduct biological monitoring) would reduce the proposed Project's incremental contribution to cumulative impacts. However, the impacts to California red-legged frog and mountain yellow-legged frog or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of arroyo toad (Impact B-9).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in "take" of arroyo toad. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to the construction of permanent structures and/or roads. Arroyo toads have the potential to occur in the Central Region of the Project. Past actions and natural events in the Central Region (e.g., road construction, development, recreational activities, fire, drought) have resulted in considerable adverse effects to arroyo toads. Project impacts, should they occur, would contribute substantially to the incremental take of, and loss of habitat for, arroyo toad when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), and B-8b (Conduct biological monitoring), which collectively, would mitigate for loss of habitat, require ANF oversight of Project activities in Riparian Conservation Areas, minimize the likelihood of habitat alteration through the proliferation of weeds, and minimize the likelihood of take of individual toads, would reduce cumulative impacts. However, the impacts to arroyo toad have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project could result in the loss of desert tortoise (Impact B-10).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities within suitable habitat in the Project area may result in "take" of desert tortoise. Take may occur through direct mortality, harassment, entrapment, and/or the loss of habitat due to the construction of permanent structures and/or roads. Desert tortoises have the potential to occur in the northernmost portions of the Northern Region. Past actions and natural events within the Northern Region (e.g., development, urbanization, drought) have resulted in considerable adverse effects to desert tortoises. Foreseeable future actions that could adversely affect desert tortoises in the Northern Region include projects such as the PdV, Alta, and Pine Tree wind farms; El Paso Line 1903 Pipeline Conversion Project; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; and at least 12 separate small- and large-scale residential and planned community developments in southern and central Kern County. These projects will result in considerable incremental adverse effects to desert tortoises. Project impacts, should they occur, would contribute substantially to the incremental take of, and loss of habitat for, desert tortoises when combined with the effects of take and loss of habitat caused by other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental

Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-10 (Conduct protocol surveys for desert tortoises and implement avoidance measures), and AQ-1a (Implement Construction Fugitive Dust Control Plan), which collectively, would mitigate for loss of habitat, minimize the likelihood of habitat alteration through the proliferation of weeds, and minimize the likelihood of take and spread of disease to individual tortoises, and would reduce cumulative impacts. However, the impacts to desert tortoise have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project could result in mortality of desert tortoises as a result of increased predation by common ravens (Impact B-11).** As described in Section 6.1 (Direct and Indirect Effects Analysis), the proposed Project would increase the number of transmission towers and substation-associated structures that provide potential nest and perch sites for common ravens (*Corvus corax*), which are known predators of juvenile desert tortoises. Raven population increases appear to be associated with increased perch sites and food supplies made available to ravens via human disposal (e.g., landfills, dumpsters, and litter). Past actions (e.g., development, urbanization, landfill construction, litter, recreation) have resulted in considerable incremental adverse impacts to desert tortoises resulting from common raven predation. Although natural events such as drought and fire have also adversely impacted desert tortoise populations, no natural event has been linked to population increases of common ravens and their predation of desert tortoises. Foreseeable future actions in this area will also result in considerable incremental adverse impacts to desert tortoises resulting from common raven predation. Foreseeable future actions include projects such as the PdV, Alta, and Pine Tree wind farms; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; and at least 12 separate small- and large-scale residential and planned community developments in southern and central Kern County. Project impacts, should they occur, would contribute substantially to the incremental predation of desert tortoises by common ravens when combined with the effects of such predation caused by other past and reasonably foreseeable projects. However, none of the aforementioned foreseeable projects would occur in the vicinity of the proposed Project and in known occupied desert tortoise habitat and are, therefore, not cumulatively considerable. Raven population increases, if they occur, are expected to be small, and food supplies are not expected to change appreciably in portions of the Project area where desert tortoises may occur. Therefore, the construction of additional towers and substation-associated structures is not expected to result in a significant increase in cumulative predation of the desert tortoise, if present, by common ravens (Class III).

- **The Project could result in the loss of special-status fish (B-12).** The Santa Ana sucker, arroyo chub, and Santa Ana speckled dace are known to occur in Big Tujunga Creek and the San Gabriel River. Santa Ana suckers occur downstream of the Big Tujunga and Cogswell reservoirs. Project effects to the Big Tujunga population are not expected; however, the Santa Ana sucker is present along the proposed Cogswell reservoir access road. While sediment analysis studies indicate there will be no regional effect on water quality from erosion, small localized effects could result in adverse effects to these species. In addition, fuel treatments proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon will directly overlap with Segment 6. These fuel treatments would remove upland vegetation bordering Big Tujunga Creek and could increase stream sedimentation through the deposition of erosional silt adjacent to the creek. Implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), B-8b (Conduct biological monitoring), and B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms) would reduce the cumulative impacts of the Project on special-status fish species. However, the impacts to special-status fish species or their habitat have the potential to combine with similar impacts of other projects and would be cumulatively significant and unavoidable (Class I).

- **The Project could result in the loss of Critical Habitat for the Santa Ana sucker (B-13).** Critical habitat for Santa Ana sucker exists downstream of Cogswell Reservoir, in an area that would include an access road for heavy equipment. This access road is paved and runs for approximately 7.4 miles adjacent to the West Fork San Gabriel River. Use of this access road could result in accidental spills, increased turbidity due to vehicles using wet crossings, and potentially alter light regimes from the trimming and/or removal of some riparian vegetation. As

described under Impact B-12, vehicle passage through flowing water or leakage onto roadways that is transported into the river during storm events could result in the degradation of habitat.

Direct loss of critical habitat for this species would not occur from the proposed Project. However, degradation of critical habitat may occur from the accidental release of mud, petroleum products, heavy metals, or other construction materials. However, through the implementation of project minimization measures described under Impact B-12 these effects would be minimized or avoided. With the implementation of these measures the project would not appreciably diminish the value of the habitat or affect the constituent elements required for occupancy by this species. Operational effects would not occur because once the Project has been completed use of the Cogswell access road would not occur. Mitigation measures include Mitigation Measure B-1a (Provide restoration/ compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-2 (Implement RCA Treatment Plan), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), Mitigation Measure B-8b (Conduct biological monitoring), and Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms). Because Project mitigation and BMPs would minimize or eliminate effects to critical habitat for the Santa Ana sucker, the Project's incremental contribution would be negligible. In addition, other projects that would have the potential to impact Santa Ana sucker critical habitat in the Project area would be required to be mitigated similar to the proposed Project as they would occur on federal lands under the jurisdiction of the FS. Therefore, cumulative impacts to Santa Ana sucker critical habitat would be less than significant (Class III).

- **The Project could result in the loss of California condor (B-14).** Project-related construction activities could result in impacts to California condors, if present. Past and foreseeable future actions in these areas could also result in impacts to California condors if present. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and 8,500 acres of fuel management and restoration projects within the ANF. While restoration projects on the ANF may increase potential foraging habitat for this species, on a regional scale, loss of habitat continues to occur. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities have the potential to impact and result in the loss of California condors. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-8b (Conduct biological monitoring), and B-14 (Monitor construction in condor habitat and remove trash and micro-trash from the work area daily) would reduce these cumulative impacts. However, construction-related impacts to California condors have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would disturb nesting southwestern willow flycatchers, least Bell's vireos, yellow-billed cuckoos, or their habitat (B-15).** Impacts to least Bell's vireos are cumulatively considerable within the Whittier Narrows and Rio Hondo portions of the proposed Project. A storage facility expansion project is planned for the city of Irwindale, adjacent to the Project near the Rio Hondo. The combined effect of this commercial project, other past projects, and the proposed Project would be significant, because their impact increases the level of disturbance to least Bell's vireos within the Rio Hondo. Disturbance to southwestern willow flycatchers and yellow-billed cuckoos, if present, would also occur in riparian areas of the proposed Project. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-15 (Conduct protocol surveys for listed riparian birds and avoid occupied habitat), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to least Bell's vireos and other listed riparian birds have

the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of coastal California gnatcatchers (B-16).** Impacts to coastal California gnatcatchers are cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 6-10). These projects include large community developments in areas that are currently undeveloped, including 4,902 acres of grasslands, coastal scrub, and woodlands. These collective projects would result in the loss of suitable coastal sage scrub habitat for the coastal California gnatcatcher. Continued loss and fragmentation of suitable coastal sage scrub habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of this species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the combined impacts substantially reduce the acreage of suitable habitat in the region. Further, disturbance to California gnatcatchers due to construction activities for this and other cumulative projects would be significant. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-16 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to coastal California gnatcatchers have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of critical and/or occupied habitat of the coastal California gnatcatchers (B-17).** The FWS designated two areas along Segment 7 (Montebello Hills and Whittier Narrows Recreation Area) and several portions along Segment 8A in the Montebello, Puente, and Chino Hills as critical habitat for the coastal California gnatcatcher (both within Critical Habitat Unit 9). Construction activities, including the installation of permanent structures and/or roads, would result in the loss of an estimated 2.4 acres of critical habitat on Segment 7 and 44.8 acres on Segment 8. As mentioned above, there are six residential development projects proposed or in progress within the Puente and Chino Hills, between 0 and 2.6 miles from the proposed Project (Table 6-10). Some of these areas may be adjacent to or within designated critical habitat and/or occupied habitat for the coastal California gnatcatcher. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact may considerably reduce the acreage of critical or occupied habitat in the region. Implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-16 and B-17 (Conduct protocol or focused surveys for coastal California gnatcatcher and implement avoidance measures, Preserve off-site habitat and/or habitat restoration for the coastal California gnatcatcher), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to coastal California gnatcatcher habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I)

- **The Project could disturb nesting Swainson's hawks (B-18).** Impacts to nesting Swainson's hawks are cumulatively considerable within the Northern Region of the Project. The Antelope Valley is anticipated to grow substantially in the coming decades, and the cities of Lancaster and Palmdale are expected to increase by more than 308,000 people in the next 25 years. Included in these projects are three large-scale planned community developments, totaling 2,303 acres, located within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to disturb nesting Swainson's hawks is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant because the combined impact would increase the potential for disturbance to nesting Swainson's hawks. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-18a and B-18b (Conduct pre-construction surveys for Swainson's hawks, Removal of nest trees for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts of the proposed

Project to nesting Swainson's hawks have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of foraging habitat for Swainson's hawks (B-19)**. Impacts to foraging habitat for Swainson's hawks are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community developments, totaling 2,303 acres, will be located within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to remove foraging habitat for Swainson's hawks is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant because the combined impact could substantially reduce the acreage of suitable foraging habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-18a (Conduct pre-construction surveys for Swainson's hawks), B-19 (Compensate for loss of foraging habitat for Swainson's hawks), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts of the proposed Project to Swainson's hawk foraging habitat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in electrocution of State and/or federally protected birds (B-20)**. The likelihood of electrocutions occurring on transmission lines of voltages greater than 69 kV is low (APLIC, 2006). Although approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 miles) to Segments 10 and 5 of the Project in the Northern Region, the likelihood of electrocution on this line is also low because it will be a 500-kV line Large, aerial-perching birds such as hawks and eagles are most susceptible to electrocution from power lines, however the elements of a 500-kV or 220-kV line are spaced far enough apart that even the largest raptors are unlikely to be electrocuted. However, to further reduce the potential for mortality events, SCE will implement APMs BIO-4 and BIO-9 as part of the proposed Project (in accordance with the *Suggested Practices for Raptor Protection on Power Lines* and *Avian Protection Plan Guidelines*). The cumulative impacts of electrocution by transmission lines on State and federally protected birds resulting from the Project and other past, present, and reasonably foreseeable projects will be less than cumulatively significant (Class III).

- **The Project could result in collision with overhead wires by State and/or federally protected birds (B-21)**. Impacts to State and federally protected birds as a result of transmission line strikes are potentially cumulatively considerable within the Northern Region, where approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 miles) to Segment 5 of the Project. Passerines and waterfowl are known to collide with wires particularly during nocturnal migrations or poor weather conditions (Avery et al., 1978). However, passerines and waterfowl have a lower potential for collisions than larger birds, such as raptors. Some behavioral factors contribute to a lower collision mortality rate for these birds. Passerines and waterfowl tend to fly under power lines, as opposed to larger species, which generally fly over the lines and risk colliding with the higher static lines, and many smaller birds tend to reduce their flight activity during poor weather conditions (Avery et al., 1978). Collision mortality would also be higher where the movements of susceptible species are the greatest such as along waterways or over riparian areas. Collision rates generally increase in low light conditions, during inclement weather, such as rain or snow, during strong winds, and during panic flushes when birds are startled by a disturbance or are fleeing from danger. Collisions are more probable near wetlands, valleys that are bisected by power lines, and within narrow passes where power lines run perpendicular to flight paths. Collision impacts from the proposed Project are not expected to result in significant impacts to birds in the Project area due to the implementation of APM BIO-9 as part of the proposed Project in accordance with the guidance on raptor protection found in Suggested Practices for Raptor Protection on Power Lines (APLIC 2006), and the incorporation of raptor safety protection into the project design (i.e. tower/conductor (lines) on NFS lands. However, as the flight paths become more constrictive and larger numbers of transmission lines, towers, structures, and vehicles occur in the region the numbers of birds subject to collision will continue to rise. When combined with

impacts from past, present, or reasonable future projects, these impacts would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in disturbance to Mohave ground squirrels (B-22).** Impacts to Mohave ground squirrels are cumulatively considerable within the Antelope Valley portion of the proposed Project. The Antelope Valley is anticipated to grow substantially in the coming decades, and the cities of Lancaster and Palmdale are expected to increase by more than 308,000 people in the next 25 years. There are at least 16 projects comprising wind energy, electrical transmission, power plant, transportation, water, and residential housing that are proposed, planned, or in progress within the Antelope Valley (Table 6-9). Included in these projects are two wind energy developments located within 0.1 to 3 miles from the proposed Project in Kern County with a combined impact of 38,435 acres. Another sizeable project is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located near the county line separating Los Angeles and Kern counties. Several residential construction projects are proposed or in progress near Lancaster (Table 6-9). Collectively, these projects would result in the loss of more than 98,808 acres in the Antelope Valley and a significant cumulative loss of more than 65,858 acres of suitable habitat for Mohave ground squirrel.

  Continued loss and fragmentation of suitable habitat in the Antelope Valley will continue to contribute to the decline of this species within the region. The incremental effect of the proposed Project on Mohave ground squirrels (if present), when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the combined impact substantially reduces the acreage of suitable habitat in the region. Implementation of Mitigation Measures AQ-1a (Implement Construction Fugitive Dust Control Plan), B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-22a (Conduct focused surveys for Mohave ground squirrels), B-22b (Implement construction monitoring for Mohave ground squirrels), and B-22c (Preserve off-site habitat for the Mohave ground squirrel) would reduce these impacts. However, the impacts of the proposed Project to Mohave ground squirrel (if present) have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of candidate, Forest Service Sensitive, or special-status plant species (B-23).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities would disturb, degrade, or cause permanent loss of habitat for candidate, FS Sensitive, or special-status plant species in the proposed Project area, and could also cause loss of rare individuals or populations. Proposed tower construction locations were surveyed in 2008, and most areas comprised unsuitable habitat for special-status plant species (see Sections 2, Affected Environment, and 6). Some special-status plants are known to occur within the alignment, particularly within the ANF, and Project implementation would thus result in permanent loss of suitable habitat for these species due to installation of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse impacts to special-status plants and their habitats. Foreseeable future actions in this area will also result in considerable adverse impacts to special-status plants and their habitats. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and fuel treatment and infrastructure projects within the ANF. The incremental effects of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, are significant because the impact substantially reduces the acreage of suitable habitat for candidate, FS Sensitive, and special-status plant in the region. Mitigation measures proposed for Impact B-23, such as B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-23 (Conduct protocol surveys for rare plants and avoid populations of listed plants), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to special-status plants have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in mortality or injury of, and loss of nesting habitat for, southwestern pond turtles (B-24).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities may result in mortality or injury of individual southwestern pond turtles within suitable habitat at the following locations: Amargosa Creek, Lynx Gulch, San Gabriel River, Big Tujunga Creek, Rio Hondo, Brea Canyon, and Tonner Creek. Furthermore, Project implementation may result in permanent loss of nesting habitat in limited areas due to construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse impacts to southwestern pond turtles and their nesting habitat. Foreseeable future actions in this area will also result in considerable adverse impacts to southwestern pond turtles and their nesting habitat. Foreseeable future actions include projects such as the Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; and California High Speed Train System and Maglev. Numerous small- and large-scale residential and planned community developments are also planned within the geographic extent. Project impacts, should they occur, would contribute substantially to the incremental mortality, injury, and loss of nesting habitat for southwestern pond turtles when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-3 and BIO-5 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), B-24 (Conduct focused presence/absence surveys for southwestern pond turtle and implement monitoring, avoidance, and minimization measures), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), H-1b (Dry weather construction), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to southwestern pond turtles have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes (B-25).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities may result in mortality or injury of individual two-striped garter snakes and south coast garter snakes within suitable habitat in the Project area. Furthermore, Project implementation may result in loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) within the geographic extent have resulted in considerable incremental injury or mortality of, and loss of habitat for, these species. Foreseeable future actions in this area will also result in considerable impacts of this kind to these species. Foreseeable future actions include projects such as the Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; and California High Speed Train System and Maglev. Numerous small- and large-scale residential and planned community developments are also planned within the geographic extent. Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, two-striped garter snakes and south coast garter snakes when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-7, Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-12 (Implement avoidance and minimization measures for Santa Ana sucker and other aquatic organisms), Mitigation Measure B-25 (Conduct focused surveys for two-striped garter snake and south coast garter snake and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to two-striped garter snakes and south coast garter snakes have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in injury or mortality of, and loss of habitat for, Coast Range newts (B-26).** As described in Section 6.1 (Direct and Indirect Effects Analysis), construction activities occurring within one mile of suitable habitat or vehicular crossings at wet fords across occupied drainages have the potential to result in mortality or injury to Coast Range newts. Furthermore, Project implementation may result in permanent loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat due to disturbance from construction activities. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) have resulted in considerable incremental adverse effects to Coast Range newts, particularly in the San Gabriel Valley, where effects of development and urbanization have been most intense. However, foreseeable future actions in this region are limited and are expected to have minimal effects on this species. Primarily as a result of considerable past effects, Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, Coast Range newts when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of the APMs (BIO-1 through BIO-7), Mitigation Measure B-1a (Provide restoration/compensation for impacts to native vegetation communities), Mitigation Measure B-1b (Implement a Worker Environmental Awareness Program), Mitigation Measure B-3a (Prepare and implement a Weed Control Plan), Mitigation Measure B-26 (Conduct focused surveys for coast range newt and implement monitoring, avoidance, and minimization measures), Mitigation Measure H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), Mitigation Measure H-1b (Dry weather construction), and Mitigation Measure AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to coast range newts have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in injury or mortality of, and loss of habitat for, terrestrial California Species of Special Concern and Forest Service Sensitive amphibian and reptile species (B-27).** As described in Section 6.1 (Direct and Indirect Effects Analysis), Project-related construction activities could result in injury or mortality of 11 terrestrial California Species of Special Concern and FS Sensitive amphibian and reptile species (the special-status terrestrial herpetofauna). Furthermore, Project implementation may result in permanent loss of habitat due to the construction of permanent structures and/or roads and temporary loss of habitat from construction activities such as preparation and use of staging areas. Individuals of one or more of the special-status terrestrial herpetofauna could be injured or killed during ground-disturbing Project activities in undeveloped upland habitats and in some developed areas throughout the proposed Project. Past actions and natural events (e.g., development, urbanization, recreation, fire, drought) within the geographic extent have resulted in considerable incremental injury or mortality of, and loss of habitat for, these species. Foreseeable future actions throughout the region will also result in considerable impacts of this kind to these species. Foreseeable future actions include projects such as the PdV, Alta, and Pine Tree wind farms; El Paso Line 1903 Pipeline Conversion Project; Route 58 Mojave Alignment Project; Hyundai Corporation Test Track Facility and Habitat Conservation Plan; California High-Speed Train System; Amargosa Creek Improvements Project; Corridor Management Plan - Angeles Crest Scenic Byway, CA State Route 2 Enhancement; 465 residence recreation permit issuances on 18 tracts within the ANF, California High Speed Train System and Maglev; and numerous small- and large-scale residential and planned community developments. Project impacts, should they occur, would contribute substantially to the incremental injury or mortality of, and loss of habitat for, the special-status terrestrial herpetofauna when combined with these effects resulting from other past and reasonably foreseeable projects, and therefore, would be cumulatively considerable. Implementation of APMs BIO-1 through BIO-7 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-27 (Monitoring, avoidance, and minimization measures for special-status terrestrial herpetofauna), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce cumulative impacts. However, the impacts to special-status terrestrial herpetofauna have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could disturb wintering mountain plovers (B-28).** Impacts to wintering mountain plovers are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community

developments, totaling 2,303 acres, are planned within 1.5 miles from the proposed Project at the existing Antelope Substation. Another sizeable project with potential to disturb wintering mountain plovers is the Antelope Valley Water Bank Project, a 640-acre facility to store and distribute surface water located adjacent to the proposed Whirlwind Substation. The incremental effect of the proposed Project, when combined with the effects of other past and reasonably foreseeable projects, would be significant, because the combined impact substantially reduces the total amount of suitable wintering habitat in the region. Therefore, the impacts of the proposed Project to wintering mountain plovers have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of occupied burrowing owl habitat (B-29).** Impacts to occupied burrowing owl habitat are cumulatively considerable within the Northern Region of the Project. Three large-scale planned community developments, totaling 2,303 acres, are planned for a location near the existing Antelope Substation, within 1.5 miles from the Project. Two other sizeable projects with the potential to reduce occupied burrowing owl habitat in the Northern Region are the 6,400-acre PdV Wind Energy facility planned for a location just east of Segment 10 and the 640-acre Antelope Valley Water Bank facility to be located adjacent to the proposed Whirlwind Substation. Impacts to occupied burrowing owl habitat are also cumulatively considerable within the Southern Region of the Project, where 6,454 acres will be developed in the Chino and Puente Hills near Segment 8. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would result in loss of suitable and possibly occupied burrowing owl habitat in the Northern and Southern regions of the Project. Implementation of APMs BIO-2 and BIO-4 through BIO-8 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-29 (Implement CDFG protocol for burrowing owls), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts. However, construction-related impacts to occupied burrowing owl habitat have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project would result in the loss of occupied California spotted owl habitat (B-30).** Impacts to occupied California spotted owl habitat are cumulatively considerable in Upper Big Tujunga Creek and Mill Creek. Fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Fuel treatments at these sites will substantially reduce the amount of tree cover around FS Administrative Sites within the ANF. These include the treatment of forest habitats at Mill Creek Station (Mill Creek Summit along Angeles Crest Highway) and at Shortcut Station in Upper Big Tujunga Canyon (0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road). The incremental effect of the Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would result in loss of suitable and possibly occupied California spotted owl habitat in the Central Region of the Project. Implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-3a (Prepare and implement a Weed Control Plan), B-30 (Conduct pre- and during construction nest surveys for spotted owl), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts. However, construction-related impacts to occupied California spotted owl habitat have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could disturb nesting California spotted owls (B-31).** As noted above in cumulative impacts for B-30, fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Fuel treatments at these sites will reduce the amount of tree cover and create considerable noise of short duration adjacent to Segment 6. However, these projects would be subject to the same requirements as the proposed Project with regard to California spotted owls, and would be mitigated similarly to the proposed Project. The Project construction activities could potentially result in disturbance of nesting California spotted owls in the Central Region of the Project. However, implementation of APMs BIO-2 and BIO-4 through BIO-6 and Mitigation Measures B-1b (Implement a Worker Environmental Awareness Program), B-

30 (Conduct pre- and during construction nest surveys for spotted owl), and AQ-1a (Implement Construction Fugitive Dust Control Plan), would reduce these impacts. Therefore, cumulative impacts of the proposed Project to nesting California spotted owls would be less than significant (Class III).

- **The Project could disturb nesting avian "species of special concern" (B-32).** The Project would result in the loss of nesting avian Species of Special Concern if construction activities were conducted during the breeding season. Past and foreseeable future actions in these areas would also result in considerable loss of nesting birds if construction activities were spatially or temporally combined. Foreseeable future actions include numerous infrastructure and residential development projects proposed for the Antelope Valley (Table 6-9) and Chino and Puente Hills (Table 6-10), and 8,500 acres of fuel management and restoration projects within the ANF. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because construction activities would take place within or adjacent to habitats that are important for nesting avian Species of Special Concern in Southern California. Implementation of APMs BIO-4 through BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these cumulative impacts. However, construction-related impacts to nesting avian Species of Special Concern have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in the mortality of, and loss of habitat for, special-status bat species (B-33).** Impacts to pallid bat, western red bat, hoary bat, spotted bat, western mastiff bat, and pocketed free-tailed bat are cumulatively considerable within the ANF and the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 6-10). These projects include large community developments, including 4,902 acres of habitat for these special-status species. These collective projects would result in the loss of suitable roosting habitat for pallid bat, western red bat, hoary bat, spotted bat, and western mastiff bat. Continued loss and fragmentation of suitable habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of these species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable roosting habitat in the region. Implementation of APMs BIO-1, BIO-4, BIO-6, and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), AQ-1a (Implement Construction Fugitive Dust Control Plan), B-33a (Maternity colony or hibernaculum surveys for roosting bats), B-33b (Provision of substitute roosting bat habitat), and B-33c (Exclude bats prior to demolition of roosts) would reduce these impacts.

  Impacts to pallid bat, western red bat, and hoary bat are cumulatively considerable in Upper Big Tujunga Canyon on the ANF. Fuel treatments proposed by the FS for Upper Big Tujunga Canyon overlaps with Segment 6 of the proposed Project, approximately 0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road. At this site, the FS will remove shrubs and understory fuels from 50.4 acres of Coulter pine forest and mixed chaparral.

  The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the proposed Project reduces the acreage of suitable roosting habitat in the region. Implementation of the measures identified above would reduce these impacts. However, the impacts to special-status bats have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in transmission line strikes with special-status bat species (B-34).** The Antelope Transmission Project Segments 1-3 proposes the construction of approximately 51 miles of transmission lines for the

western Antelope Valley in the vicinity of the Project. This transmission line project in combination with the proposed Project would cumulatively increase the probability of transmission line strikes for special-status bat species in the Northern Region. However, as discussed in Section 6.1 (Direct and Indirect Effects Analysis) the frequency of transmission line strikes by special-status bats is expected to be quite low despite these cumulative effects, due to the ability of these bat species to detect and avoid transmission lines during echolocation. Therefore, the cumulative impacts of transmission line strikes on special-status bat species resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).

- **The Project could result in the mortality of, and loss of habitat for, special-status mammals (B-35).** Impacts to the Los Angeles pocket mouse, Tehachapi pocket mouse, San Joaquin pocket mouse, Northwestern San Diego pocket mouse, Southern grasshopper mouse, Tulare grasshopper mouse, and San Diego black-tailed jackrabbit are cumulatively considerable. The cumulative projects would combine within the regions of occurrence for these species. The proposed Project will not eliminate suitable habitat for Los Angeles pocket mouse, San Joaquin pocket mouse, Tulare grasshopper mouse, and Tehachapi pocket mouse. However, the proposed Project would result in the loss of habitat for northwestern San Diego pocket mouse, southern grasshopper mouse, and San Diego black-tailed jackrabbit. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce impacts to special-status mammal species. However, construction-related impacts to special-status mammals have the potential to combine with similar impacts of past and foreseeable future projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in the mortality of, and loss of habitat for, San Diego desert woodrat (B-36).** Impacts to San Diego desert woodrat are cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 6-10). These projects include large community developments, including 4,902 acres of grassland, shrub, or woodland habitat that would be impacted. These collective projects would result in the loss of suitable habitat for the San Diego desert woodrat. Continued loss and fragmentation of suitable habitat in the Chino and Puente Hills from ongoing development will contribute to the regional decline of these species. The proposed Project will eliminate approximately 80 acres of suitable habitat for this species within the Chino and Puente Hills of the proposed Project area. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-36 (Conduct focused surveys for San Diego desert woodrats and passively relocate), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to San Diego desert woodrat have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in the mortality of, and loss of habitat for, the ringtail (B-37).** Impacts to ringtail are cumulatively considerable within Amargosa Creek, Upper Big Tujunga Creek, Mill Creek, and Tonner Canyon. The Amargosa Creek Improvements Project includes road improvements to Elizabeth Lake Road and flood control improvements to approximately 5 miles of Amargosa Creek in the Leona Valley. This infrastructure improvement project intersects the proposed Project at Amargosa Creek and Elizabeth Lake Road.

  Fuel treatments are proposed by the FS for both Mill Creek Summit and Upper Big Tujunga Canyon, and both of these areas directly overlap with Segment 6. Fuel treatments at these sites will substantially reduce the amount of shrub and tree cover around FS Administrative Sites within the ANF. These include the treatment of 6.13 acres of Coulter pine forest at Mill Creek Station (Mill Creek Summit along Angeles Crest Highway) and 50.4 acres of Coulter pine forest and mixed chaparral at Shortcut Station in Upper Big Tujunga Canyon (0.6 miles east-northeast of the intersection of Angeles Crest Highway and Upper Big Tujunga Canyon Road). However, the amount of these

habitats that will be cumulatively impacted by these FS projects and the proposed Project within the ANF will be small relative to the home range requirement of a ringtail and the availability of habitat in the ANF of the San Gabriel Mountains (46,882 acres of bigcone Douglas fir-canyon oak forest; 38,782 acres of canyon oak forest; 11,177 acres of coast live oak woodland; and 562 acres of Coulter pine forest; Stephenson and Calcarone, 1999).

There is a total of 1,752 acres of grassland, shrub, and woodland habitat that will be lost due to residential development projects within one mile of Tonner Canyon within the Chino and Puente Hills (Table 6-10). However, the proposed Project will impact a small amount of suitable ringtail habitat within Tonner Canyon, and the Tonner Canyon to Carbon Canyon region of the Chino Hills contains more than 2,047 acres of suitable woodland habitat (Spencer 2005). The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable ringtail habitat in the region. Implementation of Mitigation Measures B-1a (Provide restoration/ compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-37 (Conduct focused surveys for ringtail and passively relocate during the non-breeding season), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to ringtail have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in mortality of American badgers (Impact B-38).** Impacts to American badger are cumulatively considerable within the Northern and Southern Regions of the proposed Project. In the Northern Region, three large-scale planned community developments, totaling 2,303 acres, are planned for a location near the existing Antelope Substation, within 1.5 miles from the Project. Two other sizeable projects with potential to reduce suitable American badger habitat in the Northern Region are the 6,400-acre PdV Wind Energy facility planned for a location just east of Segment 10 and the 640-acre Antelope Valley Water Bank facility to be located adjacent to the proposed Whirlwind Substation. Impacts to American badger are also cumulatively considerable within the Puente and Chino Hills portion of the proposed Project. There are six residential development projects proposed or in progress within the Chino and Puente Hills, between 0 and 2.6 miles from the proposed Project (Table 6-10). These projects include large community developments on currently undeveloped land, including 4,902 acres of grassland, shrub, or woodland habitat. Continued loss and fragmentation of suitable grassland and open shrub habitat in the Antelope Valley and Chino and Puente Hills from ongoing development will contribute to the regional decline of this species. The incremental effect of the proposed Project, when combined with the effects created by other past and reasonably foreseeable projects, would be significant, because the impact substantially reduces the acreage of suitable habitat in these two regions. Implementation of APMs BIO-1, BIO-4, BIO-6 and Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-3a (Prepare and implement a Weed Control Plan), B-38 (Conduct focused surveys for American badger and passively relocate during the non-breeding season), and AQ-1a (Implement Construction Fugitive Dust Control Plan) would reduce these impacts. However, the impacts to American badger have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in the loss of wetland habitats (Impact B-39).** As described in Section 3.4.2 (Affected Environment), these habitat types contain vegetation growing near permanent water sources or under conditions of prolonged saturation. There are 1,116 acres of riparian habitats in the project area, of these approximately 12 acres are anticipated to be affected by construction of the proposed Project (see Tables 6-1 and 6-2). Throughout California, wetland habitats have been degraded and lost at an alarming rate due to the placement of fill for development. Any impacts to wetland habitat types would be regulated by the CDFG, RWQCB, and the USACE. As described in Section 3.4.6.1 (Direct and Indirect Effects Analysis), any impacts to these habitat types are significant and would require mitigation. As such, any Project impacts, should they occur, would also contribute to the cumulative loss of these habitat types when combined with the loss of these habitat types caused by other past and reasonably foreseeable projects, and therefore would be significant. However, the mitigation measures

described in Section 3.4.6.1 (Mitigation Measures B-1a [Provide restoration/compensation for impacts to native vegetation communities ], B-1b [Implement a Worker Environmental Awareness Program], Mitigation Measure B-2 [Implement RCA Treatment Plan], B-3a [Prepare and implement a Weed Control Plan], H-1a [Implement an Erosion Control Plan and demonstrate compliance with water quality permits], and AQ-1a [Implement Construction Fugitive Dust Control Plan]) for impacts to these habitats will reduce Project impacts. However, though impacts to wetlands from this project are anticipated to be minor based on the acres anticipated to be affected, the impacts to wetland habitats have the potential to combine with similar impacts of other projects and would be considered cumulatively significant and unavoidable (Class I).

- **The Project could result in the loss of established bird and bat migratory corridors (B-40).** The loss of established bird and bat migratory corridors as a result of transmission line construction is cumulatively considerable within the Northern Region of the Project, where approximately 17 miles of transmission lines proposed in the Antelope Transmission Project Segment 2 would come within close proximity (>0.5 miles) of Segment 5 of the Project. However, as discussed in Section 6.1 (Direct and Indirect Effects Analysis) these transmission lines are not located along major landbird migration routes and are not expected to have a significant cumulative effect on migratory patterns or migration routes for birds within the Northern Region.

  The Antelope Transmission Project in combination with the proposed Project could potentially occur along a significant migratory route in the Antelope Valley for migratory bats, including western red bat and hoary bat. However, despite these cumulative effects, these migratory corridors would not be lost owing to the ability of these bat species to detect and avoid transmission lines during echolocation. Therefore, the cumulative impacts of transmission lines on bird and bat migratory corridors resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).

- **Corona noise could result in disturbance to wildlife (B-41).** As described in Section 6.1, as the effects of corona noise on wildlife are poorly understood, and it is difficult to predict the degree to which the increase in corona noise will impact local wildlife, including special-status species. Animals, especially breeding birds and other wildlife that use sound for communication, would be expected to move away from the line in order to minimize interference with communication. However, because of the availability of habitats in the project area, this would not be expected to constitute a substantial impact. Corona noise is already present along most of the proposed Project, and while the proposed Project will result in louder corona noise for most segments, wildlife can be expected to have already been exposed and likely habituated to this disturbance. As such, corona noise from the proposed Project is not expected to combine with noise from other projects in a cumulatively significant manner. Therefore, the cumulative impacts of corona noise to wildlife resulting from the Project and other past, present, and reasonably foreseeable projects will be less than significant (Class III).

- **The Project would result in effects to Management Indicator Species (B-42).** The Project would result in effects to Management Indicator Species. The ANF LRMP (USDA 2005) requires forest scale monitoring of habitat status and trend for select Management Indicator Species (MIS) on the ANF. MIS are likely to be subject to various levels of disturbance from implementation of the proposed Project on NFS lands. The total area impacted by the proposed Project is relatively small and includes approximately 272 acres of ground disturbance on the ANF. This represents less than one percent of the total Forest area. However, projects such as fuels treatments and special use permitted activities are proposed on the ANF. These cumulative projects would result in unknown acreages of habitat loss for MIS. To reduce effects of the proposed Project on MIS SCE would implement APM BIO-1, APM BIO-2, AMP BIO-3, APM BIO-4, APM BIO-5, APM BIO-6 and APM BIO-7. To further reduce effects of the proposed Project on MIS SCE shall implement Mitigation Measures B-1a (Provide restoration/compensation for impacts to native vegetation communities), B-1b (Implement a Worker Environmental Awareness Program), B-1c (Treat cut tree stumps with Sporax), B-2 (Implement RCA Treatment Plan), B-3a (Prepare and implement a Weed Control Plan), B-3b (Remove weed seed sources from construction routes), B-3c (Remove weed seed sources from assembly yards, staging areas, tower pads, pull sites, landing zones, and spur roads), B-5 (Conduct pre-construction surveys and monitoring for breeding birds), B-8b (Conduct biological monitoring), B-9 (Conduct protocol surveys for arroyo toads and implement avoidance measures in occupied areas), B-30 (Conduct pre- and during construction nest

surveys for spotted owl), AQ-1a (Implement Construction Fugitive Dust Control Plan), H-1a (Implement an Erosion Control Plan and demonstrate compliance with water quality permits), and H-1b (Dry weather construction). However, the impacts to MIS have the potential to combine with similar impacts of other projects and would be considered significant and unavoidable (Class I).

### 6.2.5 Mitigation to Reduce the Project's Contribution to Significant Cumulative Effects

Mitigation measures introduced for the proposed Project in Section 6.1 (Direct and Indirect Effects Analysis) would help to reduce the proposed Project's incremental contribution to cumulative impacts. However, no additional mitigation measures have been identified that would reduce cumulative impacts to a less-than-significant level for biological resources.