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D.2 Biological Resources

D.2.1 Regional Setting and Approach to Data Collection

D.2.1.1 Approach to Data Collection

The first steps in the approach to data collection for this analysis was the identification and characterization of biological resources, including vegetation community types, wetland habitats, and special status plant and animal species that are known to occur or have potential to occur in the Sunrise Powerlink (SRPL) Project Study Area (PSA). The PSA was defined as the area either directly or indirectly impacted by the SRPL and alternatives.

“Special status” as used in this section refers to species that are:

- Listed, proposed for listing, or candidates for listing as threatened or endangered under the Federal Endangered Species Act (FESA);
- Listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA);
- Identified by the California Department of Fish and Game (CDFG) as species of concern or fully protected species and includes fish and wildlife species that do not have State or federal threatened or endangered status but may still be threatened with extinction;
- Listed by the Bureau of Land Management (BLM) as sensitive;
- Included in the California Native Plant Society (CNPS) compilation (List 1 or 2); or
- Otherwise defined as rare, threatened, or endangered under the California Environmental Quality Act.
- Cleveland National Forest – threatened, endangered, proposed, candidate, and sensitive plant and wildlife species (for Cleveland National Forest lands only)
- Species that are San Diego County sensitive (i.e., Hermes copper butterfly [*Lycaena hermes*] for this project).

Only CNPS List 1 and 2 species are considered to be “special status” species because their higher sensitivity requires that impacts to them be mitigated. CNPS List 3 and List 4 species are of lower sensitivity; the mitigation for impacts to sensitive vegetation communities would provide compensation for impacts to these species, so no additional mitigation for impacts to them would be required.

The PSA width is generally 200 to 300 feet centered on the project corridor with narrower widths in areas of existing rights-of-way (ROW). Areas outside the PSA, such as substation sites, staging areas, and access roads were also mapped and surveyed. The PSA is wide enough to determine the direct and indirect impacts to vegetation communities and special status species within the corridor because construction monitoring ensures that disturbance outside of these identified areas will not occur. Mitigation measures required for this Project include pre-construction protocol surveys and avoidance/minimization measures for special status species within 500 feet of construction and maintenance activities.

Prior to conducting fieldwork, records of known occurrences were reviewed to identify special status species that may occur in the PSA. Those records were then compared with lists of federal or State listed

threatened, endangered, or other special status species. The National Wetland Inventory (NWI) and California Wildlife Habitat Relationship (CWHR) databases were queried to identify mapped wetlands in the PSA. Details of all survey work and approaches to collecting data are described below.

Literature Review

Preliminary investigations included review of information obtained from the U.S. Fish and Wildlife Service (USFWS) and CDFG (the “Wildlife Agencies”), California Department of Parks and Recreation, and BLM; literature searches; examination of aerial photographs; and database searches including CNPS, California Natural Diversity Data Base (CNDDB) records, and other sensitive species accounts for San Diego and Imperial Counties. Regional resource planning documents prepared by federal, State, and local agencies were also reviewed including the San Diego Multiple Species Conservation Plan (MSCP); City of San Diego MSCP Subarea Plan; County of San Diego MSCP Subarea Plan; City of Poway MSCP Subarea Plan; Integrated Natural Resources Management Plan for Marine Corps Air Station Miramar; San Dieguito River Park Concept Plan; Anza-Borrego Desert State Park (ABDSP) Final General Plan; Eastern San Diego County Planning Unit Management Framework Plan; The California Desert Conservation Area Plan; Flat-Tailed Horned Lizard (FTHL) Rangewide Management Strategy; USFWS Recovery Plans for bighorn sheep (*Ovis canadensis cremnobates*) in the Peninsular Ranges, arroyo [southwestern] toad (*Bufo californicus*), least Bell’s vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), desert pupfish (*Cyprinodon macularius*), quino checkerspot butterfly (*Euphydryas editha quino*), and Stephens’ kangaroo rat (*Dipodomys stephensi*); and the CDFG Staff Report on Burrowing Owl [*Athene cunicularia*] Mitigation.

The following SDG&E documents related to biological resources for the project area were also reviewed:

- 2007. SDG&E responses (August through November) to CPUC Energy Division Data Request No. 17, Vegetation Management
- SDG&E response (January 23, 2007) to CPUC Energy Division Data Request No. 5
- SDG&E response (December 2, 2006) to a request for information regarding burrowing owl (*Athene cunicularia*) surveys and alteration of Applicant Proposed Measures (APMs)
- 2006. SDG&E Supplement to the CPUC Energy Division Application; Sunrise Powerlink – Attachment B Details of Completeness Responses
- 2006. Response to Data Request No. 2 for the SDG&E Sunrise Powerlink Transmission Project, Application No. 06-08-010
- 2006. Sunrise Powerlink Project; Proponent’s Environmental Assessment (PEA) Biology. August 4.

SDG&E’s responses to data requests can be viewed at <http://www.sdge.com/sunrisepowerlink/discovery.shtml>.

Biological Surveys

An initial field reconnaissance for the Proposed Project route was conducted by Arcadis (biological consultant to SDG&E) in 2005 and 2006. Baseline biological studies (vegetation mapping, habitat assessments, and preliminary identification of potential jurisdictional areas) of the Proposed Project route and some SDG&E alternatives were conducted from April through July 2006. Arcadis conducted special status plant surveys and USFWS protocol surveys for all listed species, except San Diego and Riverside fairy shrimp for the Proposed Project in Spring/Summer 2007. Fairy shrimp surveys were not conducted because SDG&E intended to avoid all fairy shrimp habitat. However, subsequent engineering done for the Proposed Project would cause impacts to fairy shrimp habitat, and by the time the impacts were determined, it was too dry to conduct the surveys. Potential fairy shrimp habitat is, therefore, assumed occupied by fairy

shrimp in this analysis. Arcadis also conducted surveys for the burrowing owl and mountain plover (*Charadrius montanus*), for which there are no USFWS protocol. Helix Environmental Planning, Inc. (biological consultant to CPUC [California Public Utilities Commission]/BLM), conducted baseline biological studies, special status plant surveys, and USFWS protocol surveys (except a quino checkerspot butterfly survey) for the project alternatives from winter through summer 2007. Surveys for the quino checkerspot butterfly were not conducted for the alternatives because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive (as such, they are not conclusive for the Proposed Project, either). The USFWS quino checkerspot butterfly survey protocol (2002) states, "Butterfly surveys may not be considered credible if...unfavorable weather such as drought limits Quino checkerspot butterfly detectability." HELIX Environmental Planning, Inc. also conducted surveys for the burrowing owl, for which there is no USFWS protocol. The routes for the alternatives were not finalized in time to survey for the mountain plover during its peak migration period (October through February).

The Proposed Project and alternatives traverse both public and private lands. In some areas, the routes would follow existing SDG&E ROW easements, while in other areas, new ROW easements would be required. Landowner right-of-entry (ROE) permits are required for conducting biological field surveys on public and private lands. Some permission to enter was granted in time to complete surveys prior to release of the Draft EIR/EIS, but some permission was denied, and some was not granted in time to meet the timing requirements of the survey protocol (see Table D.2-1 for protocol requirements). In areas where landowners denied access or permission to access was not granted in time, data for those portions of the routes were collected remotely from public access points or interpreted from aerial photographs and were not ground-truthed. In many cases, the presence of a threatened or endangered species was assumed based on the presence of potential habitat and the lack of access permission to conduct surveys. A more detailed explanation of survey limitations is provided following Table D.2-1.

All data was classified using standard, locally accepted nomenclature such as Oberbauer's (1996) *Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions*, Rebman and Simpson's (2006) Checklist of the Vascular Plants of San Diego County, as well as the most recent checklists for the amphibians, reptiles, birds, and mammals of San Diego County obtained from the San Diego Natural History Museum.

Habitat Assessment. Habitats for special status species of plants and animals were classified as "not expected," "low," "moderate," "high," or "present." These classifications were based on field survey observations, the quality of the habitat for each species, and/or the proximity of the habitat to a known occurrence of a species. Information used to determine known occurrence locations included CNDDDB data, USDA Forest Service data (for Cleveland National Forest), CNPS records, MSCP information, consultation with the Wildlife Agencies, and reference to published species accounts (Beauchamp 1986, Reiser 2001, Unitt, 2004, and Simpson and Rebman, 2006).

- **Not Expected.** Species not previously reported within one mile of the PSA, and suitable habitat very marginal due to disturbances, fragmentation, and/or isolation.
- **Low.** Species previously reported within one mile of the PSA, but suitable habitat is marginal due to disturbances, fragmentation, and/or isolation.
- **Moderate.** Species previously reported within one mile of the PSA, but suitable habitat is of only moderate quality due to disturbances, fragmentation, and/or isolation.
- **High.** Species previously reported within one mile of the PSA, and large areas of contiguous, high-quality habitat are present.

- **Expected.** Species previously reported very close to the site, and large areas of contiguous, high-quality habitat are present.
- **Present.** Species was observed within the PSA at the time of survey.

Furthermore, for special status plant species, soils maps were studied to determine other areas with potential to support these species (e.g., some species require clay soils). The USFWS, USDA Forest Service, CNDDDB and CNPS databases were checked for special status species occurrences. The habitat assessments were also used to determine which areas require protocol surveys for special status species in accordance with Table D.2-1.

Vegetation Survey Methods. Aerial photography and digital vegetation maps were reviewed to determine potential vegetation community types within the PSA. Vegetation was mapped utilizing 1" = 200' aerial photos upon which the PSA was delineated. A minimum mapping unit (MMU) of 0.5 acres was used, so some communities may not be represented individually; they were included in the larger surrounding community. For mapping of the alternatives, field crews also mapped wetland/riparian vegetation communities using a 0.25-acre MMU. There is no industry standard for determining an MMU; in most instances it is an artifact of the base map (the smaller the scale, the less likely someone is able to identify small features) or the size of the project. An MMU of 0.5 acres is consistent with MMUs used on other similar large-scale projects. Detailed vegetation mapping was conducted using Oberbauer's (1996) *Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions*. Oberbauer's (1996) scheme is a modification of Holland (1986) descriptions based on the communities in San Diego County. A description of the dominant and associate species of each vegetation community encountered in the field was also documented. Nomenclature follows that of Rebman and Simpson (2006), Hickman (1993), and Beauchamp (1986).

The California Department of Forestry and Fire Protection, the Federal Energy Regulatory Commission, the North American Electric Reliability Council, and the CPUC regulate clearance requirements between transmission lines and vegetation. Trees either need to be trimmed or removed based on the transmission line height above the ground (some lines sag more than others). If more than 25 to 30 percent of a tree's crown must be trimmed, then the entire tree is removed. The number and species of trees and shrubs that need to be removed was determined by SDG&E following a sampling strategy intended to be robust enough to extrapolate numbers from other areas of similar vegetation. Areas chosen by SDG&E for sampling were within the proposed ROW and initially based on aerial photo imagery that indicated some variation in vegetation density. Sampled areas were also selected by SDG&E considering representative, tree-dominated vegetation communities (e.g., oak woodlands). Tree data collected by SDG&E in the field included tree species and trunk diameter at breast height. It is anticipated that many trees that occur in canyons would be spanned by the project and would not need trimming or removal. Since SDG&E did not determine which spans would avoid trees, all were considered to impact trees. This approach likely contributed to an overestimation of the impacts. The final design of the Proposed Project as well as the alternatives, specifically tower locations, would have a significant effect on the ultimate number of trees (and shrubs) that would require removal or trimming.

Wetlands and Aquatic Resources Methods. General wetland assessments of the project were done by noting those areas (i.e., watercourses [see Section D.12] and potential wetland vegetation [see Section D.2.6 below]) that may be subject to the jurisdiction of the U.S. Army Corps of Engineers (ACOE) pursuant to Section 404 of the Clean Water Act and the CDFG pursuant to Sections 1600-12 of the California Fish and Game Code. The purpose of a general wetland assessment is to identify potential areas under ACOE and CDFG jurisdiction that would require a formal delineation. For the Proposed Project and project alternatives, wetland vegetation was mapped (which is anticipated to be jurisdictional), and the

NWI and hydrologic study for the Proposed Project (Section D.12) and project alternatives was used to identify potential jurisdictional drainages.

Impacts to jurisdictional areas can not be clearly defined until a final route is selected that includes project-specific features and final engineering. At that time, a formal delineation would be conducted by an experienced delineator to determine those impacts so that SDG&E can apply for permits from the ACOE, Regional Water Quality Control Board (RWQCB), and CDFG. Areas with potential to be subject to ACOE jurisdiction would include those “non-isolated” areas dominated by hydrophytic vegetation¹ and exhibiting visible aboveground hydrology indicators. Wetland hydrology² would be determined based on the presence of visible aboveground indicators. Presence of hydric soils³ would be assumed for areas that support hydrophytic vegetation and wetland hydrology. ACOE unvegetated Waters of the U.S. would be assumed for all areas of a defined water feature that lack wetland indicators yet exhibit ordinary high water marks. Areas with potential to be subject to CDFG jurisdiction would include areas with wetland vegetation and/or evidence of stream flow.

Floristic Surveys

Floristic resources were noted during the vegetation mapping for the Proposed Project and alternatives. In the spring of 2007 (March through June), more detailed floristic surveys were conducted for all alignments in order to identify ephemeral spring annual and herbaceous perennial species. The surveys were conducted by walking meandering transects and making lists of plant species by vegetation community. Surveys were focused on areas identified during the habitat assessment phase as having potential to support special status plant species. Special status plant species locations, as well as CNPS List 3 and List 4 species locations when encountered, were recorded using global positioning system (GPS) technology; only CNPS List 1 and List 2 species and other special status species are considered further in this analysis. The number of individuals in each population was estimated. Poor rainfall conditions in 2007 limited the observations of many annual plant species. Germination of annual species was virtually absent in the desert, so Arcadis did not conduct surveys for special status plant species east of Milepost (MP) 71 for the Proposed Project, although Helix Environmental Planning, Inc. did conduct surveys for special status plant species in the desert for the project alternatives.

Focused Wildlife Surveys

Table D.2-1 identifies the species for which protocol-level surveys were conducted for the Proposed Project and alternatives. Table D.2-1 defines the protocol window within which each survey must be completed, and it also includes the location by link or alternative of the surveys. Appendix 8B includes a summary table with information for each of the focused surveys, and Appendix 8C includes maps that show the

¹ Hydrophytic vegetation is “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.” A macrophyte is “any plant species that can be readily observed without the aid of optical magnification.” This includes all vascular plant species and mosses (e.g., *Sphagnum* spp.), as well as large algae (e.g. *Chara* spp., kelp)” (Environmental Laboratory, 1987).

² Wetland hydrology is the “sum total of wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation” (Environmental Laboratory, 1987).

³ Hydric soil is “[a] soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (U.S. Department of Agriculture – Soil Conservation Service, 1985). Hydric soils that occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology are wetland soils” (Environmental Laboratory, 1987).

locations of focused surveys for each species. Areas requiring surveys for the Proposed Project and alternatives were verified by the BLM, Wildlife Agencies, and ABDSP. Reports documenting findings for protocol surveys will be provided to the Wildlife Agencies as required by the various survey protocols.

Table D.2-1. Protocol Wildlife Surveys

Species		Survey Protocol	Survey Locations ⁴
Scientific Name	Common Name		
<i>Athene cunicularia</i>	Burrowing owl	Survey includes one winter season survey (between December 1 and January 31) and one summer season survey (between April 15 and July 15). The second survey is not necessary if the burrowing owl is found during the first survey. Survey involves walking transects through suitable habitat, and where possible, within approximately 500 feet of the impact area to look for owls and owl burrows	<ul style="list-style-type: none"> • Proposed Project MPs 0–68 • FTHL⁵ Eastern Alternative • SDG&E West Main Canal–Huff Road Modification Alternative • SDG&E West of Dunaway Alternative • Interstate 8 Alternative (between I8-0.0 and I8-5.7)
<i>Branchinecta sandiegoensis</i> ¹ <i>Streptocephalus woottoni</i> ¹	San Diego fairy shrimp Riverside fairy shrimp	<p>Wet Season: Survey water-holding basins once every two weeks after inundation until the basin dries or has been inundated for 120 days. Discontinue surveys for any basin when listed fairy shrimp are positively identified.</p> <p>Dry Season: Ten soil samples need to be collected from each basin after the basin is completely dry. Dry season survey is not necessary for any basin that had listed fairy shrimp during the wet season survey.</p>	<ul style="list-style-type: none"> • Pomerado Road to Miramar Area North Alternative
<i>Bufo californicus</i>	Arroyo toad	Six site visits should be made between March 15 and July 1 with seven days between site visits. If toads are discovered, the survey should cease. One site visit should be made in April, May, and June; and night and daytime surveys should be conducted within the same 24-hour period.	<ul style="list-style-type: none"> • Proposed Project Central and Inland Valley Links • Partial Underground ABDSP SR78 to S2 Alternative • Santa Ysabel Existing ROW Alternative • Santa Ysabel Partial Underground Alternative • Santa Ysabel SR79 All Underground Alternative • Chuck Wagon Road Alternative³ • Interstate 8 Alternative • Route D Alternative • I-8 Alternative: West Buckman Springs Option • I-8 Alternative: Buckman Springs Underground Alternative • Modified Route D Alternative

Table D.2-1. Protocol Wildlife Surveys

Species		Survey Protocol	Survey Locations ⁴
Scientific Name	Common Name		
<i>Dipodomys stephensi</i> ¹	Stephens' kangaroo rat (SKR)	<p>An SKR survey can be conducted at any time of year because this animal does not enter into torpor or estivate. However, surveys are perhaps most effective when conducted during periods of low herbaceous ground cover (which equate with abundant areas of bare soil) which is usually later summer and very early spring, prior to the typical rain-induced growth of herb vegetation in spring.</p> <p>An SKR-permitted biologist should walk the project in search of burrows and/or sign (tracks, scat, etc.) of kangaroo rats. Areas exhibiting kangaroo rat sign should then be trapped to confirm the identity of the kangaroo rat producing the observed sign. The number of traps set per night per biologist should generally not exceed 200, and might be considerably lower if air temperatures, precipitation, or other factors could potentially result in the mortality of a captured animal. Traps are opened (set) during the late afternoon/early evening, baited with some type of bird seed or other grain, typically checked once during the night (at approximately midnight), and then checked again and closed the following morning. For presence/absence surveys, traps should in most cases be set near observed sign rather than in a formal grid. To confirm absence, trapping must continue for five nights, assuming that no SKR are captured prior to the fifth night.</p>	<ul style="list-style-type: none"> • Proposed Project Central Link • Partial Underground ABDSP SR78 to S2 Alternative • Santa Ysabel Existing ROW Alternative • Santa Ysabel Partial Underground Alternative • Mesa Grande Alternative • Top of the World Substation Alternative
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	<p>A minimum of five site visits are required at each site: one in Period 1 (May 15 to May 31), one in Period 2 (June 1 to June 21), and three in Period 3 (June 22 to July 17, each at least five days apart).</p>	<ul style="list-style-type: none"> • Proposed Project Central, Inland Valley, and Coastal Links • Partial Underground ABDSP SR78 to S2 Alternative • Santa Ysabel Existing ROW Alternative • Santa Ysabel Partial Underground Alternative • Santa Ysabel SR79 All Underground Alternative • Chuck Wagon Road Alternative • Los Peñasquitos Canyon Preserve–Mercy Road Alternative • Pomerado Road to Miramar Area North Alternative • Route D Alternative • Interstate 8 Alternative • I-8 Alternative: South Buckman Springs Option³, Buckman Springs Underground Option, and West Buckman Springs Option • Modified Route D Alternative
<i>Euphydryas editha quino</i> ²	Quino checkerspot butterfly	<p>Non-excluded areas should be visited once per week for five weeks during the flight season to survey for this species.</p>	<ul style="list-style-type: none"> • Proposed Project Anza-Borrego, Central, Inland Valley, and Coastal Links

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Table D.2-1. Protocol Wildlife Surveys

Species		Survey Protocol	Survey Locations ⁴
Scientific Name	Common Name		
<i>Gopherus agassizii</i>	Desert tortoise	Survey is conducted between March 25 and May 31. A zone of influence is surveyed that includes potential tortoise habitat within 2,400 feet beyond the construction zone. If the tortoise is present, then immediately prior to surface disturbance, a qualified biologist shall conduct a clearance survey of the construction zone and relocate any tortoises that occur in it.	<ul style="list-style-type: none"> • Proposed Project MP 40–75 in the Imperial Valley Link (overlaps with Overhead 500 kV ABDSP within Existing ROW Alternative). • Partial Underground ABDSP SR78 to S2 Alternative (MP SR78-0 through MP SR78-12)
<i>Poliophtila californica californica</i>	Coastal California gnatcatcher	From March 15 through June 30, a minimum of six site visits are to be made at least one week apart between 6:00 A.M. and 12:00 P.M. From July 1 through March 14, a minimum of nine site visits are to be made at least two weeks apart between 6:00 A.M. and 12:00 P.M. The survey involves walking transects and utilizing tape playback until gnatcatchers are detected.	<ul style="list-style-type: none"> • Proposed Project Inland Valley and Coastal Links • Pomerado Road to North Miramar Area North Alternative • Los Peñasquitos Canyon Preserve–Mercy Road Alternative • Black Mountain–Park Village Road Underground Alternative • Interstate 8 Alternative MPs I8-76 through I8-92.7 • Route D Alternative MPs D14-D17.3 • Modified Route D Alternative • Chuck Wagon Road Alternative
<i>Vireo bellii pusillus</i>	Least Bell's vireo	The survey includes eight site visits to suitable habitat, ten days apart, between dawn and 11:00 A.M. between the dates of April 10 and July 31.	<ul style="list-style-type: none"> • Proposed Project Central, Inland Valley, and Coastal Links • Partial Underground ABDSP SR78 to S2 Alternative, Overhead 500 kV ABDSP within Existing ROW Alternative³ • Santa Ysabel Existing ROW Alternative • Santa Ysabel Partial Underground Alternative • Santa Ysabel SR79 All Underground Alternative • Pomerado Road to North Miramar Area North Alternative • Los Peñasquitos Canyon Preserve–Mercy Road Alternative • Interstate 8 Alternative • Route D Alternative • BCD Alternative • I-8 Alternative: South Buckman Springs Option,³ West Buckman Springs Option, and Buckman Springs Underground Option • Modified Route D Alternative • Chuck Wagon Road Alternative³ • Oak Hollow Road Underground Alternative

1 Surveys for the fairy shrimp were not conducted for the Proposed Project.

2 Surveys for the quino checkerspot butterfly were not conducted for the alternatives because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive (as such, they are not conclusive for the Proposed Project either).

3 Non-protocol surveys were completed due to the time-intensive process of developing alternative routes or because access was not granted until too late in the season to begin surveys on time.

4 All locations with potential habitat were surveyed unless otherwise noted in Table D.2-1 or Appendix 8B.

5 FTHL = Flat-tailed horned lizard.

Verification/Quality Control

Only qualified biologists were selected to conduct surveys for the Proposed Project and alternatives that are fully analyzed in the EIR/EIS. The areas of fieldwork were matched with the qualifications of each biologist (e.g., desert fieldwork was completed by biologists knowledgeable in desert habitats). Biologists that conducted fieldwork were trained in the species and resources may occur within each area. High-quality aerial photographs were used as base maps to ensure the highest degree of mapping accuracy. Where necessary, GPS units were used to map special status species occurrences to ensure a high degree of accuracy. A senior botanist reviewed all vegetation mapping completed for the project. Mapping of vegetation types were compared with aerial photographs to ensure consistency. Also, existing biological databases were consulted as an additional way to review vegetation mapping. Spot fieldchecks were conducted by the senior botanist to confirm vegetation mapping. All field investigators were required to check in frequently, download their data, and report any significant or unusual findings.

Survey Limitations

The accuracy of the various surveys being conducted for this project is limited by the following factors:

- Both the CPUC/BLM and SDG&E had difficulty gaining permission to access private properties along the 300 miles of alternative routes and for approximately five miles of the Proposed Project route (in the Central Link).
- Exceptionally dry weather conditions in 2007 made the results of some surveys (i.e., quino checker-spot butterfly and special status plants) either inconclusive or questionable.
- Exceptionally dry weather conditions in 2007 prevented arroyo toad surveys from being conducted in several areas that contained suitable habitat; the species was assumed to be present in these cases.
- Survey areas did not always include all of the proposed impact areas (e.g., access roads and staging areas that occur outside of the 200-foot PSA) because, in most cases, these areas were not known at the time of the surveys.
- Some of the protocol surveys had to be started too late in the season to meet the full protocol, either because of the time-intensive process of developing alternative routes or because access was not granted until too late in the season to begin the surveys on time.

In recognition of these limitations, the CPUC, BLM, and the Wildlife Agencies decided on the following course of action: (1) surveys would be performed on public lands and private lands where permission to access was obtained (surveys were conducted for all properties for which ROE permission was granted up until publication of the Draft EIR/EIS); (2) the CPUC/BLM and SDG&E would continue to aggressively pursue rights to enter private properties (via letters and follow-up court action), and as many surveys as possible would be performed once access is obtained; (3) efforts concerning the pursuit of access would be documented; and (4) where access is not possible, other information such as regional habitat assessment models and air photos would be used to identify suitable habitat for each species, species would be assumed to be present (where appropriate), and mitigation would be developed based on that assumption.

Data Analysis and Use

The data collected for the Proposed Project and alternative routes was used: (1) to present biological resources data in text and graphic form; (2) to quantify impacts to vegetation communities and special status species; and (3) to determine where additional surveys may be required once project-specific features are sited and access is obtained.

For the Proposed Project and all alternatives, all structure pads, roads and other impact features were plotted on vegetation maps and maps of sensitive species in order to calculate anticipated impacts. Features such as towers and permanent access roads were considered permanent impacts. Features such as pulling sites and staging areas were considered temporary impacts. These maps are provided in Appendix 8. Tables with impact acreages for the Proposed Project and all alternatives are provided in the discussion of Impact B-1 in Sections D.2.5 and D.2.21 through D.2.26; Section E.1.2 (Interstate 8 Alternative); Section E.2.1 (BCD Alternative); Section E.3.1 (Route D Alternative); and Section E.4.1 (Modified Route D Alternative). The survey limitations noted above affected the impact analysis in the following ways.

1. For areas in which protocol surveys have been completed, this report specifically defines affected acreage and presents specific mitigation based on anticipated project effects.
2. For areas in which protocol surveys could not be done — either because access was not granted, or because 2007 was not an acceptable survey season, the analysis of biological impacts identifies suitable habitat areas in which the special status species are likely to be present. Because the special status species are likely to be present in the identified habitat, the impact assessment assumes species presence in all potential habitats, and mitigation is required.
3. For surveys that did not meet the full protocol due to a late start, the impact assessment states whether or not this has an affect on the validity of the surveys for determining presence or absence.
4. Where habitat has been identified in which special status species are likely to be present, mitigation measures have been set forth to minimize this potential impact to species assumed to be present. The mitigation measures allow for protocol surveys to be done by SDG&E in spring 2008 or prior to construction. These surveys, assuming acceptance by the Wildlife Agencies, would reduce impact acreage (and resulting mitigation requirements) to areas where the absence of special status species has been determined.

Protocol survey reports will be prepared in accordance with USFWS protocol for use by the BLM and USFWS as part of the Section 7 consultation. A Section 7 consultation is a process during which the lead federal agency, in consultation with the Secretary of the Interior/Secretary of Commerce, ensures that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of a listed species or result in the destruction of, or adverse modification of, designated critical habitat. The lead federal agency for the SRPL Project is the BLM. The BLM will likely initiate the Section 7 consultation after selection of the preferred project route. Appendix 8B provides a table with a summary of all the protocol surveys conducted. Maps showing critical habitat, historical occurrences, observations during surveys conducted for this project, survey locations, and the location of the Proposed Project and each alternative are provided as Appendix 8C.

D.2.1.2 Regional Setting

Section D.2.1.2 discusses biological resources in a regional context for the Proposed Project. Section D.2.1.2.1 presents an overview of special habitat management areas located within the Proposed Project PSA. Section D.2.1.2.2 provides an overview of vegetation communities found with the Proposed Project PSA. Section D.2.1.2.3 provides an overview of wetland and aquatic resources, while Section D.2.1.2.4 provides an overview of wildlife habitat. Sections D.2.1.2.5 and D.2.1.2.6 provide overviews of special status plant and wildlife species, respectively. The PSA begins at the Imperial Valley Substation near El Centro and extends north and west across the deserts of Imperial and San Diego Counties to the intersec-

tion of Highways S2 and SR78. From this intersection, the PSA extends west across San Diego County, ending at the Peñasquitos Substation in the northern coastal area of the City of San Diego.

The climate in the PSA is extremely variable because it crosses deserts, mountains, and coastal regions. The climate of the coastal and inland areas is strongly influenced by their proximity to the coast, particularly with ocean winds and fog along the exposed ridgelines. The desert regions are defined by subtropical high-pressure belts, the “rain shadow” effect of the coastal mountain ranges, and other topographical features that create the conditions in which evaporation and transpiration exceed the mean annual precipitation. Temperatures in the desert vary greatly from below freezing to more than 100° Fahrenheit (F). The diverse climate, topography, geology, and soils are reflected in the diverse vegetation communities present.

D.2.1.2.1 Overview of Special Habitat Management Areas

The Proposed Project is located near, adjacent to, or crosses through a variety of federal, State, county, and other agency parks and preserves. Section D.2.3 (Applicable Regulations, Plans, and Standards) identifies regional and local plans, policies, and regulations applicable to the project. The following are brief discussions of the special habitat management areas with the potential to be affected by the project.

- California Desert Conservation Area
- Areas of Critical Environmental Concern
- FTHL Management Areas
- Anza-Borrego Desert State Park
- State and Federal Wilderness Areas
- Multiple Species Habitat Conservation Plan Areas
- County and City of San Diego Open Space Preserves
- MCAS Miramar Integrated Natural Resources Management Plan
- San Dieguito River Park
- Designated Critical Habitat

California Desert Conservation Area

The California Desert Conservation Area (CDCA) covers approximately 25 million acres of land in southern and southeastern California, with approximately 10 million acres being administered by the BLM. The 1980 BLM CDCA Plan (Plan) is a comprehensive, long-range plan with goals and specific actions for the management, use, development and protection of the resources and public lands within the CDCA and is based on the concepts of multiple use, sustained yield and maintenance of environmental quality.

The multiple use classes comprise the backbone of the Plan, essentially zoning the CDCA into four major use categories, as a city or county is zoned for land use classes. The Plan categories include approximately 4 million acres of Class C (controlled) lands (including roughly 3,600,000 acres of wilderness areas created under the 1994 California Desert Protection Act; see below) to be preserved in a natural state with access generally limited to non-motorized, non-mechanized means; approximately 4 million acres of Class L (limited use) lands, providing for generally lower intensity, carefully controlled uses that do not significantly diminish resource values; approximately 1.5 million acres of Class M (moderate use) lands designated for mining, livestock grazing, recreation, energy, and utility development with mitigation required for any damage caused by permitted uses; and approximately 500,000 acres of Class I (intensive use) lands managed for concentrated uses with reasonable protection provided for sensitive natural values and mitigation of impacts and rehabilitation of impacted areas occurring when possible (BLM, 2007).

The Plan's goals and actions for each resource are established in its 12 elements, including the Wildlife Element, the Vegetation Element, and the Energy Production and Utility Corridors Element, among several others. Several management tools are available for use in meeting the objectives of the Wildlife Element of the Plan. The primary active wildlife management tools used in the element are Areas of Critical Environmental Concern (ACEC) and Habitat Management Plans (HMP). Management prescriptions for ACECs identified for wildlife resources include aggressive management actions to halt and reverse declining trends and to ensure the long-term maintenance of these critical fish and wildlife resources. While some fish and wildlife resources requiring special management attention can be protected in Multiple-Use Class L through the number and location of routes approved, HMPs are detailed plans developed specifically for wildlife habitats or species which require intensive, active management programs and which can be placed in any multiple-use class (BLM, 1980). Other tools used in the Plan include the designations of Special Areas (SA), which highlight habitats and species that should receive special consideration in the environmental assessment process for all project types and Research Natural Areas (RNA), for areas where research and education would be the primary uses; and Sikes Act Agreements, which are cooperative agreements between the BLM and CDFG for joint development and implementation of an HMP. Of the 89 special fish and wildlife areas designated to receive active habitat management and/or special attention in the environmental assessment process, 28 were identified as ACECs solely or partially to protect fish and wildlife resources.

Unlike the Wildlife Element, the Vegetation Element does not contain specific management tools. Rare, threatened, and endangered species of the CDCA are, however, managed in accordance with applicable laws and regulations and are protected through wilderness and ACEC designation, and through consideration in all BLM site-specific environmental impact analyses. Representative unique, unusual, or otherwise significant ecosystems, including wetland and riparian areas, are identified and included in the Special Area management program (BLM, 1980). This program includes, but is not limited to, the BLM Natural Area Program, ACECs, and the National Landmarks Program.

The applicable goals and objectives of these and other Plan elements are further discussed in Section D.2.5.

Areas of Critical Environmental Concern (ACEC)

Many areas of the California Desert contain unusual diversity of plant or animal life, unique geologic features or fossil deposits, rare concentrations of the remains of historic or prehistoric use and occupation, or other significant values. ACECs address such unusual, unique and rare resources and are defined as areas "...within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards" (BLM, 1980). The ACEC designation is more than a recognition program; it is a process for determining what special management certain important environmental resources or hazards require, and making a commitment to provide this management. Management prescriptions are developed for each area proposed for ACEC designation prior to designation, which identify the kinds of actions likely needed to manage each ACEC. The goals of the ACEC program are to: (1) identify and protect the significant natural and cultural resources requiring special management attention found on the BLM-administered lands in the CDCA; (2) provide for other uses in the designated areas, compatible with the protection and enhancement of the significant natural and cultural resources; and (3) systematically monitor the preservation of the significant natural and cultural resources on BLM-administered lands, and the compatibility of other allowed uses within these resources.

Specific management prescriptions are developed during preparation of the ACEC activity plans, which include descriptions of the types of future uses, activities, or management practices considered compatible with the purposes of the ACEC, as well as descriptions of any existing incompatible uses, activities or practices within the area and a schedule for implementation. The activity plans are prepared by, and in combination with, all relevant resource disciplines to properly consider all resources and uses present, and involve both public review and environmental analysis.

- **San Sebastian Marsh/San Felipe Creek ACEC.** The San Sebastian Marsh/San Felipe Creek ACEC covers approximately 6,320 acres along SR78 in Imperial County, westerly of SR86 and approximately five miles southwest of the Salton Sea. San Felipe Creek spans over 50 miles and is fed by at least 35 side-canyons on its route from Teofulio Summit to San Sebastian Marsh, where it flows together with Fish and Carrizo creeks. From the marsh, one of three critically important freshwater marshes in the western Colorado Desert of southern California, the watershed flows into the Salton Sea. According to the 2005 ABDSP Final General Plan and EIR, the unique, sensitive, habitat along San Felipe Creek supports rare and sensitive desert aquatic and riparian ecosystems and has supplied a permanent, dependable source of water to the area since ancient times (California State Parks, 2005). Much of the overall area, including the San Felipe Creek drainage, falls within the Essential Habitat Recovery Regions 7 and 8 for the federal and State listed endangered population of Peninsular bighorn sheep (Desert Managers Group, 2002). Additionally, the marsh is the only designated critical habitat in California for the introduced desert pupfish, a federal and State listed endangered species. The overall watershed (i.e., San Felipe, Fish, and Carrizo creeks) and associated marshes also serve as a primary Colorado Desert stopover for migrating birds (Memorandum of Understanding Regarding the Conservation and Management of the San Felipe, Fish, Vallecito, and Carrizo Creek Watersheds, San Diego and Imperial Counties [MOU 2004]).

The CDFG owns and manages approximately 1,240 acres of San Sebastian Marsh as the San Felipe Creek Ecological Reserve Area (Desert Managers Group, 2002). Because of its importance in sustaining this unique marshland environment, San Felipe Creek is a registered National Natural Landmark in addition to being part of an ACEC. Accordingly, the marsh is a BLM limited use area, closed to vehicle use but open to hiking and nature study.

- **Yuha Desert ACEC.** Steeped in both human and natural history, the approximately 40,600-acre Yuha Desert ACEC lies west of the agricultural center of Imperial County, off of SR98 and south of I-8. It ranges from the Jacumba Wilderness Area to the West Side Main Canal near El Centro, and from Plaster City to south of Mexico's Mount Signal. Averaging just under three inches of rain per year and being one of the hottest of the North American deserts, this section of the larger Sonoran Desert contains several large, sandy desert washes, expanses of desert pavement and gravel, and dry mud flats and hills (BLM, 2004). The Yuha ACEC is one of four FTHL (*Phrynosoma mcallii*) management areas (MA) in California; three are located in southern Imperial County, and one is located in the Borrego Badlands of ABDSP. One of the most extensive and least disturbed stands of the rare crucifixion thorn (*Castela emoryi*) in the State of California is located in the Yuha Desert. Several other unique attractions contribute to the ACEC, including the Juan Bautista de Anza National Historic Trail, geoglyphs created by Native Americans, oyster shell beds, and the Yuha Well. This ACEC is a BLM limited use area and, although long renowned as an off-highway vehicle (OHV) area, it has also recently begun experiencing increased numbers of campers, equestrians, and other non-OHV visitors. Special policies and regulations were established by the BLM in 2003 to help protect the Yuha Desert ACEC from impacts related to such previously unrestricted activities. Policies and regulations include newly marked BLM designated vehicle routes and designated camping and hiking areas.

- **West Mesa ACEC.** Covering over 136,100 acres of BLM land north of I-8 in the western portion of Imperial County, the West Mesa ACEC reaches from easterly of the Superstition Mountain Open Area to the edge of private lands, then north to the San Sebastian Marsh/San Felipe Creek ACEC. Unlike the San Sebastian Marsh/San Felipe Creek and Yuha Basin ACECs, which were designated in 1980 with the CDCA Plan, the West Mesa ACEC was designated by the 1987 CDCA Plan Amendment. Subsequently, the West Mesa MA was established in 1997 to protect the FTHL and was built on existing protections for the area established through the identically sized ACEC. It has areas of dry mud flats and hills, areas of sandy or gravelly substrate, and deeply cut washes. Like the San Sebastian Marsh/San Felipe Creek ACEC, much of overall area that encompasses the West Mesa comprises the Essential Habitat Recovery Region for the Peninsular population of desert bighorn sheep.

Flat-Tailed Horned Lizard Management Areas

FTHL MAs are controlled by multiple agencies and were designed to include most FTHL habitat identified as key areas through research studies. In California, the FTHL has been recorded in sandy flats and hills, badlands, salt flats and gravelly soils characterized by the Lower Colorado River Valley Subdivision of Sonoran Desert Scrub (Turner and Brown, 1982; Rorabaugh, et al., 1987). Areas identified as especially important to the species in California encompass approximately 210,000 acres found in four regions with MAs established as the core areas for maintaining self-sustaining populations of the FTHL in perpetuity. Prescriptions that guide management within MAs are designed to reduce surface disturbance and to promote habitat reclamation. The West Mesa MA is administered jointly by the U.S. Navy and the BLM and is located south of SR78 near the junction of SR86 in Imperial County. The Yuha Basin MA is administered by the BLM and is located south of I-8, west of Calexico and El Centro, in Imperial County. The Proposed Project route travels through both the West Mesa and Yuha Desert MAs.

Anza-Borrego Desert State Park (ABDSP)

ABDSP was designated in 1974 as a National Natural Landmark and, in recognition of its stature as an internationally significant conservation area, it was named a member of the International Biosphere Reserve Program by the United Nations in 1985 (California State Parks, 2005). It is the largest desert state park in the contiguous U.S. at over 600,000 acres, and one of the largest of any type of state park. Located in the western Colorado Desert, ABDSP stretches from the mountain terrain of the Peninsular Ranges of eastern San Diego and Riverside Counties to the deserts of Imperial County. ABDSP is composed of washes, alluvial fans, badlands, wildflowers, palm groves, numerous other types of trees and cacti, and vast open areas. In addition to two large State wilderness areas and numerous dirt roads and riding and hiking trails, portions of two national trails, the Pacific Crest National Scenic Trail and the Juan Bautista de Anza National Historic Trail, traverse ABDSP. County Routes S2 and S22 and SR78 grant access to and across ABDSP. The unincorporated communities of Borrego Springs and Shelter Valley are surrounded by ABDSP, and it shares common boundaries with Ocotillo Wells State Vehicular Recreation Area on the east and numerous other adjacent public and private lands.

Named and classified in 1957, ABDSP is a combination of the 1933-acquired former Anza Desert State Park and Borrego State Park. Although classified in its entirety as a state park, approximately two-thirds of ABDSP is designated by the subunit classification of State wilderness, including Santa Rosa Mountains State Wilderness and Anza-Borrego Desert State Wilderness, comprising the largest area of State wilderness in California. The Anza-Borrego Desert State Wilderness was classified in 1981 and expanded in 1982. The larger of the two State wilderness areas in ABDSP, it currently consists of 12 individual Wilderness Management Areas (WMA), some of which are separated from each other only by roadways, including Grapevine Mountain WMA and Vallecito Mountains WMA, and the adjacent (to the north) Pinyon Ridge WMA. Typically contained within the ABDSP WMAs, some of the highest quality riparian

areas in the Colorado Desert are found in ABDSP (California State Parks, 2005) Desert riparian areas are of the highest significance because they support a range of habitat types ranked in the CNDDDB as rare or sensitive. Overall, ABDSP's wide-ranging habitats support a notably wide array of species.

Broad habitat types found within ABDSP include washes, arroyos and adjacent terraces, wetland and riparian areas, open desert scrub, montane, and transition zone habitats. Sensitive and rare habitats found within ABDSP include desert riparian, mesquite bosque, ciénegas (alkali marshes), montane vernal pool and meadow, desert ephemeral playas, small springs and seeps, sand dunes, and significant wildflower areas. Plant communities and vegetation types within these broad categories range from low desert wash to pinon-juniper woodland to oak woodland, and include creosote bush (*Larrea tridentata*), Mojave yucca (*Yucca schidigera*), desert microphyll woodlands, and large woody perennials. Several palm oases occur in ABDSP. Forty-two of the 61 sensitive plant species with the potential to occur in ABDSP have been documented (California State Parks, 2005). Two of these documented species are State listed endangered (i.e., Parish's meadowfoam [*Limnanthes gracilis* ssp. *parishii*] and Cuyamaca Lake downingia [*Downingia concolor* var. *brevior*]); eight more species currently meet the criteria to be listed but have yet to receive the designation.

Animal species within ABDSP include roadrunner (*Geococcyx californianus*), golden eagle (*Aquila chrysaetos canadensis*), kit fox (*Vulpes velox*), mule deer (*Odocoileus hemionus fuliginata*) and Peninsular bighorn sheep, as well as desert iguana (*Dipsosaurus dorsalis*), common chuckwalla (*Sauromalus ater*), and four species of rattlesnake (*Crotalus* spp.). New species of insects and other invertebrates have been discovered in ABDSP, and one newly described lizard species is only known to occur in ABDSP. Of the 86 sensitive animals with the potential to occur in the Park, 50 have been officially documented and are known to use the Park for all or a significant portion of their lives. Nine of those documented are listed as threatened or endangered, including the quino checkerspot butterfly, barefoot banded gecko (*Coleonyx switaki*), least Bell's vireo, southwestern willow flycatcher, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and Peninsular bighorn sheep, and the introduced unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*), desert pupfish, and desert tortoise (*Gopherus agassizii*). Over half of the endangered Peninsular bighorn sheep critical habitat is preserved within the Park, and over 300 species of birds have been documented migrating through or residing within the habitats of ABDSP (California State Parks, 2005). Although they are not officially listed under the California Endangered Species Act, the sandstone night lizard and FTHL are both California Species of Special Concern that are known to occur in the Park. The only known sandstone night lizard habitat is within ABDSP, and the Borrego Badlands Flat-Tailed Horned Lizard MA comprises over 40,000 acres of conservation habitat within ABDSP. Many of the above reptile and bird species, as well as others that occur in the Park, are considered desert endemic reptiles, meaning that they are primarily confined to the larger Sonoran or Mojave deserts, or sensitive breeding birds. Therefore, their use of the Park for breeding is highly significant for the conservation of their species. The Park also supports 14 sensitive bat species, over half of the species known to occur within California, and is thus critical to bat conservation in the State (California State Parks, 2005).

Management of the Park is defined by the 2005 ABDSP Final General Plan. Conceptual parameters for future management actions are contained within the General Plan, the goal of which is to guide Park development and future land use management, including acquisitions for expanding WMAs and/or the overall Park lands (some of which were finalized with the approval of the General Plan). The purpose of ABDSP is to preserve the unique and diverse natural, cultural, and scenic resources of this Western Colorado Desert Region and to provide opportunities for quality recreation that supports a healthy natural environment. Implementation of the General Plan is approached through establishment of management zoning on all lands throughout the Park, with each zone providing direction for the general level and type of development and use within the Park (California State Parks, 2005). Six management zones are used in

the ABDSP General Plan and are governed by direction provided through the “State Park” classification of the Public Resources Code (PRC 5019). Four of these zones were created specifically for the General Plan: Information/Entrance Zone (highest-intensity use), Focused Use Zone I, Focused Use Zone II, and Backcountry Zone. The remaining two management zones are also sub-classifications used throughout the State Park System: State Wilderness and Cultural Preserve (lowest-intensity use).

State and BLM Wilderness Areas

The California Desert Protection Act (CDPA) was enacted by Congress on October 31, 1994, with the intention of designating certain California desert lands as wilderness in furtherance of the 1964 Wilderness Act and the 1976 Federal Land Policy and Management Act (FLPMA). California State Wilderness Areas are managed under both the 1964 Wilderness Act and the California Desert Protection Act of 1994, with specific ABDSP WMAs being managed under the Wilderness Zone of the General Plan. BLM Wilderness Study Areas (WSAs) are evaluated by the BLM in its Wilderness Review Program as to their suitability for inclusion in the National Wilderness Preservation System (BLM, 1980). See also Section D.5, Wilderness and Recreation, for additional discussion of wilderness.

- **Vallecito Mountains WMA.** The Vallecito Mountains WMA, over 85,000 acres in size due to the recent addition of four new parcels of wilderness land, is located in central ABDSP. Including the newly acquired Sentenac Ciénega, the Vallecito Mountains WMA contains a rare desert wetland in its westernmost extent, which represents the highest values of State Wilderness (California State Parks, 2005). Occurring in a portion of the Vallecito Mountains WMA is the Transition Zone habitat, which is generally composed of chaparral, pinon-juniper woodland, and semi-desert succulent scrub. The diversity of species and physical structure within the Transition Zone is owed to the large changes in habitats within short distances.
- **Pinyon Ridge WMA.** Located north of Grapevine Mountain WMA and southwest of the community of Borrego Springs, Pinyon Ridge WMA covers approximately 22,790 acres of the western side of ABDSP. The State listed rare Borrego bedstraw (*Galium angustifolium* ssp. *borregoense*) occurs in Pinyon Ridge WMA.
- **Grapevine Mountain WMA.** Located near the intersection of County Road S2 and SR78, Grapevine Mountain WMA is over 9,000 acres in size following the recent addition of three new land parcels to the southwestern and southeastern edges of the WMA.
- **San Felipe Hills WSA.** Located just west of ABDSP and between County roads S2 and S22, San Felipe Hills WSA is one of the 69 BLM WSAs within the CDPA. Although the southeast corner of San Felipe Hills WSA borders ABDSP for one and three-quarter miles, and all other sides of the WSA border privately held lands, the approximately 5,300-acre WSA is entirely on public lands administered by the BLM. The WSA is a northwest- to southeast-trending ridge consisting of rolling hills covered with chaparral and small oak clusters. The chaparral ecosystem found in San Felipe Hills WSA is well represented in surrounding State and federal wilderness areas both within and adjacent to ABDSP (BLM, 1988). A portion of the Pacific Crest National Scenic Trail runs through the length of the WSA. BLM recommended this WSA as non-suitable for wilderness designation, but it has not been released by Congress, so it must still be managed under the Interim Management Policy for Lands Under Wilderness Review. In general, BLM is required to maintain the wilderness characteristics of the WSA until Congress decides whether it should either be designated as wilderness or should be released for other purposes.

Multiple Species Habitat Conservation Plan Areas

- **San Diego Multiple Species Conservation Program (MSCP).** In December 1996, the Wildlife Agencies approved a subregional habitat plan that encompasses 582,000 acres and establishes a 172,000-acre coordinated preserve system in southwestern San Diego County. The MSCP Plan is a comprehensive, long-term habitat conservation plan that addresses the needs of multiple species by identifying key areas for preservation as open space in order to link core biological areas into a regional wildlife preserve. The Plan provides a framework for protection of vegetation types and species in San Diego County through conservation, monitoring and management measures. This subregional plan covers 85 species of plants and animals and 23 vegetation types, and the Plan area encompasses several planning subareas in various stages of subarea plan development. Several of the subareas have approved subarea plans, including the City of San Diego, the City of Poway, and portions of the County of San Diego.

The MSCP designates regional preserves intended to be mostly void of development activities, while allowing development of other areas subject to the requirements of the program. The MHPA (Multi-Habitat Planning Area [or Pre-Approved Mitigation Areas; PAMA in County subarea plans]) was designated as the area within which the permanent regional preserve will be assembled and managed for its biological resources through conservation of lands already in public ownership, purchase of private lands from willing sellers, and additional contributions through mitigation for development-related impacts (SANDAG, 2007). The MHPA (or PAMA) was cooperatively designed by the participating jurisdictions and special districts in the planning area in partnership with the Wildlife Agencies, property owners, and representatives of the development industry and environmental groups (CDFG, 2007a). Vegetation community conservation targets for the MSCP and individual subareas are for areas within the preserve areas. The PSA for the Proposed Project is located within and adjacent to preserve areas.

- **City of San Diego MSCP Subarea Plan.** Adopted in 1997, this approved subarea plan encompasses 206,124 acres within the MSCP Subregion. The San Diego Subarea Plan allows the City of San Diego to issue take permits at the local level. The City's portion of the MHPA encompasses approximately 56,831 acres. Approximately 90 percent (52,012 acres) of the MHPA lands will be preserved for biological purposes; development will be permitted on the remaining 10 percent (CDFG, 2007a).
- **City of Poway MSCP Subarea Plan.** In July 1996, the City of Poway finalized its multi-species Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP) subarea plan, which provides protection and incidental take coverage for 43 species of plants and animals. The Subarea Plan establishes a 13,300-acre Poway Mitigation Area where habitat conservation is emphasized. Approximately 10,800 acres of natural habitat within this Mitigation Area will be conserved (CDFG, 2007a).
- **County of San Diego MSCP Subarea Plan.** Approved by the Wildlife Agencies in 1998, the County Subarea Plan encompasses the eastern part of the MSCP Subregion. The subarea comprises 252,132 acres (184,248 acres is habitat), of which 101,268 acres ultimately will be conserved. A portion of the Proposed Project falls within the Subarea Plan's Metro-Lakeside-Jamul Segment, the largest of the three plan segments. The PAMA within this Subarea is a combination of lands purchased from willing sellers as well as mitigation lands acquired through the County's Biological Mitigation Ordinance.
- **East San Diego County MSCP Subarea Plan (ECMSCP) (Draft).** The County of San Diego is embarking on a program to prepare the third of three County HCP/NCCPs for the unincorporated eastern area. The ECMSCP Plan study area covers 1,551,600 acres and is bounded on the west by Ramona and the state park areas of Descanso and Palomar Mountain, on the north by Riverside County, on the east predominantly by Imperial County, and on the south by Mexico. Indian Reserva-

tions are excluded from the study area. The ECMSCP Plan will cover the backcountry communities of Central Mountain, Cuyamaca, Descanso, Pine Valley, Desert/Borrego Springs, Julian, Mountain Empire, Boulevard, Jacumba, Lake Morena/Campo, Potrero, Tecate, portions of Dulzura, and Palomar/North Mountain. The purpose is to protect key sensitive plant and animal populations and habitats within the County. The overall effect of the MSCP plans is the creation of a large connected preserve that would address the regional habitat needs for a number of species. The ECMSCP Plan currently proposes to cover up to 254 species (CDFG, 2007a).

- **North San Diego County MSCP Subarea Plan (Draft).** The County produced a preliminary administrative draft of the plan for agency and stakeholder review in November 2006. The North County MSCP subarea plan study area encompasses about 313,777 acres roughly encompassing the areas north of the San Dieguito River, Elfin Forest and Harmony Grove, north of Camp Pendleton, DeLuz, Fallbrook, Rainbow, Pauma Valley, Lilac, Valley Center, Rancho Guejito, and the majority of Ramona. The subarea plan intends to cover 58 species, many of which were covered in the existing MSCP Plan, but also some additional species, the most notable being the Stephens' kangaroo rat which lives primarily in grasslands and the San Diego fairy shrimp which inhabits vernal pools (CDFG, 2007a).

County and City of San Diego Open Space Preserves

- **Santa Ysabel Open Space Preserve.** Santa Ysabel Open Space Preserve is located near the town of Santa Ysabel in San Diego County. The preserve is divided into two areas: Santa Ysabel Open Space Preserve East and West. The eastern portion of the preserve is located east of SR79 and north of SR78 and covers approximately 3,800 acres; the western area is located north of SR78 and west of SR79 and covers approximately 1,512 acres. Coast live oak woodland, Engelmann oak woodland, montane riparian forest, non-native grassland, and chaparral are the dominant community types in the eastern area of the preserve. The most common vegetation communities in the western portion of the preserve are coast live oak woodland, Engelmann oak woodland/savanna, chaparral, coastal sage scrub, and non-native grassland. Wildlife and plant species that commonly occur within these vegetation communities are expected to occur within the preserve along with a number of special status wildlife species including the American badger (*Taxidea taxus*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), Bell's sage sparrow (*Amphispiza belli belli*), white-tailed kite (*Elanus leucurus*), coast (San Diego) horned lizard, and Belding's orange-throated whiptail.
- **Mount Gower County Open Space Preserve.** Mount Gower Open Space Preserve is located southeast of the community of Ramona near Gunn Stage Road. This 1,574-acre open space preserve is composed of chaparral and oak woodlands that host a variety of wildlife species. Common wildlife species that may occur within this preserve are consistent with those that would occur within chaparral and oak woodlands including raccoon (*Procyon lotor*), coyote (*Canis latrans*), mule deer, and western scrub jay (*Aphelocoma californica*). Special status wildlife species that may occur within the Mount Gower Open Space Preserve include the southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), two-striped garter snake (*Thamnophis hammondi*), coast (San Diego) horned lizard (*Phrynosoma coronatum blainvillii*), and southern grasshopper mouse (*Onychomys torridus ramona*).
- **Barnett Ranch Open Space Preserve.** The 728-acre Barnett Ranch property is located in central San Diego County east of SR67 and south of SR78 in the community of Ramona. Sixteen sensitive vegetation communities/habitats plus developed areas occurred on the property prior to the 2003 Cedar Fire including, but not limited to southern coast live oak riparian forest, southern willow scrub, freshwater seep, riparian scrub, open water, open Engelmann oak woodland, coast live oak woodland, wildflower field, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, southern

mixed chaparral, and non-native grassland. No federal or State listed endangered or threatened plant or animal species has been observed on site, but three special status plant species have been observed including felt-leaved monardella (*Monardella hypoleuca* ssp. *lanata*), delicate clarkia (*Clarkia delicata*), and Engelmann oak (*Quercus engelmannii*). Twenty-eight special status wildlife species have been observed/detected on site and include such species as Belding's orange-throated whiptail, southern California rufous-crowned sparrow, loggerhead shrike (*Lanius ludovicianus*), white-tailed kite, and golden eagle.

- **Boulder Oaks Open Space Preserve.** The Boulder Oaks Open Space Preserve covers approximately 1,215 acres six miles south of the Community of Ramona, San Diego County, off of Mussey Grade Road. This preserve is comprised of coastal sage scrub, chaparral, grasslands, and oak woodlands. Special status wildlife and plant species that are known to occur within this area include golden eagle, coastal California gnatcatcher, and ringtail (*Bassariscus astutus octavus*).
- **San Vicente Highlands Open Space Preserve.** The San Vicente Highlands Open Space Preserve covers approximately 1,375 acres in unincorporated County of San Diego two miles northwest of San Vicente Reservoir. Nine vegetation types occurred on site prior to the Cedar Fire in 2003: non-native vegetation, eucalyptus woodland, disturbed habitat, Diegan coastal sage scrub, southern mixed chaparral, native grassland, non-native grassland, southern coast live oak riparian forest, and coast live oak woodland. Some of the special status plant and wildlife species known to occur in the preserve include Lakeside ceanothus, San Diego goldenstar, Coronado skink, Belding's orange-throated whiptail, coast (San Diego) horned lizard, southern California rufous-crowned sparrow, and northern harrier. Special status mammal species are expected in the preserve as well.
- **Sycamore Canyon/Goodan Ranch Open Space Preserve.** The Sycamore Canyon/Goodan Ranch Open Space Preserve covers approximately 1,820 acres in southeast Poway. The preserve is located south of Scripps Poway Parkway and west of SR67. Special status wildlife and plant species that are known to occur within this area include the coastal California gnatcatcher, Dulzura pocket mouse, northern red-diamond rattlesnake (*Crotalus ruber ruber*), San Diego thorn-mint (*Acanthomintha ilicifolia*), and Nuttall's scrub oak (*Quercus dumosa*).
- **Los Peñasquitos Canyon Preserve.** Los Peñasquitos Canyon Preserve (a joint City/County of San Diego preserve) covers approximately 4,000 acres within the City of San Diego. This joint City/County preserve is located between the I-5 and I-15 corridors, approximately 12 miles north of downtown San Diego. Wildlife habitat within the preserve ranges from dense riparian at the bottom of the canyon to open grassland and brushland along the canyon walls. Many common species of wildlife and plants occur within the preserve including a number of special status species. The least Bell's vireo, coastal California gnatcatcher, Coronado skink (*Eumeces skiltonianus interparietalis*), San Diego thorn-mint, and Del Mar Mesa sand aster (*Corethrogyne filaginifolia* var. *linifolia*) are only a few of the special status species that are known to occur within the preserve.
- **Mission Trails Regional Park.** The Sycamore Canyon to Elliott 69 kV Reconductor portion of the Proposed Project passes through the nearly 5,800-acre Mission Trails Regional Park, west of the City of Santee. Mission Trails Regional Park ranges in elevation from approximately 400 to 1,590 feet above mean sea level. Vegetation within the park includes chaparral, oak woodland, grasslands, coastal sage scrub, as well as riparian and aquatic habitats (including vernal pools). Flora in the higher elevations of the park include chamise (*Adenostoma fasciculatum*), Ramona lilac (*Ceanothus tomentosus*), scrub oak (*Quercus berberidifolia*), redberry (*Rhamnus crocea*), and mission manzanita (*Xylococcus bicolor*). The lower elevations support coastal sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), laurel sumac (*Malosma laurina*), San Diego County viguiera (*Viguiera laciniata*), lemonadeberry (*Rhus integrifolia*), and California buckwheat (*Eriogonum fasciculatum*). The San Diego River runs

through the park creating a riparian community that supports sycamore (*Platanus racemosa*), cottonwood (*Populus fremontii*), willow (*Salix* spp.), and mule fat (*Baccharis salicifolia*). The park supports an abundance of wildlife including numerous birds, lizards, insects, and snakes. Mule deer, mountain lion (*Felis concolor*), coyote, and gray fox (*Urocyon cinereoargenteus*) can also be found within the park. The Sycamore Canyon to Elliott 69 kV Reconductor line of the Proposed Project passes through Mission Trails Regional Park.

- **San Dieguito River Park.** The San Dieguito River Park Joint Powers Authority was formed as a separate agency on June 12, 1989, by the County of San Diego and Cities of Del Mar, Escondido, Poway, San Diego and Solana Beach. It was empowered to acquire, plan, design, improve, operate and maintain the Park. The Focused Planning Area (FPA) for the park extends along a 55-mile corridor that encompasses the San Dieguito River Valley and its major tributary canyons, as well as Lake Hodges, San Pasqual Valley, Boden Canyon and Pomo Valley, Lake Sutherland, the Santa Ysabel Creek drainage, Volcan Mountain and a portion of the high desert in San Felipe Valley. Park development projects and user activities are limited to public lands and also to private lands whose owners have given written consent. The river system that comprises the FPA forms a natural corridor where many of the county's most sensitive vegetation communities are found including oak and pine woodlands, coastal sage scrub, riparian woodland, native grassland, and coastal wetlands. Wildlife and plant species that commonly occur within these vegetation communities are expected to occur within the FPA, along with a number of special status species including the San Diego thorn-mint, Encinitas baccharis (*Baccharis vanessae*), California least tern (*Sterna antillarum browni*), and Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) (San Dieguito River Park JPA, 2002). In addition to being a critical site on the Pacific Flyway, the coastal area around Del Mar is one of the most diverse for special status plant species within the FPA, as are the areas around Volcan Mountain. The Proposed Project alignment passes through the Park, most notably in the vicinity of Santa Ysabel.

Marine Corps Air Station (MCAS) Miramar Integrated Natural Resources Management Plan (INRMP)

The MCAS Miramar INRMP (2005) was developed in accordance with a USFWS biological opinion and ACOE CWA Section 404 permit requirements to develop a multiple species habitat management plan consistent with guidelines for subarea plans under the MSCP. The INRMP describes the biological resources on MCAS Miramar and designates five levels of management areas (MAs): MA1 contains vernal pools (3,013 acres); MA2 contains non-vernal pool threatened and endangered species (4,510 acres); MA3 contains riparian areas, wetlands, and wildlife movement corridors (2,649 acres); MA4 contains other undeveloped areas (8,484 acres); and MA5 contains developed areas (4,207 acres). The INRMP also provides guidance on avoidance and minimization of impacts and mitigation measures depending on the MA level of the areas impacted. There are no specific policies related to siting transmission lines and substations; however, a general policy of the INRMP requires site approval by the ACOE Public Works Department for all facilities-related activities. The Sycamore Canyon to Elliott 69 kV Reconductor line of the Proposed Project passes through MCAS Miramar.

Designated Critical Habitat

San Diego Fairy Shrimp. On March 8, 2000, USFWS proposed the designation of critical habitat for the endangered San Diego fairy shrimp within an approximately 36,501-acre area in San Diego and Orange Counties. The proposed critical habitat units (Units) include a mosaic of vernal pools currently supporting San Diego fairy shrimp, as well as areas that historically supported vernal pools and are still capable of supporting this species. Lands proposed as critical habitat have been divided into five Units, including four within San Diego County, based on MAs defined in the Recovery Plan for the species. Unit 2

encompasses approximately 13,768 acres within the North Coastal Mesa MA on Camp Pendleton and within the City of Carlsbad. Unit 3 encompasses 6,425 acres within the Inland Valley MA and contains vernal pool complexes within the jurisdiction of the City of San Marcos and the community of Ramona. Unit 4 encompasses 18,531 acres within the Central Coastal Mesa MA and contains vernal pool complexes associated with coastal terraces and mesas found south of the San Dieguito River to the San Diego Bay. Unit 5 encompasses 7,332 acres within the Southern Coastal Mesa MA and includes vernal pool complexes associated with coastal mesas from the Sweetwater River south to the International Border. The nearest critical habitat of the San Diego fairy shrimp to the Proposed Project route is 0.3 miles away on the opposite side of Los Peñasquitos Canyon.

Riverside Fairy Shrimp. On May 12, 2005, the USFWS designated final critical habitat for the endangered Riverside fairy shrimp in four Units in Ventura, Orange and San Diego Counties. In San Diego County, Unit 3 (coastal area, North County) and 4 (Otay Mesa, South County) contain 25 acres of final critical habitat. Unit 3 contains vernal pool complexes located along the railroad ROW at the Poinsettia Lane Commuter Station in the City of Carlsbad. Unit 4 contains vernal pool complexes located in a Major/Minor Amendment area within the San Diego MSCP at Otay Mesa. The nearest critical habitat of the Riverside fairy shrimp to the Proposed Project route is 13.7 miles away.

Quino Checkerspot Butterfly. On April 15, 2002, the USFWS designated final critical habitat for the endangered quino checkerspot butterfly in four Units in Riverside and San Diego Counties. Essential habitat features for quino checkerspot butterfly occur in undeveloped areas that support various types of open-canopy woody and herbaceous plant communities. Specifically, these areas consist of grassland and open-canopy woody plant communities, undeveloped areas containing grassland or open-canopy woody plant communities within and between habitat patches, and prominent topographic features (such as hills and/or ridges). Unit 2 (Southwest Riverside Unit) encompasses approximately 85,780 acres within southwestern Riverside County and northern San Diego County. Unit 3 (Otay Unit) consists of approximately 64,430 acres within the southwestern portion of San Diego County. Unit 4 (Jacumba Unit) contains 9,970 acres of land in southeastern San Diego County south of I-8 in the vicinity of the town of Jacumba. The nearest critical habitat of the quino checkerspot butterfly to the Proposed Project route is 12.6 miles away.

Desert Pupfish. In March of 1986, the USFWS designated final critical habitat for the endangered desert pupfish. This species tolerates an extreme range of environmental conditions (salinities from freshwater to nearly twice that of seawater, water temperatures ranging from 36° F to 113° F, and oxygen levels down to 0.1 ppm). The species was once widespread and abundant in southern Arizona and southeastern California in the U.S. In California, desert pupfish currently exist in two Salton Sea tributaries (San Felipe Creek system and its associated wetland San Sebastian Marsh, Imperial County, and Salt Creek, Riverside County) and a few shoreline pools and irrigation drains along the Salton Sea in Imperial and Riverside Counties. Designated critical habitat for the desert pupfish includes San Felipe Creek, Carrizo Wash and Fish Creek Wash in Imperial County southwest of the SR78/86 intersection. The Proposed Project route crosses desert pupfish critical habitat in San Felipe Creek at the SR78/86 intersection.

Desert Tortoise. On February 8, 1994, the USFWS designated final critical habitat for the Mojave population of the desert tortoise on approximately 6.4 million acres over four states in 12 Units. The desert tortoise exists in the Mojave and Colorado deserts and is most commonly found within desert scrub vegetation, primarily in creosote bush scrub vegetation, but may also be located in other types of scrub habitat. In California, 4.8 million acres (8 Units) were designated as critical habitat over five counties. Within northeastern Imperial County, the Pinto Mountain Unit is located east of SR111 north of the Chocolate Mountains along the Chuckwalla Mountain range. The nearest critical habitat of the desert tortoise to the Proposed Project route is 29.3 miles away.

Coastal California Gnatcatcher. On October 24, 2000, the USFWS designated final critical habitat for the coastal California gnatcatcher in 13 Units over five counties. A total of approximately 513,650 acres in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties were designated as critical habitat. Essential habitat features for the coastal California gnatcatcher include undeveloped areas that support various types of sage scrub or chaparral, grassland, and riparian habitats. Unit 1 (San Diego MSCP) encompasses approximately 25,000 acres within the MSCP planning area. This includes lands essential to the conservation of the gnatcatcher within the Cities of Chula Vista, El Cajon, and Santee; major amendment areas within the San Diego County Subarea Plan; the Otay-Sweetwater Unit of the San Diego National Wildlife Refuge Complex; and water district lands owned by Sweetwater Authority, Helix Water District and Otay Water District. Unit 2 (Multiple Habitat Conservation Open Space Program, MHCOSP, for San Diego County) encompasses approximately 12,780 acres within the MHCOSP. Lands designated include a core population of gnatcatchers on the Cleveland National Forest south of SR78 near the upper reaches of the San Diego River. Unit 3 (North San Diego County MHCP) encompasses approximately 29,320 acres within the MHCP planning area in northwestern San Diego County. Unit 4 (Fallbrook Naval Weapons Station) encompasses approximately 8,690 acres on Fallbrook Naval Weapons Station in northern San Diego County. Unit 5 (North County Subarea of the MSCP for Unincorporated San Diego County) encompasses approximately 40,640 acres within the planning area for the North County Subarea of the MSCP for San Diego County. Designated critical habitat areas contain several core gnatcatcher populations and sage scrub identified as high or moderate value as well as providing connectivity between habitat valued as high or moderate. The Proposed Project route travels through approximately seven miles of gnatcatcher critical habitat in the Inland Valley Link.

Least Bell's Vireo. On February 2, 1994, the USFWS designated final critical habitat for the least Bell's vireo at 10 localities in portions of six counties in southern California. Least Bell's vireo are found in riparian woodland vegetation that generally contains both canopy and shrub layers and includes some associated upland habitats. Approximately 38,000 acres of critical habitat was designated including riparian habitat along portions of the following channels within San Diego County: Santa Margarita River, San Luis Rey River, Sweetwater River, San Diego River, Tijuana River, Coyote Creek (within ABDSP) and Jamul-Dulzura Creeks. The nearest critical habitat of the least Bell's vireo to the Proposed Project route is 4.5 miles away.

Southwestern Willow Flycatcher. On October 19, 2005, the USFWS designated final critical habitat for the southwestern willow flycatcher over five Recovery and 15 Management Units on approximately 120,824 acres in five states including four counties in southern California. The southwestern willow flycatcher, a neo-tropical migrant, travels between its breeding areas in the U.S. to wintering grounds in Central and South America. During these migrations, it occupies habitat (primarily riparian habitat along river corridors) across a wide geographic area during spring and fall migration. The Coastal California Recovery Unit stretches along the coast of southern California from just north of Point Conception south to the Mexico border. This Recovery Unit includes the San Diego Management Unit with critical habitat designated within portions of the following channels: Santa Margarita River, San Luis Rey River, Pilgrim Creek, Agua Hedionda Creek, San Ysabel River, Temescal Creek, and Temecula Creek. The Basin and Mohave Recovery Unit includes the Salton Management Unit containing portions of the San Felipe Creek in eastern San Diego County and western Imperial County. The Proposed Project occurs in southwestern willow flycatcher critical habitat at the proposed Central East Substation in the Central Link.

Peninsular Bighorn Sheep. On February 1, 2001, the USFWS designated final critical habitat for the Peninsular bighorn sheep on approximately 844,897 acres in Riverside, San Diego, and Imperial Counties. Peninsular bighorn sheep live on steep, open slopes, canyons, and washes in hot and dry desert regions where the land is rough, rocky, and sparsely vegetated. Elevation ranges have been recorded

between 300 and 4,000 feet where average annual precipitation is less than four inches and daily high temperatures average 104°F in the summer. Caves and other forms of shelter (e.g., rock outcrops) are used during inclement weather and for shade during the hotter months. Lambing areas are associated with ridge benches or canyon rims adjacent to steep slopes or escarpments. Alluvial fans are also used for breeding, feeding, and movement. Designated critical habitat is located from the San Jacinto Mountains south to the U.S.-Mexico border, generally along the eastern escarpment of the Peninsular Ranges that steeply descend into the Sonoran Desert along the Coachella Valley, Anza-Borrego Desert, and Salton Trough. The Proposed Project route travels through an extensive section of bighorn sheep critical habitat along the Imperial Valley and Anza-Borrego Links.

D.2.1.2.2 Vegetation Communities Overview

Sensitive vegetation communities are those that are: considered sensitive pursuant to the State of California NCCP program; are under the jurisdiction of the ACOE pursuant to Section 404 of the Clean Water Act; are under the jurisdiction of the CDFG pursuant to Sections 1600–1612 of the California Fish and Game Code; are known or believed to be of high priority for inventory in the CNDDDB; are considered regionally rare in southern California; have undergone a large-scale reduction from their pre-European coverage in southern California due to increased urban and agricultural encroachment; and/or support special status plant and animal species.

The PSA includes upland and wetland vegetation community types. Major community categories include:

- Non-native vegetation, developed areas, and disturbed habitat
- Desert scrub and dune habitats
- Coastal and montane scrub habitats
- Grasslands and meadows
- Chaparrals
- Woodlands and forests
- Herbaceous wetlands, freshwater, and streams
- Riparian scrubs
- Riparian forests and woodlands

All vegetation communities in the PSA are considered sensitive with the exception of those that occur in the following areas:

- Disturbed habitat
- Eucalyptus woodland
- Developed
- Intensive agriculture – dairies, nurseries, chicken ranches
- Extensive agriculture – field/pasture, row crops

These vegetation communities are not sensitive because they are man-made and support little to no wild-life diversity or special status species. Still, bird nests may occur in these communities; bird nests are protected by the Migratory Bird Treaty Act (see Section D.2.3.1).

Table D.2-2 provides a list of all the vegetation communities found within the Proposed Project PSA, grouped by major community category. In some instances (e.g., some wetland/riparian communities such as emergent wetland at Stuart Spring in Grapevine Canyon, ABDSP), the communities were included in the larger surrounding community due to the MMU, so they are not represented individually in Table D.2-2. Each major category includes a variety of subdivisions and is described below. Information presented includes dominant species, associated species, canopy coverage and density, hydrology, soils, site location,

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geographic location, and any other relevant information. Figures showing the vegetation communities along the Proposed Project route are provided in Appendix 8A.

Table D.2-2. Vegetation Communities – Proposed Project Study Area

Vegetation Type	Imperial Valley Link	Anza-Borrego Link	Central Link	Inland Valley Link	Coastal Link*
Non-Native Vegetation, Developed Areas, and Disturbed Habitat					
Eucalyptus woodland					X
Disturbed habitat	X	X	X	X	X
Developed	X	X	X	X	X
Orchards and vineyards				X	
Intensive agriculture – dairies, nurseries, chicken ranches	X			X	
Extensive agriculture – field/pasture, row crops	X		X	X	
Desert Scrub and Dune Habitats					
Stabilized and partially stabilized desert sand field	X				
Sonoran desert scrub	X	X			
Sonoran creosote bush scrub	X	X			
Sonoran mixed woody scrub		X			
Sonoran mixed woody and succulent scrub		X			
Sonoran wash scrub	X	X			
Encelia scrub		X			
Desert saltbush scrub	X	X			
Coastal and Montane Scrub Habitats					
Diegan coastal sage scrub					X
Coastal sage scrub – inland form			X	X	X
Coastal sage-chaparral scrub			X	X	X
Grasslands and Meadows					
Valley needlegrass grassland			X		
Non-native grassland			X	X	X
Meadow			X		
Chaparrals					
Northern mixed chaparral			X		
Northern mixed chaparral – burned			X		
Northern mixed chaparral – granitic			X	X	
Southern mixed chaparral			X	X	X
Southern mixed chaparral – granitic				X	X
Chamise chaparral				X	X
Red shank chaparral			X		
Semi-desert chaparral		X	X		
Scrub oak chaparral					X
Woodlands and Forests					
Black oak woodland			X		
Coast live oak woodland			X	X	X
Engelmann oak woodland			X	X	
Peninsular juniper woodland and scrub		X			

Table D.2-2. Vegetation Communities – Proposed Project Study Area

Vegetation Type	Imperial Valley Link	Anza-Borrego Link	Central Link	Inland Valley Link	Coastal Link*
Herbaceous Wetlands, Freshwater, and Streams					
Disturbed wetland					X
Freshwater	X		X		X
Non-vegetated channel	X		X		
Vernal pool					X
Freshwater marsh			X		
Emergent wetland			X		
Riparian Scrubs					
Mesquite bosque		X			
Mule fat scrub			X	X	X
Southern willow scrub			X		X
Tamarisk scrub	X				
Arrowweed scrub	X				
Riparian Forests and Woodlands					
Southern coast live oak riparian forest			X	X	X
Southern arroyo willow riparian forest			X		X
Southern cottonwood-willow riparian forest			X		
Riparian woodland					X
Desert dry wash woodland	X	X			

*Includes the Reconductor Sycamore Canyon to Elliot 69 kV Line.

The descriptions included below are based on the refinement of Holland's (1986) vegetation descriptions by Oberbauer (1996). The number preceding the vegetation community name represents the element code assigned to the terrestrial natural communities of California (Holland, 1986; Oberbauer, 1996).

Non-Native Vegetation, Developed Areas, and Disturbed Habitat

11100 Eucalyptus Woodland. Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous and shrubby understory. In most cases, eucalyptus forms a dense stand with a closed canopy. Stand structure for this habitat may vary considerably because most eucalyptus has been planted into either rows for wind protection or dense groves for hardwood production and harvesting.

11300 Disturbed Habitat. This category is primarily used to identify areas of severe impacts to natural communities to the extent where it is no longer sustaining or functioning naturally. Areas of heavy OHV use fall into this category.

12000 Developed. The type and structure of developed vegetation varies and includes tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Species composition in developed habitats varies with planting design incorporating a mixture of native and exotic species. Developed also includes paved roadways and man-made structures.

18100 Orchards and Vineyards. Orchard and vineyard habitats are typically associated with other agricultural areas such as cropland and pasture. Orchards are usually open, single-species, tree-dominated habi-

tat. Similarly, vineyards are composed of single species planted in rows, usually supported on wood and wire trellises. The understory in both orchards and vineyards consists of bare soil (controlled by tillage and/or herbicides) or a cover crop of herbaceous plants. The cover crop can be composed of either natural or planted domesticated herbaceous plants. Herbaceous plants commonly associated with orchards and vineyards include Bermuda grass (*Cynodon dactylon*) and other grass species, wild mustard (*Brassica* sp.), fiddleneck (*Amsinckia* sp.) and fillaree (*Erodium* sp.).

18200 Intensive Agriculture – Dairies, Nurseries, Chicken Ranches. Dairies, nurseries and chicken ranches are specialized agricultural uses where land is used primarily for production of food and fiber. The chief indications of intensive agricultural activities including dairies, nurseries and chicken ranches are distinctive geometric buildings and road patterns on the landscape and the traces produced by livestock or mechanized equipment. Associated features of intensive agricultural operations, such as manure stockpile areas and degraded watering ponds, may also be evident.

18300 Extensive Agriculture – Field/Pasture, Row Crops. Pasture vegetation is a mix of perennial grasses and legumes that normally provide 100 percent canopy closure over extensive fields, often associated with other agricultural habitats. Height of vegetation varies according to season and livestock stocking levels from a few inches to two or more feet on fertile soils before grazing. The mix of grasses and legumes varies according to management practices and geographic area but often include non-native grasses and clovers (*Trifolium* spp.). These community types are highly managed systems and do not contain natural habitat. In general, grading, fertilizer application, and irrigation have converted these areas to a completely different community type than what was originally present. Though very poor habitat for native plant species, agricultural lands may be suitable habitat for special status wildlife species such as the burrowing owl.

Desert Scrub and Dune Habitats

22300 Stabilized and Partially Stabilized Desert Sand Field. Stabilized and partially stabilized desert sand fields are desert sand accumulations that are not obvious dune landforms, often found at the toe of bajada slopes. Vegetation varies from scant cover of widely scattered shrubs and herbs to nearly closed shrub canopies. Scattered forbs and grasses in the ground cover may include birdcage (*Oenothera deltoids*), California croton (*Croton californicus*) and desert sand-verbena (*Abronia villosa* var. *villosa*). Individual emergent shrubs may include Algodones buckwheat (*Eriogonum deserticola*), creosote bush (*Larrea tridentata*), four-wing saltbush (*Atriplex canescens* var. *canescens*) and/or white bursage (*Ambrosia dumosa*).

33000 Sonoran Desert Scrub. Sonoran desert scrub is a general category that includes Sonoran creosote bush scrub, Sonoran mixed woody scrub, Sonoran mixed woody and succulent scrub, and Sonoran wash scrub, among a few others not found in the Proposed Project area. When a vegetation community did not obviously fit into one of the four categories listed above (and described below), it was labeled Sonoran desert scrub.

33100 Sonoran Creosote Bush Scrub. Sonoran creosote bush scrub occurs in well-drained soils of slopes, alluvial fans, and valleys rather than upland sites with thin residual soils. The dominant plant species are creosote bush with white bursage, brittlebush (*Encelia farinosa*), and ocotillo (*Fouquieria splendens*).

33210 Sonoran Mixed Woody Scrub. Sonoran mixed woody scrub is predominated by shrubs up to three meters tall and is similar to Sonoran mixed woody and succulent scrub, but is less varied (does not contain the abundance of succulent species) and is usually more sparse. Most stands have brittlebush and indigo bush in varying proportions. Typical species include jojoba (*Simmondsia chinensis*), desert apricot

(*Prunus fremontii*), burro bush (*Ambrosia dumosa*), desert lavender (*Hyptis emoryi*), brittlebush, and limited amounts of succulent species such as ocotillo and cholla (*Cylindropuntia* sp).

33220 Sonoran Mixed Woody and Succulent Scrub. Sonoran mixed woody and succulent scrub is the only desert community with substantial dominance of cacti and other stem succulents. It is predominated by shrubs up to three meters tall and is similar to Sonoran creosote bush scrub and Sonoran mixed woody scrub, but is more varied and usually denser. Most stands have desert agave (*Agave deserti*), brittlebush, ocotillo, indigo bush (*Peucephyllum schottii*) and Mohave yucca (*Yucca schidigera*) in varying proportions. Sonoran mixed woody and succulent scrub is found on rocky, well-drained slopes and alluvial fans, usually at the base of mountains. Several areas of Sonoran mixed woody and succulent scrub in the Anza-Borrego Link (between MP 66 and 68) contained inclusions of desert dry wash woodland (62200) that were smaller than the MMU to be called out as a separate vegetation community.

33230 Sonoran Wash Scrub. Sonoran wash scrub is characterized by the presence of arborescent, often spiny, shrubs generally associated with intermittent streams (washes) or drier bajadas (alluvial deposits adjacent to washes). Plants of this vegetation community are generally taller and denser than those of surrounding desert habitats. Canopy species may include various species of mesquite (*Prosopis* sp.), smoke-tree (*Dalea spinosa*), and catclaw acacia (*Acacia greggii*). Representative subcanopy plants may include arrowweed (*Pluchea sericea*), brittlebush, as well as a variety of forbs and grasses.

33600 Encelia Scrub. Encelia scrub is a drought-deciduous dwarf shrubland predominated by brittlebush with creosote bush and white bursage as commonly associated species.

36110 Desert Saltbush Scrub. Desert saltbush scrub is predominated by grayish, microphyllous shrubs, intermixed with some succulent species. Plant cover is characteristically low with large areas of bare ground between widely spaced shrubs. This vegetation community is strongly predominated by a single saltbush (*Atriplex*) species and occurs on the margins of dry lakebeds in the Colorado, Mojave and Great Basin deserts.

Coastal and Montane Scrub Habitats

32500 Diegan Coastal Sage Scrub Diegan coastal sage scrub may be predominated by a variety of species depending upon soil type, slope, and aspect. Typical species found within Diegan coastal sage scrub include coastal sagebrush (*Artemisia californica*), buckwheat species (*Eriogonum* spp.), laurel sumac (*Malosma laurina*), black sage (*Salvia mellifera*), California encelia (*Encelia californica*), broom baccharis (*Baccharis sarothroides*), white sage (*Salvia apiana*), and lemonadeberry (*Rhus integrifolia*).

32520 Coastal Sage Scrub – Inland Form. Diegan coastal sage scrub–inland form is similar in structure to the coastal form, but lower growing, and occurs at elevations greater than 1,000 feet above mean sea level. Diegan coastal sage scrub–inland form is typically predominated by foothill buckwheat (*Eriogonum wrightii* var. *membranaceum*) or white sage, and generally lacks the presence of coastal sagebrush. The inland form may also contain species such as matchweed (*Gutierrezia* spp.) and cheat grass (*Bromus tectorum*).

37G00 Coastal Sage – Chaparral Scrub. Coastal sage-chaparral scrub is a mix of leathery-leaved, woody chaparral species and drought deciduous, fleshy-leaved sage scrub species. Likely a post-fire successional community, this community is an intermediate between coastal scrubs and chaparrals. Dominant species may include chamise (*Adenostoma fasciculatum*), deerweed (*Lotus scoparius*), black sage, and mission manzanita (*Xylococcus bicolor*).

Grasslands and Meadows

42110 Valley Needlegrass Grassland. This is a grassland predominated by perennial, tussock-forming purple needlegrass (*Nassella pulchra*). Native and introduced annuals are also common and include red brome (*Bromus madritensis* ssp. *rubens*), soft chess (*Bromus hordeaceus*), and slender wild oat (*Avena barbata*).

42200 Non-Native Grassland. Non-native grasslands are typically predominated by non-native, annual grasses of Mediterranean origin. Dominant species may include ripgut grass (*Bromus diandrus*), red brome, slender wild oat, Italian ryegrass (*Lolium multiflorum*), black mustard (*Brassica nigra*), and sandysoil sun cup (*Camissonia strigulosa*).

45000 Meadow. Meadow is a community of rolling or flat terrain where grasses predominate. Typically, what is called a meadow has more biodiversity than a grassland, as the former contains not only grasses but a significant variety of annual and perennial plants.

Chaparrals

37110 Northern Mixed Chaparral. Northern mixed chaparral is characterized by broad-leaved, sclerophyllous shrubs forming dense, often nearly impenetrable stands. The vegetation is predominated by scrub oak (*Quercus berberidifolia*), chamise, several species of manzanita (*Arctostaphylos* spp.) and lilac (*Ceanothus* spp.). Plants are typically deep-rooted and there is usually little or no understory vegetation and often a considerable accumulation of leaf litter.

37110 Northern Mixed Chaparral – Burned. Following fire, chaparral vegetation is predominated largely by annual herbs. Shrubs re-establish from seedlings as well as re-sprouting from below-ground biomass reserves not killed by fire. Shrub cover increases steadily until approximately 20 years following the burn. Biomass accumulation continues for nearly 40 years after a fire (Henry and Hope, 1998) until the vegetation community resembles that described above (37110 Northern Mixed Chaparral).

37131 Northern Mixed Chaparral – Granitic. Granitic northern mixed chaparral is identical floristically to northern mixed chaparral but is distinguished by a granitic substrate.

37120 Southern Mixed Chaparral. Southern mixed chaparral is similar to northern mixed chaparral but typically is not as tall or dense. Floristic distinctions between these two vegetation communities are difficult to make. Southern mixed chaparral generally occurs in areas with lower precipitation and more moderate temperatures as compared with northern mixed chaparral.

37121 Southern Mixed Chaparral – Granitic. Granitic southern mixed chaparral is identical floristically to southern mixed chaparral but is distinguished by a granitic substrate.

37200 Chamise Chaparral. Chamise has the widest range of any chaparral shrub and occurs in a variety of chaparral communities. Chamise chaparral is predominated, sometimes exclusively, by chamise. In some locations, this community can attain high cover values and height. Though the floristic diversity of this community is low, other component species may include black sage, fasciated tarweed (*Deinandra fasciculata*), Nuttall's scrub oak (*Quercus dumosa*), and deerweed. Associate species may include common goldfields (*Lasthenia gracilis*) and common calyptrium (*Calyptidium monandrum*).

37300 Red Shank Chaparral. Red shank chaparral is very similar to chamise chaparral but is generally taller and usually more open. Mature red shank chaparral can have sparse herbaceous cover between

shrubs. Red shank (*Adenostoma sparsifolium*) is the dominant species and, in some instances, can occur in monotypic stands. Chamise is often co-dominant.

37400 Semi-Desert Chaparral. Semi-desert chaparral is very similar to northern mixed chaparral, but is more open, not quite as tall, and occurs on the desert edge. Dominant species can include sugarbush (*Rhus ovata*), lotebush (*Ziziphus parryi* var. *parryi*), catclaw acacia, buck brush (*Ceanothus cuneatus* var. *cuneatus*), California ephedra (*Ephedra californica*), and chamise.

37900 Scrub Oak Chaparral. Scrub oak chaparral in the Proposed Project area is a dense, evergreen chaparral on sites somewhat more mesic than many chaparrals. The dominant species is Nuttall's scrub oak (*Quercus dumosa*), a special status (CNPS List 1B) species.

Woodlands and Forests

71120 Black Oak Woodland. Black oak woodland is an open to dense woodland dominated by black oak (*Quercus kelloggii*) often with a shrubby understory of mountain mahogany (*Cercocarpus betuloides*).

71160 Coast Live Oak Woodland. Coast live oak woodland is an evergreen woodland community, dominated by coast live oak (*Quercus agrifolia*) that may reach a height of 35 to 80 feet. The shrub layer may consist of toyon (*Heteromeles arbutifolia*), Mexican elderberry (*Sambucus mexicana*), fuchsia-flowered gooseberry (*Ribes speciosum*), and poison oak. A dense herbaceous understory may be predominated by miner's lettuce (*Claytonia perfoliata* var. *perfoliata*) and chickweed (*Stellaria media*). This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and in shaded ravines.

71180 Engelmann Oak Woodland. Engelmann oak woodland is an evergreen woodland dominated by Engelmann oak (*Quercus engelmannii*) in association with coast live oak with an understory of typical grassland species. The understory may contain rippgut grass, phacelia (*Phacelia* sp.), slender wild oat, and white sage.

72320 Peninsular Juniper Woodland and Scrub. This is a woodland of dry slopes dominated by California juniper (*Juniperus californica*). Western honey mesquite (*Prosopis glandulosa*), Parish's golden-eyes (*Viguiera parishii*), and Acton's encelia (*Encelia actoni*) are also common. Associated species include Engelmann's prickly-pear (*Opuntia engelmannii* var. *engelmannii*), buckhorn cholla (*Cylindropuntia acanthocarpa* var. *coloradensis*), mountain California buckwheat (*Eriogonum fasciculatum* var. *polifolium*), and Gander's cholla (*Cylindropuntia ganderi* var. *ganderi*).

Herbaceous Wetlands, Freshwater, and Streams

11200 Disturbed Wetland. Disturbed wetlands are communities that are commonly predominated by exotic wetland species. These species have invaded sites that had been previously disturbed or are periodically disturbed. This has resulted in the displacement of native wetland species and the subsequent colonization of these areas by non-native plant species. The feature or community may still be a functioning wetland, but native vegetation and natural drainage patterns may be gone.

13140 Freshwater. Freshwater (lacustrine) habitats are inland depressions or dammed riverine channels containing standing water that can occur in association with any terrestrial habitat. Typical freshwater habitats include permanently flooded lakes or reservoirs, or intermittent lakes and ponds often supporting fish communities. Plants often associated with the littoral zone of freshwater habitats consist of duckweed

(*Lemna* sp.), pondweed (*Potamogeton* spp.), water lilies (*Nymphaea* sp.) and smartweed (*Polygonum amphibium*).

13200 Non-Vegetated Channel. Non-vegetated channel is a course for running water that has very sparse to no vegetation growing within the channel.

44000 Vernal Pool. Vernal pools are a highly specialized plant habitat that support a unique flora. Vernal pools are associated with two important physical conditions: a subsurface hardpan or claypan that inhibits the downward percolation of water and a topography characterized by a series of low hummocks called mima mounds and low depressions (the vernal pools) which prevents aboveground water runoff. As the result of these two physical conditions, water collects in these depressions during the rainy season. As the rainy season ends, the water that has collected in these vernal pools is gradually evaporated. As water evaporates from these pools a gradient of low soil water availability to high soil water availability is created from the periphery of the pool margins to the center of the pool. The chemical composition of the remaining pool water becomes more concentrated as the pool water is evaporated creating a gradient of low ion concentration at the pool periphery to high ion concentration at the pool center. A temporal succession of plant species will occur at the receding pool margins, depending upon the physical and chemical microenvironmental characteristics of the pool. Vernal pools in a wet year will have a high proportion of native species that are endemic to this habitat. During these years the exotic species, characteristic of the non-native grasslands that occur on the surrounding mima mounds, will not invade these pools unable to tolerate the physiological conditions. In years of scarce rainfall that is insufficient to saturate the soil and create a surface pool, the native endemic flora will not germinate, and the pool will be invaded by the exotic species.

52400 Freshwater Marsh. Freshwater marsh is dominated by perennial, emergent monocots that can reach a height of 12-15 feet, often forming completely closed canopies. This vegetation type occurs near river mouths and around the margins of lakes and springs. These areas are permanently flooded by fresh water yet lack a significant current (Holland, 1986). Characteristic species may include cattails (*Typha* sp.), spike-sedge (*Eleocharis* sp.), rush (*Juncus* sp. and *Scirpus* sp.), and umbrella sedge (*Cyperus* sp.).

52440 Emergent Wetland. Emergent wetland is a low-growing, herbaceous community that is predominated by a variety of native wetland species. It typically occurs in seasonally wet areas with heavy soils. Dominant species usually include wrinkled rush (*Juncus rugulosus*), toad rush (*Juncus bufonius*), and wetland grasses.

Riparian Scrubs

61820 Mesquite Bosque. This is an open to fairly dense, drought-deciduous streamside thorn forest with open interior patches maintained by frequent flooding or fire. Western honey mesquite, many-fruit saltbush (*Atriplex polycarpa*), narrow-leaf willow (*Salix exigua*), cottonwood (*Populus fremontii*), and California juniper are common.

63310 Mule Fat Scrub. Mule fat scrub is a shrubby, riparian scrub community predominated by mule fat (*Baccharis salicifolia*) and sometimes interspersed with small willows (*Salix* spp.). This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This community is maintained by frequent flooding, the absence of which could lead to a riparian woodland or forest (Holland, 1986). In some environments, limited hydrology may favor the persistence of mule fat.

63320 Southern Willow Scrub. Southern willow scrub is a dense, broadleaved, winter-deciduous riparian vegetation community dominated by several willow species, sometimes with scattered emergent cottonwood or sycamore (*Platanus racemosa*) trees. Associated plant species may include Douglas mugwort (*Artemisia douglasiana*) or hoary nettle (*Urtica dioica* ssp. *holosericea*). Most stands are too dense to allow much understory development.

63810 Tamarisk Scrub. Tamarisk scrub is a riparian scrub community, sometimes an almost exclusive monoculture, of non-native tamarisk (*Tamarix* spp.). Tamarisk has an extensive root system, allowing it to obtain water from a low water table. This allows tamarisk species to out-compete native riparian species by lowering the water table to levels below the root zone of other species.

63820 Arrowweed Scrub. Arrowweed scrub is a disturbance-maintained community that contains moderate to dense streamside thickets strongly predominated by arrowweed. Species of *Typha*, *Scirpus*, *Juncus* and saltgrass (*Distichlis* spp.) may occur. This community occurs along streambanks, ditches, and washes with gravelly or sandy channels.

Riparian Forests and Woodlands

61310 Southern Coast Live Oak Riparian Forest. Southern coast live oak riparian forest is an open to dense evergreen riparian forest dominated by coast live oak, arroyo willow (*Salix lasiolepis*), and/or other willows. This community occurs along the outer floodplains of canyons and valleys on fine-textured alluvial soils (Holland, 1986). Associated species include sycamore, poison oak, mule fat, Mexican elderberry, and Douglas mugwort.

61320 Southern Arroyo Willow Riparian Forest. Southern arroyo willow riparian forest is an open to dense riparian community that is dominated by arroyo willow. Arroyo willow requires moist, bare mineral soil for germination and establishment. This community occurs along large stream courses where there is an abundant supply of water at or near the surface for most of the year. The absence of large, frequent disturbances, usually in the form of floods, allows the component tree species to attain a sizable height.

61330 Southern Cottonwood-Willow Riparian Forest. Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species (e.g., *Populus fremontii* and/or *Populus trichocarpa*), with willow species (*Salix* spp.) comprising the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater amount of cottonwoods and western sycamores (*Platanus racemosa*; Holland, 1986).

62000 Riparian Woodland. Riparian woodland is a tall, open, broadleaved, winter-deciduous streamside woodland dominated by sycamores. Additional plant species may include California blackberry (*Rubus ursinus*), poison oak, and Mexican elderberry. This vegetation community is found in very rocky streambeds subject to seasonal, high-intensity flooding.

62200 Desert Dry Wash Woodland. This community is an open to dense, drought-deciduous, microphyllous riparian thorn scrub woodland that can grow up to 30 to 60 feet tall. It occurs in sandy or gravelly washes and arroyos of the lower Mojave and Colorado deserts, largely in frost-free areas. These washes typically have braided channels that substantially rearrange with every surface flow event. Characteristic species of desert dry wash woodland may include desert willow (*Chilopsis linearifolia*), desert ironwood (*Olneya tesota*), creosote bush, and catclaw acacia.

D.2.1.2.3 Wetland and Aquatic Resources Overview

Wetlands within the PSA possess unique environmental and biotic characteristics that add to the overall regional diversity and production of aquatic invertebrates and vertebrate wildlife that depend on them as a food source. Wetlands are considered highly sensitive by federal, State, and local agencies and any potential impacts to them are tightly regulated.

Typical wetlands in the PSA consist of freshwater marshes, riparian scrubs, riparian woodlands, and riparian forests. Coastal wetlands consist of the streamside or riparian (riverbank) community in the bottoms of canyons and valleys. Even where the streams are only seasonal, there is still enough water to support large trees like sycamores, coast live oaks, and cottonwoods. Shrubs in these areas typically consist of arroyo willow, California rose (*Rosa californica*), and poison oak. Wetland vegetation communities are discussed in Section D.2.1.2.2.

In addition to wetland vegetation communities, other jurisdictional features include non-wetland Waters of the U.S., primarily ephemeral drainages and washes. Surface water resources along the Proposed Project include desert washes and other streams, the majority of which are dry at most times. Based on the National Wetland Inventory, there are 19 major drainages that the Proposed Project would cross (SDG&E, 2006). Based on the hydrologic study for the Proposed Project, there are approximately 167 identified watercourses that the Proposed Project would cross. Other minor watercourse crossings may be found along the route. Impacts to waters and wetlands can generally be avoided by implementing sensitive design criteria. Though a transmission line is a continuous linear feature, impacts to wetlands from structure placement can typically be avoided, and direct impacts are usually limited to the construction of ROW access roads.

D.2.1.2.4 Wildlife Habitat Overview

Wildlife habitats within the PSA are described in this section. Wildlife habitats are based on the California Wildlife Habitat Relationships (CWHR) system (CDFG, 1988a). In general, the wildlife habitat descriptions are based on information obtained from CDFG, Wildlife and Habitat Data Analysis Branch. Common and special status wildlife species associated with each wildlife habitat within the PSA are discussed. Unless otherwise noted, habitat descriptions come from CDFG. Each wildlife habitat corresponds directly to vegetation types. Vegetation types are defined by plant species composition. Wildlife habitats, although based on vegetation types, are modified to include other physical environmental characteristics (e.g., rock outcrops). Animals are mobile and may move from one vegetation type to another for different life cycle needs.

Agriculture. Agricultural areas include pasture, cropland, and orchards and occur throughout the PSA. This disturbed habitat provides suitable habitat for several common wildlife species. Generally, wildlife species including raptors, migratory birds, small mammals, and bats use cropland to forage. Special status species that use this habitat type and may occur in the PSA include tricolored blackbird (*Agelaius tricolor*), mountain plover, white-tailed kite, greater sandhill crane (*Grus canadensis*), white-faced ibis (*Plegadis chihi*), long-billed curlew (*Numenius americanus*) (CDFG, 2006a), and burrowing owl.

Alkali Desert Scrub. Alkali desert scrub habitat occurs within the PSA in proximity to the Salton Sea. This habitat type may occur in the PSA simultaneously with desert scrub, desert wash, and desert riparian habitats. Common wildlife species that are typically associated with this habitat include the zebra-tailed lizard (*Callisaurus draconoides*), long-nosed leopard lizard (*Gambelia wislizenii*), pallid kangaroo mouse (*Microdipodops pallidus*), chisel-toothed kangaroo rat (*Dipodomys microps*), and Mojave ground squirrel (*Spermophilus mohavensis*). Special status species that use this habitat type and may occur in the PSA

include mountain plover, California leaf-nosed bat (*Macrotus californicus*), FTHL, and Le Conte's thrasher (*Toxostoma lecontei lecontei*) (CDFG, 2006a).

Annual Grassland. Historically, annual grassland areas may have been composed of chaparral and coastal sage scrub plant species. Annual grasslands are common and widespread throughout California, and the characteristic wildlife species that occupy them are of equally wide distribution. A wide variety of wildlife uses this habitat type for foraging including the western fence lizard (*Sceloporus occidentalis*), common garter snake (*Thamnophis sirtalis*), western rattlesnake (*Crotalus viridis*), Beechey ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), California vole (*Microtus californicus*), western harvest mouse (*Reithrodontomys megalotis*), American badger (*Taxidea taxus*), coyote, western meadowlark (*Sturnella neglecta*), mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), and American kestrel (*Falco sparverius*). Special status species that use this habitat type and may occur in the PSA include tricolored blackbird, burrowing owl, ferruginous hawk (*Buteo regalis*), Swainson's hawk (*Buteo swainsoni*), mountain plover, Dulzura pocket mouse, northern red-diamond rattlesnake, Stephens' kangaroo rat, white-tailed kite, San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), large-blotched salamander (*Ensatina eschscholtzii klauberi*), California horned lark (*Eremophila alpestris actia*), Coronado skink, greater sandhill crane, long-billed curlew, and western spadefoot toad (*Spea hammondi*) (CDFG, 2006a).

Barren. Barren habitats may occur in proximity to any of the habitat types present within the PSA. This habitat type is defined as areas with less than 2 percent vegetative cover by herbaceous or desert species and less than 10 percent vegetative cover by tree or shrub species. Included in this habitat type are rocky outcroppings, mudflats, open sandy beaches, vertical river banks, and canyon walls (Parisi, 1999). Many species of wildlife use barren areas for foraging, nesting, and burrowing including cormorants, hawks, falcons, plovers, stilts, avocets, gulls, terns, nighthawks, poorwills, bats, horned lizards, and fringe-toed lizards. Special status species that use barren habitats and may occur in the PSA include black swift (*Cypseloides niger borealis*) and big free-tailed bat (*Nyctinomops macrotis*) (CDFG, 2006a).

Chamise-Red Shank Chaparral. Chamise-red shank chaparral habitat types occur in the PSA in San Diego County only. This habitat type may grade into mixed chaparral and typically borders areas predominated by desert succulent scrub in desert areas and coastal oak woodland in other areas. This habitat type is highly fire-dependant, and fire return intervals longer than the natural range of variability can lead to declines in wildlife populations. Wildlife species that frequent this habitat type are similar to those that occur in mixed chaparral. Special status species that use this habitat type and may occur in the PSA include southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), Belding's orange-throated whiptail, Dulzura pocket mouse, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), coastal rosy boa (*Charina trivirgata roseofusca*), northern red-diamond rattlesnake, San Diego ringneck snake (*Diadophis punctatus similis*), Stephens' kangaroo rat, Coronado skink, San Diego black-tailed jackrabbit, San Diego desert woodrat (*Neotoma lepida intermedia*), southern grasshopper mouse, coast (San Diego) horned lizard, coast patch-nosed snake (*Salvadora hexalepis virgultea*), and gray vireo (*Vireo vicinior*) (CDFG, 2006a).

Coastal Oak Woodland. Coastal oak woodland habitat typically occurs in the western portions of San Diego County. This habitat is important to wildlife, as it provides an abundant food supply as well as cover for many wildlife species. Dead-fall provides cover for a variety of small mammals, and hollow oaks provide den sites for raccoons and roosting habitat for bats. Coastal oak woodland also provides habitat for as many as 60 species of mammals and 100 species of birds. Common wildlife species, including the western fence lizard, California toad (*Bufo boreas halophilus*), Coast Range newt (*Taricha torosa torosa*), Botta's pocket gopher, western gray squirrel (*Sciurus griseus*), mule deer, coyote, acorn wood-

pecker (*Melanerpes formicivorus*), oak titmouse (*Baeolophus inornatus*), and western scrub jay, occur in this habitat type. One Special status species uses this habitat type and may occur in the PSA. This species is the two-striped garter snake (CDFG, 2006a).

Coastal Sage Scrub. Coastal sage scrub is most commonly found in association with perennial grassland, cropland, pasture, annual grassland, coastal oak woodland, montane hardwood, chamise-red shank chaparral, and mixed chaparral. Special status species that use this habitat type and may occur in the PSA include Hermes copper butterfly, southern California rufous-crowned sparrow, Bell's sage sparrow, silvery legless lizard (*Anniella pulchra pulchra*), Belding's orange-throated whiptail, burrowing owl, coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), Dulzura pocket mouse, northwestern San Diego pocket mouse, coastal rosy boa, northern red-diamond rattlesnake, San Diego ringneck snake, Stephens' kangaroo rat, Coronado skink, quino checkerspot butterfly (*Euphydryas editha quino*), San Diego black-tailed jackrabbit, San Diego desert woodrat, southern grasshopper mouse, Jacumba little pocket mouse (*Perognathus longimembris internationalis*), coast (San Diego) horned lizard, coastal California gnatcatcher, coast patch-nosed snake, and western spadefoot toad (CDFG, 2006a).

Desert Riparian. Desert riparian habitats occur within the eastern portions of the PSA. This habitat is typically found adjacent to the other desert habitat types, so any wildlife species that occur in desert wash, alkali desert scrub, desert succulent shrub, and desert scrub may be found moving through or utilizing desert riparian habitat. This habitat is typically important for birds, with wider bird species diversity and greater densities of birds occurring in this habitat type than in other desert habitats. Special status species that use this habitat type and may occur in the PSA include Mexican long-tongued bat (*Choeronycteris mexicana*), least Bell's vireo, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), yellow-breasted chat (*Icteria virens*), least bittern (*Ixobrychus exilis hesperis*), western yellow bat (*Lasiurus xanthinus*), California leaf-nosed bat, summer tanager (*Piranga rubra rubra*), and Crissal thrasher (*Toxostoma crissale coloradense*) (CDFG, 2006a).

Desert Scrub. This habitat type typically occurs adjacent to other desert habitat types that are present within the PSA. Reptiles and rodents are the predominant wildlife species present in this habitat type; however, a variety of birds and other mammals use this habitat type including bobcat (*Lynx rufus*), coyote, red-tailed hawk, and black-throated sparrow (*Amphispiza bilineata*). Special status species that use this habitat type and may occur in the PSA include silvery legless lizard, burrowing owl, ferruginous hawk, pallid San Diego pocket mouse (*Chaetodipus fallax pallidus*), coastal rosy boa, Mexican long-tongued bat, barefoot banded gecko, northern red-diamond rattlesnake, California leaf-nosed bat, Colorado Valley woodrat (*Neotoma albigula venusta*), Palm Springs little pocket mouse (*Perognathus longimembris bangsi*), Jacumba little pocket mouse, FTHL, Le Conte's thrasher, and Colorado Desert fringe-toed lizard (*Uma notata notata*) (CDFG, 2006a).

Desert Succulent Shrub. Desert succulent shrub occurs in the deserts of eastern San Diego County and western Imperial County within the PSA, and typically borders desert scrub. This habitat type typically supports a wider variety and higher density of wildlife species than surrounding desert areas. Several raptors, passerines, mammals, and reptiles use this habitat, including the long-eared owl (*Asio otus wilsonianus*), red-tailed hawk, small mammals, coyote, bobcat, western fence lizard, and western rattlesnake. Special status species that use this habitat type and may occur in the PSA include pallid San Diego pocket mouse, coastal rosy boa, Mexican long-tongued bat, barefoot banded gecko, northern red-diamond rattlesnake, California leaf-nosed bat, Colorado Valley woodrat, Jacumba little pocket mouse, flat-tailed horned lizard, Bendire's thrasher (*Toxostoma bendirei*), and Le Conte's thrasher (CDFG, 2006a).

Desert Wash. Desert wash habitat is very high in species diversity and numbers compared with other desert habitat types. Only desert riparian has wider species diversity and higher species abundance than desert wash. Because this habitat is typically found in association with desert riparian, desert succulent shrub, desert scrub, and alkali desert scrub, species that may occur in these habitat types may also use desert wash habitats. Special status species that use this habitat type and may occur in the PSA include arroyo toad (*Bufo californicus*), pallid San Diego pocket mouse, western yellow bat, California leaf-nosed bat, Colorado Valley woodrat, Palm Springs little pocket mouse, Jacumba little pocket mouse, FTHL, Crissal thrasher, Le Conte's thrasher, and Colorado Desert fringe-toed lizard (CDFG, 2006a).

Disturbed. Disturbed habitat is primarily used to identify areas of severe impacts to natural communities to the extent where it is no longer sustaining or functioning naturally. Areas of heavy OHV use are contained in this community description. It is not anticipated that any wildlife species would use this habitat type exclusively.

Eucalyptus. Eucalyptus is found either in dense stands or as single trees in the western portions of the PSA, typically in the City of San Diego. The canopy of eucalyptus offers a wide array of habitats, including raptor nesting sites, for a variety of avian species. Common wildlife species in eucalyptus are Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), and red-tailed hawk among other avian species. The minimal understory growth does not provide substantial habitat for other wildlife species; however, limited cover and resting areas exist for smaller mammalian and reptilian species. There are no special status species of wildlife that are known to occupy this habitat type (CDFG, 2006a); however, this does not preclude the potential use of this habitat type by these species.

Freshwater Emergent Wetland. Freshwater emergent wetlands are important because they provide permanent water, food, and cover for several wildlife species. Marsh vegetation provides cover for nesting and aquatic bird species that forage on aquatic invertebrates and plants. This habitat type is very important for resident amphibian populations that require wetlands for reproduction and for certain life stages. Typical wildlife species found in these habitats include mule deer, gray fox, raccoon, mallard (*Anas platyrhynchos*), American coot (*Fulica americana*), marsh wren (*Cistothorus palustris*), great blue heron (*Ardea herodias*), common egret (*Casmerodias albus*), and common garter snake. Freshwater emergent wetlands are also valuable foraging areas for a variety of bat species due to the high numbers of insects typically present. Special status species that use this habitat type and may occur in the PSA include tricolored blackbird, white-tailed kite, least bittern, white-faced ibis (*Plegadis chihi*), and western spadefoot toad (CDFG, 2006a).

Juniper. Juniper habitat within the PSA is typically found in proximity to sagebrush habitats. This habitat type is particularly important during the winter, when juniper berries provide a stable food source for several birds and mammals. Seventeen species of birds and several mammals have been known to consume juniper berries during the winter (CDFG, 1988a). During all times of the year, juniper habitats provide cover, nesting locations, and food for a wide array of wildlife including song birds, raptors, bats, and small mammals. Special status species that use this habitat type and may occur in the PSA include Crissal thrasher and gray vireo (CDFG, 2006a).

Mixed Chaparral. There are no wildlife species that occur exclusively within mixed chaparral habitats. Because this habitat type occurs within close proximity to chamise-red shank chaparral, oak woodland, and coastal scrub, wildlife species that occur in these habitat types may also occur in mixed chaparral. Common species that may occur in mixed chaparral within the PSA include spotted towhee (*Pipilo maculatus*), California thrasher (*Toxostoma redivivum*), Bewick's wren (*Thryomanes bewickii*), western scrub jay, Beechey ground squirrel, Audubon's cottontail (*Sylvilagus audubonii*), side-blotched lizard (*Uta*

stansburiana), and western fence lizard. Special status species that use this habitat type and may occur in the PSA include southern California rufous-crowned sparrow, Bell's sage sparrow, silvery legless lizard, Belding's orange-throated whiptail, pallid San Diego pocket mouse, coastal rosy boa, northern red-diamond rattlesnake, San Diego ringneck snake, Coronado skink, quino checkerspot butterfly, San Diego mountain kingsnake (*Lampropeltis zonata pulchra*), San Diego desert woodrat, southern grasshopper mouse, coast (San Diego) horned lizard, coast patch-nosed snake, and western spadefoot toad (CDFG, 2006a).

Montane Hardwood. Montane hardwood habitat typically occurs in the central portions of San Diego County. This habitat is important to wildlife, as it provides an abundant food supply as well as cover for many wildlife species. Dead-fall provides cover for a variety of small mammals and roosting habitat for bats, and live trees provide nesting habitat for several raptors and other avian species. Common wildlife species, including the western fence lizard, California toad, Coast Range newt, Botta's pocket gopher, western gray squirrel, mule deer, coyote, acorn woodpecker, oak titmouse, and western scrub jay, occur in this habitat type. One special status species, the San Diego mountain kingsnake, uses this habitat type and may occur in the PSA (CDFG, 2006a).

Perennial Grassland. Perennial grasslands are typically found in association with coastal oak woodland, freshwater emergent wetland, valley foothill riparian, pasture, and cropland habitats. A wide variety of wildlife uses this habitat type for foraging including the western fence lizard, common garter snake, western rattlesnake, Beechey ground squirrel, Botta's pocket gopher, California vole, western harvest mouse, American badger, coyote, western meadowlark, mourning dove, California horned lark, red-tailed hawk, and American kestrel. Special status species that use this habitat type and may occur in the PSA include tricolored blackbird, burrowing owl, California horned lark, ferruginous hawk, Swainson's hawk, greater sandhill crane, long-billed curlew, and San Diego black-tailed jackrabbit (CDFG, 2006a).

Urban. There are three classifications within the urban habitat type: downtown, urban residential, and suburbia. Very few wildlife species occur within the downtown zone, and typical species are house mouse (*Mus musculus*), rock dove (*Columbia livia*), house sparrow (*Passer domesticus*), and European starling (*Sturnus vulgaris*). The urban residential zone includes more diverse habitat types with vegetative cover for wildlife use increasing. Common species in this zone include raccoon, opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), western scrub jay, northern mockingbird (*Mimus polyglottos*), and house finch (*Carpodacus mexicanus*). Finally, the suburbia zone more closely mimics natural settings with tree density increasing and some areas containing natural vegetation communities. Common wildlife species within this zone include, bushtit (*Psaltriparus minimus*), California quail (*Calipepla californica*), gopher snake (*Pituophis catenifer*), and western fence lizard (CDFG, 1988a). Special status species that use this habitat type and may occur in the PSA include Mexican long-tongued bat, San Diego ringneck snake, and western yellow bat (CDFG, 2006a).

Valley Foothill Riparian. Valley foothill riparian is an important habitat type for a large diversity of wildlife. Because it typically borders annual and perennial grasslands, oak woodlands, pastures, and cropland, many species that occur in those habitat types would be found in valley foothill riparian at some time because it provides water, food, cover, dispersal corridors, and nesting areas. Common wildlife species that may occur within this habitat type include ash-throated flycatcher (*Myiarchus cinerascens*), bushtit, black phoebe (*Sayornis nigricans*), California quail, raccoon, striped skunk, gray fox, Coast Range newt, and western toad. Special status species that use this habitat type and may occur in the PSA include Belding's orange-throated whiptail, arroyo toad, Swainson's hawk, western yellow-billed cuckoo, yellow warbler (*Dendroica petechia*), white-tailed kite, southwestern willow flycatcher, yellow-breasted

chat, western yellow bat, Coast Range newt, two-striped garter snake, and least Bell's vireo (CDFG, 2006a).

Water. Lacustrine habitats are used by a wide variety of wildlife species including 101 species of birds, 18 species of mammals, 22 species of amphibians, and nine species of reptiles (CDFG, 1988a). Common wildlife species that may occur in this habitat type include mallard, gadwall (*Anas strepera*), pintail (*Anas acuta*), common merganser (*Mergus merganser*), American coot, killdeer (*Charadrius vociferus*), belted kingfisher (*Ceryle alcyon*), Pacific tree frog (*Hyla regilla*), western toad (*Bufo boreas*), and Coast Range newt. Special status species that use this habitat type and may occur in the PSA include desert pupfish (*Cyprinodon macularius*), greater sandhill crane, and Coast Range newt (CDFG, 2006a).

Wet Meadow. Wet meadow is typically found as an ecotone between freshwater emergent wetlands and perennial grasslands. Consequently, many of the species found in these two habitats also occur in wet meadows. Typical wildlife species found in this habitat include mule deer, gray fox, raccoon, egrets (*Ardea* and *Egretta* spp.), common garter snake, western fence lizard, western rattlesnake, Beechey ground squirrel, Botta's pocket gopher, California vole, western harvest mouse, coyote, western meadow-lark, mourning dove, red-tailed hawk, and American kestrel. Special status species that use this habitat type and may occur in the PSA include greater sandhill crane, San Diego black-tailed jackrabbit, American badger, and burrowing owl (CDFG, 2006a).

D.2.1.2.5 Special Status Plant Species Overview

A list of special status plant species with potential to occur in the PSA for the Proposed Project was created based on published literature (Reiser, 2001; BLM, 2004) and literature available on the internet (CNPS, 2007), CNDDDB records searches, State and federal species lists, and field surveys. Each species, its status, and habitat requirements are presented in Table D.2-3. CNPS List 3 and List 4 species locations were recorded in the field using GPS technology, although only CNPS List 1 and List 2 species are considered in this analysis and are included in Table D.2-3. USDA Forest Service special status species are not included in this table because the Proposed Project does not cross National Forest lands. USDA Forest Service special status species are addressed in Section D.2.24.1 (CNF Alternative) and Section E.3 (SWPL Alternatives).

Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
Chaparral sand verbena <i>Abronia villosa</i> var. <i>aurita</i>	L1B	Sandy areas within coastal sage scrub and chaparral from 80 to 1600 meters. Occurs in the central and southern south coast, and western Sonoran Desert.	Low – IMP, ANZ, CEN, and CST Links.
San Diego thorn-mint <i>Acanthomintha ilicifolia</i>	FT, SE	Grassy openings in the chaparral or sage scrub. Occurs with spring annuals, bulbous perennials, and a few herbaceous elements. Distribution in San Diego County includes the south coast and southwest Peninsular Ranges.	Present – Reconductor Sycamore Canyon to Elliot 69 kV Line. High – CST and INV Links (3 and 4 CNDDDB records, respectively). Low – CEN Link.
California adolphia <i>Adolphia californica</i>	L2	Diegan coastal sage scrub, but occasionally occurs in peripheral chaparral habitats, particularly on hillsides near creeks. Distribution in San Diego includes coastal areas and the Peninsular Ranges.	Present – CST Link.

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Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
San Diego ambrosia <i>Ambrosia pumila</i>	FE	Chaparral, coastal scrub, valley and foothill grassland, vernal pools, often in disturbed areas.	Moderate – CST Link (1 CNDDDB record).
Del Mar manzanita <i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	FE	Chaparral with chamise and often wart-stemmed ceanothus (<i>Ceanothus verrucosus</i>). Occurs on eroding sandstone, and the chaparral vegetation is relatively low growing. Existing distribution is the south central coast of San Diego County.	Present – CST Link and Reconductor Sycamore Canyon to Elliot 69 kV Line.
Harwood's milk-vetch <i>Astragalus insularism</i> var. <i>harwoodii</i>	L2	Sonoran desert scrub with gravelly, sandy washes or dunes.	Low – IMP and ANZ Links.
San Diego milk-vetch <i>Astragalus oocarpus</i>	L1B BLMS	Cismontane chaparral edges at the periphery of meadows with coarse sandy loam soils. Mild soil disturbance may be a factor in facilitating the spread of populations. Distribution is within central San Diego County (Peninsular Ranges).	Low – INV Link. High – CEN Link (4 CNDDDB records including Witch Creek).
South coast saltscale <i>Atriplex pacifica</i>	L1B	Xeric, often mildly disturbed locales. Usually the surrounding vegetation is open Diegan coastal sage scrub. Distribution includes coastal San Diego County.	Low – CST Link.
Ayenia <i>Ayenia compacta</i>	L2	Rocky canyons and desert arroyos in the Sonoran Desert and desert mountains.	High – ANZ Link (4 CNDDDB records). Low – IMP Link.
Encinitas baccharis <i>Baccharis vanessae</i>	FT, SE	Mature but relatively low-growing chaparral predominated by chamise, Del Mar manzanita, mission manzanita and Mojave yucca with large granite boulders. Occurs in coastal San Diego and northwest Peninsular Ranges.	Low – CST and INV Links (1 CNDDDB record).
Nevin's barberry <i>Berberis nevinii</i>	FE, SE	Chaparral communities with strong desert affinities. Shrub cover is relatively low growing and Nevin's barberry may tower above the surrounding subshrubs. Occurs in southwestern California.	Moderate – CEN, INV, and CST Links. Low – ANZ Link. An evergreen shrub that likely would have been observed if present.
Orcutt's brodiaea <i>Brodiaea orcuttii</i>	SR, BLMS, L1B	Vernally moist grasslands, mima mound topography, and the periphery of vernal pools, and will occasionally occupy streamside embankments. Occurs in the Peninsular Ranges.	Moderate – CST and INV Links (4 and 3 CNDDDB records, respectively). Low – CEN Link.
Crucifixion thorn <i>Castela emoryi</i>	L2	Mojavean desert scrub, playas, and gravelly Sonoran desert scrub.	Low – IMP Link.
Lakeside ceanothus <i>Ceanothus cyaneus</i>	L1B	Inland mixed chaparral and dense, almost impenetrable chaparral with a mix of chamise and other shrubs such as species of manzanita.	High – INV Link (2 CNDDDB records) Low – ANZ and CEN Links. An evergreen shrub that likely would have been observed if present.
Wart-stemmed ceanothus <i>Ceanothus verrucosus</i>	L2	Coastal chaparral intermixed with chamise and mission manzanita. Typically, a dominant shrub within the vegetation community where it occurs. North-facing slopes, but can accommodate more xeric aspects.	High – CST Link. Moderate – INV Link. An evergreen shrub that likely would have been observed if present.
Peirson's pincushion <i>Chaenactis carphoclinia</i> var. <i>peirsonii</i>	L1B	Open Sonoran desert scrub with very limited competition from perennial shrubs.	Moderate – IMP Link (1 CNDDDB record). Low – ANZ Link.

Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
Flat-seeded spurge <i>Chamaesyce platysperma</i>	BLMS	Desert dune systems. Occurs in the Sonoran Desert.	Low – IMP and ANZ Links.
Orcutt's spineflower <i>Chorizanthe orcuttiana</i>	FE, SE	Coastal chaparral openings in chamise, with a distinctive loose, sandy substrate.	Low – CST Link.
Long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>	L1B	Chaparral – on clay lenses which are largely devoid of shrubs, and occasionally, the periphery of vernal pools and montane meadows near vernal seeps. Occurs in the Peninsular Ranges below 1400 feet.	Low – CEN and CST Links.
Delicate clarkia <i>Clarkia delicata</i>	L1B	Periphery of oak woodlands and cismontane chaparral, partially shaded by tree canopy or large shrubs, and typically where vernal mesic situations with substantial peripheral annual and herbaceous spring growth.	Present – CEN and INV Links.
Summer-holly <i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	L1B	Mesic, north-facing slopes in southern mixed chaparral. Rugged steep drainages seem to be a preferred location for isolated shrubs.	Present – CST Link and Reconductor Sycamore Canyon to Elliot 69 kV Line.
San Diego sand aster <i>Corethrogyne filaginifolia</i> var. <i>incana</i>	L1B	Coastal chaparral, primarily in sandy openings between chamise.	Present – INV and CST Links.
Del Mar Mesa sand aster <i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	L1B	Coastal mixed chaparral in sandy, open locales and partially disturbed sandy soils.	High – CNDDDB locations near MP 138 in the CST Link. Low – INV Link.
Short-leaved dudleya <i>Dudleya brevifolia</i>	CE	Maritime chaparral and coastal scrub on Torrey sandstone.	Low – CST Link.
Variegated dudleya <i>Dudleya variegata</i>	L1B	Openings in sage scrub and chaparral; isolated, rocky substrates in open grasslands; and in proximity to vernal pools and mima mound topography.	High – Reconductor Sycamore Canyon to Elliot 69 kV Line north of MP 4. Has been observed in past years (Fred Sproul, pers. comm., 2007). High – CST Link.
Palmer's goldenbush <i>Ericameria palmeri</i> ssp. <i>palmeri</i>	L2	Coastal drainages, in mesic chaparral sites, or rarely in Diegan coastal sage scrub. Occasionally a hillside element (usually at higher elevations inland on north-facing slopes). Seasonally moist locales are strongly preferred.	Low – CST Link. An evergreen shrub that likely would have been observed if present.
San Diego button-celery <i>Eryngium aristulatum</i> var. <i>parishii</i>	FE, SE	Vernal pools or mima mound areas with vernal moist conditions in San Diego.	Present – Reconductor Sycamore Canyon to Elliot 69 kV Line. Moderate – CNDDDB locations near MPs 145 and 150 in the CST Link.
Coast wallflower <i>Erysimum ammophilum</i>	L1B	Old eroded dunes now well back of the existing beachline, and sandy locales in chaparral openings in southern coastal San Diego. Very sandy substrate seems to be a prerequisite for this species.	Low – CST Link.
San Diego barrel cactus <i>Ferocactus viridescens</i>	L2	Diegan coastal sage scrub hillsides; often at the crest of slopes and growing among cobbles.	Present – CST Link and Reconductor Sycamore Canyon to Elliot 69 kV Line.
Borrego bedstraw <i>Galium angustifolium</i> ssp. <i>borregoense</i>	SR	Rocky Sonoran desert scrub upland terrain (acid igneous rock lands) with somewhat protected slope aspects, and more mesic seasonal conditions.	Present – ANZ Link. Moderate – IMP Link.

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Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
San Diego gumplant <i>Grindelia hirsutula</i> var. <i>hallii</i>	L1B	Montane meadows and lower montane coniferous forest, typically with sunny openings, and locales which are quite wet in the early spring, although such places usually dry quickly. Occurs in the Peninsular Ranges and western Sonoran Desert.	Present – CEN Link. Low – IMP and ANZ Links.
Ramona horkelia <i>Horkelia truncata</i>	L1B	Open chamise chaparral; dry red clay soils. Occurs in the Peninsular Ranges.	Present – INV Link.
San Diego sunflower <i>Hulsea californica</i>	L1B	Montane coniferous forest and lightly disturbed chaparral and recently burned areas. Occasionally it is found beneath pine (<i>Pinus</i> spp.) canopy.	Present – CEN Link.
San Diego marsh-elder <i>Iva hayesiana</i>	L2	Creeks or intermittent streambeds or seeps near creeks. Typically, the riparian canopy is open. Sandy alluvial embankments with cobbles.	Moderate – CEN, INV, and CST Links.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	L1B	Salt marsh areas near the coast at the extreme upper end of tidal inundation, and periphery of vernal pools.	Low – CST Link.
Heart-leaved pitcher sage <i>Lepechinia cardiophylla</i>	L1B	Chaparral and cismontane woodland in the Peninsular Ranges.	Low – INV Link.
Borrego Valley pepper-grass <i>Lepidium flavum</i> var. <i>felipense</i>	BLMS	Sonoran desert scrub on comparatively open flats; substantial sandy, open terrain; and a somewhat alkaline microhabitat.	Low – IMP and ANZ Links.
Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>	L1B	Openings in chaparral and sage scrub at the coastal and foothill elevations in southwestern California. Relatively dry, exposed locales rather than beneath a shrub canopy or along creeks. May be associated with volcanic substrates.	Low – CEN, INV, and CST Links.
Warner Springs lessingia <i>Lessingia glandulifera</i> var. <i>tomentosa</i>	L1B	High desert chaparral or grassland and sandy openings in very xeric chamise chaparral, or possibly the periphery of alluvial drainages. In the Peninsular Ranges.	High – CEN Link (3 CNDDDB records). Low – ANZ and INV Links.
Pygmy lotus <i>Lotus haydonii</i>	L1B	Open Sonoran desert scrub on dry, rocky slopes.	Present – ANZ Link. Low – IMP Link.
Parish's desert-thorn <i>Lycium parishii</i>	L2	Sonoran desert scrub with sandy plains and desert washes.	Low – IMP and ANZ Links.
Brown turbans <i>Malperia tenuis</i>	L2	In Sonoran desert scrub on arid slopes with shallow soils, rocky surface rubble with few large boulders, and little competition from shrubs.	Low – IMP and ANZ Links.
Spearleaf <i>Matelea parvifolia</i>	L2	Sonoran desert scrub on arid plains and near arroyos.	High – ANZ Link (1 CNDDDB record). Low – IMP Link.
Hairy stickleaf <i>Mentzelia hirsutissima</i>	L2	Sonoran desert scrub growing on rocky hillsides and desert mesas.	Moderate – ANZ Link (CNDDDB record at Yaqui Pass). Low – IMP Link.
Felt-leaved monardella <i>Monardella hypoleuca</i> ssp. <i>lanata</i>	L1B	Chaparral understory, beneath mature stands of chamise in xeric situations.	Present – INV Link.
San Felipe monardella <i>Monardella nana</i> ssp. <i>leptosiphon</i>	L1B	Lower montane coniferous forest. In the Palomar Mountains.	Present – CEN Link.

Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
Willoway monardella <i>Monardella viminea</i>	FE, SE	Riparian scrub, usually at sandy locales in seasonally dry washes with no canopy cover. River cobbles may lie nearby.	High – INV Link (3 CNDDDB records, Sycamore Canyon). Moderate – CST Link (1 CNDDDB record).
San Diego goldenstar <i>Muilla clevelandii</i>	L1B	Valley grasslands, particularly near mima mound topography or vernal pools. Does not typically grow in the shade of woody perennials, but rather in somewhat open locales.	Expected – Reconductor Sycamore Canyon to Elliot 69 kV Line north of MP 4. Has been observed in past years (Fred Sproul, pers. comm., 2007). Moderate – CST and INV Links (2 and 1 CNDDDB records, respectively). Low – CEN Link.
Spreading navarretia <i>Navarretia fossalis</i>	FT	Vernal pools and swales. Rarely found in shallow pools.	Low – INV and CST Links.
Slender woolly-heads <i>Nemacaulis denudata</i> var. <i>gracilis</i>	L2	Well developed dunes whether in the desert or, rarely, along the coastal beaches.	Low – IMP and ANZ Links.
California Orcutt grass <i>Orcuttia californica</i>	FE, SE	Tends to grow in wetter portions of vernal pool basins but does not show much growth until the basins become somewhat desiccated.	Low – CST Link.
Gander's ragwort <i>Packera ganderi</i>	SR	Chaparral understory, often beneath chamise.	Moderate – INV Link (1 CNDDDB record). Low – CEN Link.
Sandfood <i>Pholisma sonorae</i>	L1B	Dunes in creosote bush scrub (Calflora, 2006). Occurs in the Sonoran Desert.	Moderate – IMP Link (1 CNDDDB record). Low – ANZ Link.
San Diego mesa mint <i>Pogogyne abramsii</i>	FE, SE	Vernal pools.	High – CST Link (9 CNDDDB records).
Nuttall's scrub oak <i>Quercus dumosa</i>	L1B	Coastal chaparral with a relatively open canopy cover in flat terrain; on north-facing slopes it may grow in dense, monotypic stands.	Present – CEN and CST Links and Reconductor Sycamore Canyon to Elliot 69 kV Line.
San Miguel savory <i>Satureja chandleri</i>	L1B	Open chaparral predominated by chamise and oak woodland. May be restricted to gabbroic or metavolcanic derived soils.	Low – CEN and INV Links.
Southern skullcap <i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	L1B	Moist embankments of montane creeks.	High – CEN Link (2 CNDDDB records, Witch Creek and SR76/SR79 Junction). Low – ANZ and INV Links.
Desert spikemoss <i>Selaginella eremophila</i>	L2	Rocky terrain amid Sonoran desert scrub.	High – ANZ Link. Low – IMP Link.
Coves' cassia <i>Senna covesii</i>	L2	Sonoran desert scrub on washes and plains with relatively open, low-growing scrub cover; plants receive full-day sun.	Present – ANZ Link. Low – IMP Link.
Bristly scaleseed <i>Spermolepis echinata</i>	L2	Rocky, desert terrain or on sandy flats.	Moderate – ANZ Link (2 CNDDDB records). Low – IMP Link.
Purple stemodia <i>Stemodia durantifolia</i>	L2	Wet sand along minor creeks and seasonal drainages.	Moderate – CEN Link (historic CNDDDB record at Witch Creek). Low – IMP and ANZ Links.
San Bernardino aster <i>Symphotrichum defoliatum</i>	L1B	Wetter areas in a variety of habitats including chaparral, cismontane woodlands, and grasslands (CNPS, 2006).	Moderate – CEN Link (CNDDDB record near SR76/SR79 Junction). Low – IMP and ANZ Links.

Table D.2-3. Special Status Plant Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements ²	Potential for Occurrences ^{3,4}
Parry's tetracoccus <i>Tetracoccus dioicus</i>	L1B	Low-growing chamise chaparral, with moderately dense canopy cover. Usually quite xeric with only limited annual growth. Occurs in southern San Diego County and the western Peninsular Ranges.	Moderate – INV Link (4 CNDDDB records). Low – CEN and CST Links.
Velvety false lupine <i>Thermopsis californica</i> var. <i>semota</i>	L1B	Lower montane coniferous forest and montane meadows.	Low – CEN and ANZ Links.
Orcutt's woody aster <i>Xylorhiza orcuttii</i>	BLMS	Sonoran desert scrub in rocky canyons and sandy washes relatively devoid of substantial shrub cover.	Low – IMP and ANZ Links.

1 Status: FT=federally threatened, FE=federally endangered, BLMS=BLM sensitive, ST=state threatened, SE=state endangered, SR=state rare, L1B or L2=CNPS List 1B or CNPS List 2

2 From Reiser (2001) unless otherwise indicated

3 Link Abbreviations: IMP=Imperial Valley; ANZ=Anza-Borrego; CEN=Central; INV=Inland Valley; CST=Coastal

4 CNDDDB records within one mile of the Proposed Project

D.2.1.2.6 Special Status Wildlife Species Overview

A list of special status wildlife species with potential to occur in the PSA was created based on published literature (CDFG, 1988b and 1990) and literature available on the internet (USFWS, 2007a; CDFG, 2007b), CNDDDB records searches, State and federal species lists, and habitat field surveys. Each species, its status, and its habitat requirements are presented in Table D.2-4. USDA Forest Service special status species are not included in this table because the Proposed Project does not cross National Forest lands. USDA Forest Service special status species are addressed in Section D.2.24.1 [CNF Alternative] and Section E.3 [SWPL Alternatives].

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Invertebrates			
San Diego fairy shrimp <i>Branchinecta sandiegonensis</i>	FE	Vernal pools.	Present – Observed in the CST Link.
Riverside fairy shrimp <i>Streptocephalus woottoni</i>	FE	Vernal pools.	Moderate – Potentially occurring in suitable habitat in CST Link.
Quino checkerspot butterfly <i>Euphydryas editha quino</i>	FE	Found in association with but not restricted to vernal pools, sage scrub, chaparral, native and non-native grassland, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats with larval host plants (<i>Plantago erecta</i> and possibly <i>Antirrhinum coulterianum</i> , <i>Collinsia concolor</i> , and <i>Castilleja exserta</i>) and adult nectar resources.	Moderate – Potentially occurring in suitable habitat in ANZ, CEN, and INV Links. The Proposed Project occurs in USFWS Survey Area 2 for this species (USFWS, 2002b). Recent observations have been made near the Proposed Project route (USFWS, 2006).
Hermes copper <i>Lycaena hermes</i>	SDCS	Areas where the host plant spiny redberry is present.	Low to moderate – An individual was observed in the Black Mountain Open Space Park in 2004. Potential to occur in CST Link.

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Laguna Mountains skipper <i>Pyrgus ruralis lagunae</i>	FE	Montane meadow habitats with Cleveland's horkelia (<i>Horkelia clevelandii</i>).	Low – Potentially occurring in San Diego County where suitable habitat occurs in the CEN and INV Links.
Fish			
Desert pupfish <i>Cyprinodon macularius</i>	FE,SE	Shallow waters with clear water and soft substrates.	Present – IMP Link (San Felipe Creek drainage). Low – ANZ Link.
Unarmored threespine stickleback <i>Gasterosteus aculeatus williamsoni</i>	FE,SE*	Slow moving, clear waters of rivers and creeks with dense vegetation for cover.	Low – Known to occur near the intersection of S2 and SR78. Potential to occur in ANZ Link.
Mohave tui chub <i>Gila bicolor mohavensis</i>	FE,SE*	Lacustrine habitats with deep pools and slow moving water. Associated plant species include cattail, bulrush, rush, and saltgrass.	Not Expected – The Mohave tui chub has not been seen in San Felipe Creek since it was introduced in the 1970s. The ABDSP General Plan/EIR lists it as extirpated (California State Parks, 2005).
Amphibians			
Arroyo toad <i>Bufo californicus</i>	FE,SSC	Stream channels for breeding and adjacent stream terraces and uplands for foraging and wintering.	High – Known to occur along Witch Creek just west of Santa Ysabel, Temescal Creek north of Ramona (CEN Link), and in San Vicente Creek on the north side of the San Vicente Reservoir (INV Link). Low – ANZ and CST Links. Not observed during 2007 surveys. Could still occur from approximately MP 105 to MP 108 where ROE not granted. Assumed present in this location.
Large-blotched salamander <i>Ensatina eschscholtzii klauberi</i>	SSC	Oak woodland, chaparral, coastal sage scrub, coastal dunes, conifer forest.	High – CEN Link. Known to occur near the headwaters of Sentenac Creek, southeast of Santa Ysabel and west of Julian. Moderate – INV Link.
California red-legged frog <i>Rana aurora draytonii</i>	FT, SSC	Dense, shrubby riparian vegetation associated with deep (0.7 m), still or slow-moving water (Hayes and Jennings, 1988).	Not Expected – Any link. Last record of this species in ABDSP (Sentenac Canyon) is from the 1960s. It is expected to have been extirpated by one or more factors: a 500-year flood in 1968-1969; introduction of unarmored threespine stickleback in 1973 and 1981; introduction of viral pathogens with the stickleback; and presence of red swamp crayfish (USGS, 2004).
Western spadefoot toad <i>Spea hammondi</i>	BLMS	Coastal sage scrub, chaparral, and grasslands habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas.	Present – CEN and INV Links. High – CST Links.
Coast Range newt <i>Taricha torosa torosa</i>	SSC	Grassland, woodland, forest, but requires ponds, reservoirs or slow-moving streams for reproduction.	Moderate – IMP, CEN, and INV Links. May occur near Ramona.
Reptiles			
Silvery legless lizard <i>Anniella pulchra pulchra</i>	SSC	Loose soils (sand, loam, humus) in coastal dune, coastal sage scrub, woodlands, and riparian habitats.	Moderate – Potentially occurring in San Diego County where suitable habitat exists in ANZ, CEN, INV, and CST Links.

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Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Belding's orange-throated whiptail <i>Aspidoscelis hyperythra beldingi</i>	SSC	Semi-arid brushy areas typically with loose soil and rocks below 2,000 feet.	Expected – CEN, INV, and CST Links.
Coastal rosy boa <i>Charina trivirgata roseofusca</i>	BLMS	Arid scrublands, semi-arid shrublands, rocky shrublands, rocky deserts, canyons, and other rocky areas. Appears to be common in riparian areas but does not require permanent water.	High – IMP, ANZ, CEN, INV, and CST Links
Southwestern pond turtle <i>Clemmys marmorata pallida</i>	BLMS, SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, reservoirs with emergent basking sites; adjacent uplands used during winter.	Low – CST Link.
Barefoot banded gecko <i>Coleonyx switaki</i>	ST	Rocky, boulder-strewn desert foothills, where it spends most of its life deep in rock crevices and subterranean chambers.	High – ANZ Link.
Red-diamond rattlesnake <i>Crotalus exsul</i>	SSC	Arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas. On desert slopes of mountains, it ranges into rocky desert flats.	Present – ANZ and INV Links. High – IMP, CEN, and CST Links.
San Diego ringneck snake <i>Diadophis punctatus similis</i>	SSC	Moist habitats; woodland, forest, grassland, chaparral; typically found under debris.	High – CEN, INV, and CST Links.
Coronado skink <i>Eumeces skiltonianus interparietalis</i>	BLMS, SSC	Coastal sage, chaparral, oak woodlands, pinon-juniper, and riparian woodlands to pine forests along the coastal plain and in the Peninsular Range west of the desert.	High – CEN, INV, and CST Links.
Desert tortoise <i>Gopherus agassizii</i>	FT,ST	Flats and bajadas with soils ranging from sand to sandy gravel with scattered shrubs. Requires sufficient suitable plants for forage and cover and suitable substrates for burrows and nest sites.	Low – Potentially occurring in low numbers in the IMP and ANZ Links from MP 40 through 75 of the Proposed Project route. Not observed during 2007 focused survey. ABDSP has reported past presence (State Parks, 2007a). Most tortoises west of the Salton Sea are probable releases. Hatchlings have been documented in ABDSP; however, most notable in Sheep Canyon and Collins Valley (State Parks, 2007b).
San Diego mountain kingsnake <i>Lampropeltis zonata pulchra</i>	SSC	Coniferous forest, oak-pine woodlands, riparian woodland, chaparral, manzanita, and coastal sage scrub. Wooded areas near streams with rock outcrops, talus or rotting logs that are exposed to the sun.	Moderate – ANZ, CEN, and INV Links.
Coast (San Diego) horned lizard <i>Phrynosoma coronatum blainvillei</i>	SSC	Coastal sage scrub, annual grassland, chaparral, oak and riparian woodland, coniferous forest.	Present – ANZ Link (ABDSP record). High – CEN, INV, and CST Links.
Flat-tailed horned lizard <i>Phrynosoma mcallii</i>	BLMS, SSC	Windblown desert sand deposits within several vegetative associations.	Present – IMP Link. Expected – ANZ Link. Moderate – CEN Link.

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Coast patch-nosed snake <i>Salvadora hexalepis virgulata</i>	SSC	Semi-arid brushy areas and chaparral in canyons, rocky hillsides, and plains.	High – Potentially occurring wherever suitable habitat is present in CEN, INV, and CST Links.
Two-striped garter snake <i>Thamnophis hammondi</i>	BLMS, SSC	Pools, creeks, cattle tanks, and other water sources, often in rocky areas, in oak woodland, chaparral, brushland, and coniferous forest from sea level to approximately 6,980 feet.	Present – ANZ (ABDSP record) and CEN Links. High – Potentially occurring wherever suitable habitat is present in INV and CST Links.
Colorado Desert fringe-toed lizard <i>Uma notata notata</i>	BLMS, SSC	Habitats with windblown sand.	High – In California, estimated range extends from northeast San Diego County (north of Borrego Springs) through the southern two-thirds of Imperial County to the Colorado River. Potential to occur in IMP and ANZ Links.
Birds			
Sharp-shinned hawk <i>Accipiter striatus</i>	SSC	Winters in lowland woodlands and other habitats including desert oases. Nests in coniferous forests, ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine.	Moderate – Fall migrant and uncommon winter visitor. Potential to occur in ANZ, CEN, INV, and CST Links.
Cooper's hawk <i>Accipiter cooperii</i>	SSC	Riparian and oak woodlands, urban areas with trees. Occurs year-round throughout San Diego County's coastal slope where stands of trees are present. Also winters in desert oases.	Present – ANZ, CEN, and INV Links. High – IMP and CST Links.
Tri-colored blackbird <i>Agelaius tricolor</i>	BLMS, SSC	Nests near fresh water, emergent wetland with cattails or tules; forages in grasslands, woodland, agriculture.	Low – CEN, INV, and CST Links.
Southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>	SSC	Grass-covered hillsides, coastal sage scrub, chaparral with boulders and outcrops.	Present – INV Link and Reconductor Sycamore Canyon to Elliot 69 kV Line. Expected – CST Link. Moderate – CEN Link. Low – ANZ Link.
Grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Grasslands with open ground and grass clumps.	Present – INV Link. High – CEN and CST Links.
Bell's sage sparrow <i>Amphispiza belli belli</i>	SSC	Coastal sage scrub and dry chaparral along coastal lowlands and inland valleys.	Moderate – ANZ, CEN, INV, and CST Links.
Golden eagle <i>Aquila chrysaetos canadensis</i>	SSC* BLMS	Open country, especially hilly and mountainous regions; grassland, coastal sage scrub, chaparral, oak savannas, open coniferous forest.	Present – ANZ, CEN, and INV Links. Low – IMP and CST Links.
Long-eared owl <i>Asio otus wilsonianus</i>	SSC	Riparian, live oak thickets, other dense stands of trees, edges of coniferous forest.	Present – ANZ Link. Known to occur at Tamarisk Grove Campground in ABDSP. Low – IMP, CEN, INV, and CST Links. Occurs throughout southern California in low numbers.
Burrowing owl <i>Athene cunicularia</i>	BLMS, SSC	Grassland, lowland scrub, agriculture, coastal dunes and other artificial open areas.	Present –IMP Link. Moderate – ANZ Link. Low – INV and CST Links.

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Ferruginous hawk <i>Buteo regalis</i>	SSC	Open, dry country; grasslands; open fields; agriculture.	Present – CEN Link. Has been observed in winter (Fred Sproul, pers. comm., 2007). Moderate – IMP, ANZ, and INV Links. Low – CST Link. Uncommon winter visitor to southern California.
Swainson's hawk <i>Buteo swainsoni</i>	ST	Open desert; sparse shrublands; grassland; or cropland containing scattered, large trees or small groves. The Swainson's hawk is currently a rare migrant in San Diego County, but the Borrego Valley is an important staging site in spring. During migration, this species passes through southern California, specifically through the Anza-Borrego Desert (Unitt, 2004). It relies on thermals to save energy so avoids crossing waterbodies.	Present – IMP, ANZ, and CEN Links. Most commonly observed in the Borrego Valley located along a migration corridor (Unitt, 2004) and usually only during spring and fall. As many as 6,200 individual Swainson's hawks have recently been observed over a two-month period during migration in Borrego Valley (State Parks, 2006) where the birds stop to roost and feed on flying ants, dragonflies, or moth caterpillars (Unitt, 2004). "...the numbers seen in the Anza-Borrego Desert suggest that most or all of California's Swainson's hawks migrate across San Diego County" (Unitt, 2004).
Coastal cactus wren <i>Campylorhynchus brunneicapillus sandiegensis</i>	SSC	Maritime succulent scrub and cactus thickets in coastal sage scrub.	Low – CEN, INV, and CST Links.
Vaux's swift <i>Chaetura vauxi vauxi</i>	SSC	Nests in Douglas fir and redwood habitats in northern California; migrant across southern California.	Low – ANZ, INV, and CST Links. Migrates through southern California mainly in the coastal lowland and Anza-Borrego Desert (Unitt, 2004).
Mountain plover <i>Charadrius montanus</i>	SSC	Open plains, plowed fields, bare dirt.	Low – May occur as a winter migrant in the IMP link. A survey for this species was conducted for the Proposed Project; it was not found.
Northern harrier <i>Circus cyaneus hudsonius</i>	SSC	Open wetlands (nesting), pasture, old fields, dry uplands, grasslands, rangelands, coastal sage scrub. Distribution primarily scattered throughout lowlands but can also be observed in foothills, mountains, and desert.	Present – CST Link. Moderate – IMP, ANZ, CEN, and INV Links.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	SE	Large blocks of riparian woodlands including cottonwood, willow, or tamarisk galleries that are well developed. It is extremely rare in the interior West. Its only remaining western "strongholds" are three small populations in California, scattered populations in Arizona (especially on the San Pedro River) and New Mexico (especially the Gila River), and an unknown number of birds in northern Mexico.	Low – ANZ and CST Links. Has been documented along San Felipe Creek (north of Scissors Crossing in 2001, 2002, and 2006 (Unitt, 2004; Paul Jorgensen, 2006). Not known to have nested in the county of San Diego for decades (Unitt, 2004).
Black swift <i>Cypseloides niger borealis</i>	SSC	Prefers rocky cliffs for foraging and moist cliffs along sea coasts or near waterfalls for nesting.	Low – A rare migrant primarily along the coast and Palomar Mountain (Unitt, 2004). Potential to occur in IMP, ANZ, CEN, INV, and CST Links.
Yellow warbler <i>Dendroica petechia brewsteri</i>	SSC	Nests in lowland and foothill riparian woodlands.	Present – CEN Link. High – IMP, ANZ, INV, and CST Links.

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
White-tailed kite <i>Elanus leucurus</i>	*	Prefers riparian woodlands and oak or sycamore groves adjacent to grassland.	Present – CEN Link and Reconductor Sycamore Canyon to Elliot 69 kV Line. High – ANZ, INV, CST Links.
Southwestern willow flycatcher <i>Empidonax traillii extimus</i>	FE,SE	Relatively dense riparian tree and shrub communities associated with rivers, swamps, and other wetlands, including lakes (e.g., reservoirs). Most of these habitats are classified as forested wetlands or scrub-shrub wetlands. Also known to nest in thickets dominated by tamarisk.	High – ANZ Link. Low – IMP, CEN, INV, and CST Links.
California horned lark <i>Eremophila alpestris actia</i>	SSC	Open habitats, grassland, rangeland, shortgrass prairie, montane meadows, coastal plains, fallow, grain fields.	Present – Reconductor Sycamore Canyon to Elliot 69 kV Line. High – IMP, ANZ, CEN, INV, and CST Links.
Merlin <i>Falco columbarius</i>	SSC	Most often in grassland but any place where small birds flock.	Low – ANZ, CEN, INV, and CST Links. Rare winter visitor.
Prairie falcon <i>Falco mexicanus</i>	SSC	Open desert and grassland. Nests on cliffs or bluffs. Some nests surrounded by chaparral, sage scrub, or oak woodland.	Present – CEN Link. Moderate – IMP and ANZ Links.
Peregrine falcon <i>Falco peregrinus</i>	SE*	Cliffs or canyons near water for cover and nesting. Can be far from water in winter.	Low – ANZ, CEN, INV, and CST Links. Mainly a winter visitor, especially at inland locations. Currently breeds along the immediate coast but the falcon's winter distribution expands eastward.
Common loon <i>Gavia immer</i>	SSC (nesting)	Usually in estuarine and subtidal marine habitats, occasionally inhabits deep lakes of interior California.	Low – Winter visitor to coastal San Diego County, migrant across interior California—seldom stops unless compelled by storms (Unitt, 2004). Greatest potential to occur in ANZ Link possibly migrating through Grapevine Canyon.
Greater sandhill crane <i>Grus canadensis</i>	ST*	Winter habitat typically consists of river channels or wetlands for roosting and pastures, marshes, and meadows for foraging.	Low – IMP Link. Migrates over southern California; winters in Imperial Valley.
California condor <i>Gymnogyps californianus</i>	FE,SE*	Mountainous country where cliffs with caves or holes are available for nesting sites.	Low – ANZ, CEN, and INV Links. On April 4, 2007, a female condor released in Baja California, Mexico, crossed the border into San Diego County. She returned to Mexico on April 6 (CRES, 2007).
Bald eagle <i>Haliaeetus leucocephalus</i>	SE*	Seacoasts, lakes, and rivers.	Moderate – CEN and INV Links. Known to breed and winter near Lake Henshaw.
Yellow-breasted chat <i>Icteria virens</i>	SSC	Riparian woodlands and thickets of willows, vine tangles, and dense brush.	High – IMP, ANZ, CEN, INV, and CST Links.
Least bittern <i>Ixobrychus exilis hesperis</i>	SSC	Dense emergent wetland vegetation, sometimes interspersed with woody vegetation and open water.	Moderate – INV and CST Links where its wetland habitat is present.
Loggerhead shrike <i>Lanius ludovicianus</i>	SSC	Open ground including grassland, coastal sage scrub, broken chaparral, agriculture, riparian, open woodland.	High – IMP, ANZ, CEN, INV, and CST Links.

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Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
California gull <i>Larus californicus californicus</i>	SSC	Nests in alkali and lacustrine freshwater habitats; during winter frequents interior lowlands.	Low – IMP, ANZ, CEN, INV, and CST Links. Winters along the coast, around the Salton Sea, and near Lake Henshaw.
Brown-crested flycatcher <i>Myiarchus tyrannulus</i>	SSC	Riparian woodland.	Low – IMP and ANZ Links. A summer visitor to the southwestern U.S. First breeding observed in San Diego County in 2000. The species is expanding its range (Unitt, 2004).
Long-billed curlew <i>Numenius americanus</i>	SSC	Emergent mudflats.	High – IMP Link in agricultural areas. Low – CEN and CST Links. Primarily a winter visitor and migrant along the coast and surrounding Lake Henshaw.
American white pelican <i>Pelecanus erythrorhynchos</i>	SSC	Open water, coastal bays, large inland lakes.	Not Expected – ANZ, CEN, INV, and CST Links. Low – IMP Link.
Summer tanager <i>Piranga rubra</i>	SSC	Nests in riparian woodland; winter habitats include parks and residential areas.	Moderate – ANZ Link. Breeds along San Felipe Creek from west of Scissors Crossing to Sentenac Cienega (Unitt, 2004). Low – IMP, CEN, INV, and CST Links.
White-faced ibis <i>Plegadis chihi</i>	SSC	Nests in marsh; winter foraging in shallow lacustrine waters, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields and estuaries.	High – agricultural areas in the IMP Link. Moderate – CEN, INV, and CST Links.
Coastal California gnatcatcher <i>Polioptila californica californica</i>	FT,SSC	Coastal sage scrub, coastal sage scrub-chaparral, coastal sage scrub-grassland ecotone, riparian in late summer.	Present – CST Link and Reconstructor Sycamore Canyon to Elliot 69 kV Line High – INV Link.
Purple martin <i>Progne subis subis</i>	SSC	Nests in tall sycamores, pines, oak woodlands, coniferous forest; forages over riparian, forest and woodland.	Low – CEN Link. Known to breed near Lake Henshaw.
California spotted owl <i>Strix occidentalis occidentalis</i>	BLMS, SSC	Heavily forested oak and oak-conifer areas.	Low – CEN Link.
Crissal thrasher <i>Toxostoma crissale coloradense</i>	SSC	Permanent resident of desert successional scrub.	High – IMP and ANZ Links.
Le Conte's thrasher <i>Toxostoma lecontei lecontei</i>	BLMS, SSC	Open desert scrub, washes, alkali desert scrub, and desert succulent shrub habitats.	High – IMP and ANZ Links.
Least Bell's vireo <i>Vireo bellii pusillus</i>	FE,SE	Riparian habitat of low, dense, shrubby vegetation in valleys, foothills, and deserts.	Present – ANZ Link. A vireo was observed at Tamarisk Grove Campground in 2007. At nearby Yaqui Well, the vireo was observed as recently as 2002. High – IMP, CEN, INV, and CST Links.
Gray vireo <i>Vireo vicinior</i>	BLMS, SSC	Chaparral habitat primarily between 3,000 and 5,000 feet.	Low – ANZ and CEN Links. Rarest breeding bird of San Diego County's chaparral but known to occur in Anza-Borrego (Unitt, 2004).

Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Mammals			
Pallid bat <i>Antrozous pallidus</i>	BLMS, SSC	Wide variety of habitats in all but highest elevations. Most common in open, dry habitats with rocky areas for roosting.	High – Potentially occurring where suitable habitat exists in all links.
Ringtail <i>Bassariscus astutus octavus</i>	*	Variety of habitats but prefers chaparral, rocky hillsides, and riparian areas. Nocturnal and rarely seen.	High – ANZ, CEN, INV, and CST Links.
Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>	SSC	Primarily associated with mature chaparral. Has been trapped in mule fat scrub and is known to occur in coastal sage scrub.	High – CEN, INV, and CST links. Reported from the mouth of the Santa Margarita River south into northern Baja California, Mexico. In San Diego County, ranges east to the desert transition zone.
Northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>	SSC	Coastal sage scrub, grassland, sage scrub grassland ecotones, sparse chaparral, rocky substrates, loams and sandy loams.	High – INV and CST Links.
Pallid San Diego pocket mouse <i>Chaetodipus fallax pallidus</i>	SSC	Desert wash, desert scrub, annual grasslands with sandy or gravelly soils.	High – ANZ and CEN Links.
Mexican long-tongued bat <i>Choeronycteris mexicana</i>	SSC	Known only from San Diego County in California. Most records in urban habitat (CDFG, 1990). Rare visitor that likes desert canyons, arid mountain ranges. Roosts by day in caves, mines or buildings (Bats of San Diego County, 2006).	Low – Potentially occurring where suitable habitat exists in all but the IMP Link.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	BLMS, SSC	All but alpine and subalpine habitats. Roosts in caves or abandoned mines, occasionally in buildings.	High – Potentially occurring where suitable habitat exists in all links.
Stephens' kangaroo rat <i>Dipodomys stephensi</i>	FE,ST	Annual grassland and sparse coastal sage scrub with loose, well-drained soils.	Present – CEN Link.
Western mastiff bat <i>Eumops perotis californicus</i>	BLMS, SSC	Open, semi-arid to arid habitats, including coniferous and deciduous woodlands, coastal scrub, grasslands, palm oases, chaparral, desert scrub, and urban areas.	High – Potentially occurring where suitable habitat exists in all but the IMP Link.
Yellow bat <i>Lasiurus xanthinus</i>	SSC	Wooded areas and desert scrub. Roosts in foliage, particularly in palm trees.	Low – All links. A rare visitor to San Diego County (Bats of San Diego County, 2006).
San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>	SSC	Arid habitats with open ground; grasslands, coastal sage scrub, agriculture, disturbed areas, rangelands.	Present – INV Link and Reconductor Sycamore Canyon to Elliot 69 kV Line. High – CEN and CST Links.
California leaf-nosed bat <i>Macrotus californicus</i>	BLMS, SSC	Desert scrub areas; roosts by day in caves, abandoned mines, and tunnels. Occurs in small numbers—rarely seen. Doesn't hibernate so is restricted to warmer climates (Bats of San Diego County, 2006).	Low – IMP and ANZ Links.
Small-footed myotis <i>Myotis ciliolabrum</i>	BLMS	Wide variety of habitats, primarily arid wooded and brushy uplands near water (CDFG, 1990).	Moderate – Potentially occurring where suitable habitat exists in all but the IMP Link.

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Table D.2-4. Special Status Wildlife Species Potentially Occurring or Observed – Proposed Project

Species	Status ¹	Habitat Requirements	Potential for Occurrences ²
Long-eared myotis <i>Myotis evotis evotis</i>	BLMS	Brush, woodland, and forest habitats. Prefers coniferous woodland and forest. Avoids deserts.	Moderate – CEN, INV, and CST Links.
Fringed myotis <i>Myotis thysanodes thysanodes</i>	BLMS	Oak and juniper [woodlands], desert scrub. Roosts in caves, abandoned mines, or buildings (Bats of San Diego County, 2006).	Moderate – Potentially occurring where suitable habitat exists in all but the IMP Link.
Long-legged myotis <i>Myotis volans interior</i>	BLMS, SSC	Most common in woodland and forest habitats above 4,000 feet. Also forages chaparral, coastal scrub, Great Basin shrub habitats, and early successional woodlands/forests.	High – Potentially occurring where suitable habitat exists in all but the IMP Link.
Yuma myotis <i>Myotis yumanensis saturatus</i>	BLMS	Optimal habitat is open forests and woodlands with open water.	High – Potentially occurring where suitable habitat exists in all but the IMP Link.
Colorado Valley woodrat <i>Neotoma albigula venusta</i>	SSC	Desert habitat with mesquite, cholla, and prickly pear, and piñon-juniper stands.	High – IMP and ANZ Links.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	SSC	Coastal sage scrub, chaparral, piñon-juniper woodland with rock outcrops, cactus thickets, dense undergrowth.	High – Potentially occurring where suitable habitat exists in all but the IMP Link.
Pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>	SSC	Semi-arid desert lands; prefers high cliffs and rock outcrops.	Moderate – IMP and ANZ Links.
Big free-tailed bat <i>Nyctinomops macrotis</i>	SSC	Urban areas of southwestern San Diego County; probably does not breed in California.	Moderate – CST Link. Two CNDDDB records within one mile of the Proposed Project.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	SSC	Grassland, sparse coastal sage scrub, low arid scrub, and semi-scrub vegetation.	High – CEN, INV, and CST Links.
Peninsular bighorn sheep <i>Ovis canadensis cremnobates</i>	FE,ST*	Dry, rocky, low-elevation (400 to 4,000 feet) slopes, canyons, and washes from the San Jacinto and Santa Rosa Mountains near Palm Springs, south into Baja California, Mexico.	Present – ANZ Link. High – IMP Link.
Palm Springs little pocket mouse <i>Perognathus longimembris bangsi</i>	SSC	Loose or sandy soils with sparse to moderate vegetative cover.	Moderate – Potentially occurring in San Diego County where suitable habitat exists in ANZ and CEN Links.
Jacumba little pocket mouse <i>Perognathus longimembris internationalis</i>	SSC	Arid areas with fine, sandy soils.	High – Potentially occurring in San Diego County where suitable habitat exists in ANZ and CEN Links.
American badger <i>Taxidea taxus</i>	SSC	Dry, open treeless areas, grasslands, coastal sage scrub.	Moderate – All links. Known to occur in San Diego and Imperial Counties.

1 Status: FT=federally threatened, FE=federally endangered; BLMS=BLM sensitive, ST=State threatened, SE=State endangered, SSC=California Species of Special Concern, * =CDFG Fully Protected Species, RSS=Regionally Sensitive Species under SDG&E's NCCP, SDCS=San Diego County sensitive

2 Link Abbreviations: IMP=Imperial Valley; ANZ=Anza-Borrego; CEN=Central; INV=Inland Valley; CST=Coastal

D.2.2 Environmental Setting for the Proposed Project

Appendix 2 presents a Policy Screening Report, in which all relevant plans and policies are evaluated for their relevance to the Proposed Project. Analysis of the Proposed Project and its consistency with plans and policies governing the region is presented in Section D.16.

D.2.2.1 Imperial Valley Link

Bioregion. The Imperial Valley Link is in the Colorado Desert bioregion that encompasses all of Imperial County, the southeastern portion of Riverside County, the eastern end of San Bernardino County, and the eastern portion of San Diego County. This agriculturally rich bioregion is semi-arid but heavily irrigated (California Environmental Resources Evaluation System [CERES], 2003).

The Colorado Desert is the western extension of the Sonoran desert, which covers southern Arizona and northwestern Mexico. The Colorado Desert is a desert of much lower elevation than the Mojave Desert to the north, and much of the land lies below 1,000 feet in elevation. Mountain peaks rarely exceed 3,000 feet. Common habitats include sandy desert, scrub, palm oasis, and desert wash. Summers are hot and dry, and winters are cool and moist (CERES, 2003).

Plant Communities and Sensitive Habitats. The Imperial Valley Link of the Proposed Project is an approximately 83-mile route that extends from the Imperial Valley Substation near El Centro, Imperial County north and west to the eastern boundary of Anza-Borrego Desert State Park. A generalized vegetation map of the Imperial Valley Link is presented in Figure D.2-1. Detailed vegetation mapping for the Imperial Valley Link can be found in Appendix 8. The predominant plant community along this route is creosote bush scrub. Other desert plant communities such as Sonoran mixed woody and succulent scrub, Sonoran wash scrub, Colorado desert wash scrub, chenopod scrub, desert saltbush scrub, desert sink scrub, and tamarisk scrub are also found along this route. In the eastern portion of this route, the Proposed Project route crosses agricultural fields.

Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following plant communities that occur along the route may be jurisdictional: Sonoran wash scrub, Colorado desert wash scrub, and tamarisk scrub.

Special Status Plant and Wildlife Species and Documented Sensitive Biological Resources. The following special status plant and wildlife species were observed or have been documented in the Imperial Valley Link Proposed Project PSA: desert pupfish, flat-tailed horned lizard, burrowing owl, and Swainson's hawk. A total of 22 other special status plant species and 36 other special status wildlife species have potential to occur along this route (see Tables D.2-3 and D.2-4).

Special Habitat Management Areas Overview. The Proposed Project's transmission line route crosses over a small portion of desert pupfish critical habitat (San Felipe Creek at SR78/86) and travels across approximately 20 miles of bighorn sheep critical habitat. Along portions of the Imperial Valley Link, MAs have been designated in order to promote the maintenance of self-sustaining stable or increasing populations of the FTHL (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The first five miles of the Proposed Project route (beginning at the Imperial Valley Substation) crosses through the Yuha Desert MA. Then, the route crosses northwest through the West Mesa MA from approximately MP 20 to MP 30 and MP 39 to MP 49. The route travels around the San Sebastian Marsh/San Felipe Creek ACEC.

D.2.2.2 Anza-Borrego Link

Bioregion. The Anza-Borrego Link is also in the Colorado Desert bioregion (CERES, 2003).

Plant Communities and Sensitive Habitats. The Anza-Borrego Link of the Proposed Project is an approximately 23-mile route that extends from the eastern boundary of Anza-Borrego Desert State Park (approximately two miles northwest of the San Felipe Substation) to the western boundary of the Park where the Pinyon Ridge Wilderness Area, Grapevine Canyon Wilderness Area, and San Felipe Hills Wilderness Study Area meet. A generalized vegetation map of the Anza-Borrego Link is presented in Figure D.2-2. Detailed vegetation mapping for the Anza-Borrego Link can be found in Appendix 8. The predominant plant community along this route is creosote bush scrub. Other desert plant communities such as Sonoran mixed woody and succulent scrub, Sonoran wash scrub, Colorado desert wash scrub, encelia scrub, desert saltbush scrub, semi-desert chaparral, and Peninsular juniper woodland and scrub are also found along this route.

Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following plant communities that occur along the route may be jurisdictional: Sonoran wash scrub and Colorado desert wash scrub.

Special Status Plant and Wildlife Species and Documented Sensitive Biological Resources. The following special status plant and wildlife species were observed or have been documented in the Anza-Borrego Link Proposed Project PSA: Borrego bedstraw, pygmy lotus, Coves' cassia, red-diamond rattlesnake, coast (San Diego) horned lizard, two-striped garter snake, Cooper's hawk, golden eagle, long-eared owl, Swainson's hawk, least Bell's vireo, and Peninsular bighorn sheep. A total of 22 other special status plant species and 55 other special status wildlife species have potential to occur along this route (see Tables D.2-3 and D.2-4).

Special Habitat Management Areas Overview. The Proposed Project crosses through approximately 21 miles of bighorn sheep critical habitat. The Vallecito Mountains, Pinyon Ridge, and Grapevine Mountain wilderness areas occur along the Proposed Project route of the Anza-Borrego Link. The route skirts along the northern edge of the Vallecitos Mountains Wilderness and travels between the connection of the Grapevine Mountain Wilderness with the Pinyon Ridge Wilderness. "Wilderness" is defined in part as "areas where the earth and its community of life are untrammelled by man and where man himself is a visitor who does not remain. ...affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable." (Public Resources Code § 5093.33). The area around Angelina Spring, located in Grapevine Canyon (Grapevine Mountain Wilderness), is an important native American archaeological site that was formerly occupied by two Yuman groups, the Northern Diegueno and the Kamia, both of which are ancestral to present-day Kumeyaay groups. The Proposed Project skirts around Angelina Spring.

D.2.2.3 Central Link

Bioregion. The Central Link is also in the Colorado Desert bioregion (CERES, 2003).

Plant Communities and Sensitive Habitats. The Central Link of the Proposed Project is an approximately 28-mile route that extends from the western boundary of Anza-Borrego Desert State Park to approximately four miles northeast of San Diego Country Estates in Ramona. A generalized vegetation map of the Central Link is presented in Figure D.2-3. Detailed vegetation mapping for the Central Link can be found in Appendix 8. The predominant plant community along this route is chaparral. Other plant com-

munities are also found along this route such as grasslands, oak riparian forest, oak woodlands, freshwater seep, and riparian scrubs.

Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following types of plant communities that occur along the route may be jurisdictional: oak riparian forest, freshwater seep, and riparian scrubs.

Special Status Plant and Wildlife Species and Documented Sensitive Biological Resources. The following special status plant and wildlife species were observed or have been documented in the Central Link Proposed Project PSA: delicate clarkia, San Diego gumplant, San Diego sunflower, San Felipe monardella, Nuttall's scrub oak, western spadefoot toad, two-striped garter snake, Cooper's hawk, golden eagle, ferruginous hawk, Swainson's hawk, yellow warbler, white-tailed kite, prairie falcon, and Stephens' kangaroo rat. A total of 18 other special status plant species and 59 other special status wildlife species have potential to occur along this route (see Tables D.2-3 and D.2-4).

Special Habitat Management Areas Overview. The Proposed Project occurs in southwestern willow flycatcher designated critical habitat at the proposed Central East Substation in this link. The Central Link of the Proposed Project also travels between the east and west portions of the Santa Ysabel Open Space Preserve and along the northeastern edge of the San Felipe Hills Wilderness Study Area.

D.2.2.4 Inland Valley Link

Bioregion. The Inland Valley Link is in the South Coast bioregion (CERES, 2003). The bioregion encompasses all or part of six counties: the coastal half of Ventura County, all of Orange County, most of Los Angeles County, the southwestern edge of San Bernardino County, the western end of Riverside County, and the western two-thirds of San Diego County. The South Coast is the most populous bioregion in California with more than 16.1 million people according to 1990 census figures. The area is subject to hot, dry summers with predictable wildfires that are followed by wet winters with storms that can trigger mudslides on fire-denuded slopes (CERES, 2003).

Tremendous urbanization in the South Coast bioregion has brought about the most intense effects on natural resources of any bioregion, resulting in alteration and destruction of habitat and proliferation of exotic or non-native species. Plant communities vary widely from chaparral, juniper-pinyon woodland, and grasslands at lower elevations to mixed hardwood forest, southern oak, southern Jeffrey pine and southern yellow pine at higher levels. Along the coast, where real estate is especially prized, salt marshes and lagoons are no longer common (CERES, 2003).

Plant Communities and Sensitive Habitats. The Inland Valley Link of the Proposed Project is an approximately 28-mile route that extends from approximately four miles northeast of San Diego Country Estates in Ramona to the Sycamore Canyon Substation. A generalized vegetation map of the Inland Valley Link is presented in Figure D.2-4. Detailed vegetation mapping for the Inland Valley Link can be found in Appendix 8. The predominant plant communities along this route are coastal sage-chaparral scrub and chaparral. Other plant communities such as coastal sage scrub, grassland, oak riparian forest, mule fat scrub, and oak woodlands are also found along this route.

Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following plant communities that occur along the route may be jurisdictional: oak riparian forest and mule fat scrub.

Special Status Plant and Wildlife Species and Documented Sensitive Biological Resources. The following special status plant and wildlife species were observed or have been documented in the Inland Valley Link Proposed Project PSA: delicate clarkia, San Diego sand aster, Ramona horkelia, felt-leaved monardella, western spadefoot toad, red-diamond rattlesnake, Cooper's hawk, southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, and San Diego black-tailed jackrabbit. A total of 19 other special status plant species and 55 other special status wildlife species have potential to occur along this route (see Tables D.2-3 and D.2-4).

Special Habitat Management Areas Overview. The Proposed Project travels through approximately seven miles of coastal California gnatcatcher designated critical habitat in this link. The Inland Valley Link of the Proposed Project also crosses the northern point of the Sycamore Canyon Preserve, and it passes through Mount Gower Open Space and the northern section Barnett Ranch Open Space.

D.2.2.5 Coastal Link

Bioregion. The Coastal Link is also in the South Coast bioregion (CERES, 2003).

Plant Communities and Sensitive Habitats. The Coastal Link of the Proposed Project is an approximately 14-mile route that extends from the Sycamore Canyon Substation to the Peñasquitos Substation. A generalized vegetation map of the Coastal Link is presented in Figure D.2-5. Detailed vegetation mapping for the Coastal Link can be found in Appendix 8. The predominant plant communities along this route are coastal sage scrub and chaparral. Other plant communities such as, coastal sage-chaparral scrub, grassland, vernal pool, riparian forests, riparian scrubs, and oak woodland are also found along this route.

Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following types of plant communities that occur along the route may be jurisdictional: vernal pool, riparian forests and riparian scrubs.

Special Status Plant and Wildlife Species and Documented Sensitive Biological Resources. The following special status plant and wildlife species were observed or have been documented in the Coastal Link Proposed Project PSA (including along the Reconductor Sycamore Canyon to Elliot 69 kV Line): San Diego thorn-mint, California adolphia, Del Mar manzanita, summer-holly, San Diego sand aster, San Diego button-celery, San Diego barrel cactus, Nuttall's scrub oak, San Diego fairy shrimp, southern California rufous-crowned sparrow, northern harrier, white-tailed kite, California horned lark, coastal California gnatcatcher, and San Diego black-tailed jackrabbit. A total of 25 other special status plant species and 60 other special status wildlife species have potential to occur along this route (see Tables D.2-3 and D.2-4).

Special Habitat Management Areas Overview. The Coastal Link of the Proposed Project travels primarily along the northern edge of the Los Peñasquitos Canyon Preserve.

Figure D.2-1. Biological Resources Overview: Imperial Valley Link
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Figure D.2-2. Biological Resources Overview: Anza-Borrego Link

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Figure D.2-3. Biological Resources Overview: Central Link
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Figure D.2-4. Biological Resources Overview: Inland Valley Link
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Figure D.2-5. Biological Resources Overview: Coastal Link
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D.2.2.6 Other System Upgrades

Reconductor Sycamore Canyon to Elliot 69 kV Line. As part of the Proposed Project, a reconductor of the existing Sycamore Canyon to Elliot 69 kV transmission line would be required. Along this 8.5-mile segment, new conductors would be installed primarily on existing towers, but several towers would have to be replaced.

A generalized vegetation map of the Reconductor Sycamore Canyon to Elliot 69 kV line is presented in Figure D.2-6. Detailed vegetation mapping for the Reconductor can be found in Appendix 8. Plant communities along the reconductor route include southern mixed chaparral, coastal sage-chaparral scrub, Diegan coastal sage scrub, mule fat scrub, valley needlegrass grassland, non-native grassland, southern coast live oak riparian forest, southern willow scrub, riparian woodland, and vernal pool. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following plant communities that occur along the route may be jurisdictional: mule fat scrub, southern coast live oak riparian forest, southern willow scrub, riparian woodland, and vernal pool. The following special status plant and wildlife species were observed or have been documented along the reconductor route: San Diego button-celery, San Diego thorn-mint, Del Mar manzanita, San Diego barrel cactus, Nuttall's scrub oak, summer holly, coastal California gnatcatcher, southern California rufous-crowned sparrow, white-tailed kite, California horned lark, and San Diego black-tailed jackrabbit.

With regard to special habitat management areas, the reconductor alignment passes through MCAS Miramar, Mission Trails Regional Park, and City of San Diego Multi-Habitat Planning Area.

Substation Modifications. System upgrades would also be made to the Sycamore Canyon Substation and the Peñasquitos Substation. This portion of the Proposed Project occurs in the South Coast bioregion. The system upgrades would be made entirely within the developed, fenced facilities, and it is anticipated that there would be no impacts to biological resources.

The Proposed Project would also involve modifications or upgrades to the San Luis Rey Substation and the South Bay Substation. This portion of the Proposed Project occurs in the South Coast bioregion. Since these modifications or upgrades would also occur entirely within the developed, fenced facilities, it is anticipated that there would be no impacts to biological resources.

D.2.3 Applicable Regulations, Plans, and Standards

This section provides a discussion of federal, State, and regional environmental regulations, plans and standards applicable to the SRPL Project.

D.2.3.1 Federal Regulations

National Environmental Policy Act

NEPA (42 U.S.C. 4321 et seq.) declares a continuing federal policy that directs “a systematic, interdisciplinary approach” to planning and decisionmaking and requires environmental statements for “major Federal actions significantly affecting the quality of the human environment.” Implementing regulations by the Council on Environmental Quality (CEQ) (40 CFR Parts 1500-1508) requires federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the

human environmental and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should therefore be seen as an overall framework for the environmental evaluation of federal actions. The Bureau of Land Management is the Lead Agency under NEPA for this **project**.

Federal Land Policy and Management Act

The Federal Land and Management Act of 1976, as amended (43 U.S.C. 1701-1782), designated a 25 million-acre area in southern California as the **California Desert Conservation Area (CDCA)**, of which 10 million acres are managed by the BLM. The CDCA is managed under the principles outlined in the California Desert Conservation Area Plan of 1980. The CDCA is divided into four use categories that include controlled (Class C), limited (Class L), moderate (Class M), and intensive (Class I) land use. Four million acres of the CDCA are covered as Class C and are intended to be kept in a natural state with restrictions on access and limits human disturbance to foot and horse traffic. Class L lands comprise another 4 million acres of the CDCA and aim to protect sensitive, natural, scenic, ecological, and cultural resources. Lower-intensity, carefully controlled multiple uses that do not significantly diminish the resources named above are allowed within this land use class. Approximately 1.5 million acres are designated as Class M and provide for mixed use that balances with ecosystem preservation. This class allows for human disturbance such as mining, livestock grazing, recreation, energy, and utility development to occur, but any potential effects must be mitigated. Finally, Class I lands comprise approximately 500,000 acres and allow for concentrated human disturbance. Mitigation for any human disturbance should be conducted within this land use class when possible.

The CDCA contains 69 wilderness areas covered as Class C lands which total 3,667,020 acres and approximately 80 Areas of Critical Environmental Concern (ACECs) covering approximately 750,000 acres. Each ACEC has its own management plan to ensure maintenance and protection of the unique resources within each ACEC.

Clean Water Act

The Federal Water Pollution Control Act of 1972 as amended (33 U.S.C. 1251 et seq.), commonly known as the Clean Water Act (CWA) is intended to restore and maintain the quality and biological integrity of the nation's waters. It prohibits the discharge of pollutants into "waters of the United States (U.S.)" without a National Pollutant Discharge Elimination System (NPDES) permit from the U.S. Environmental Protection Agency (U.S. EPA). By issuing NPDES permits, the U.S. EPA can regulate the discharge of pollutants to protect water quality.

Section 404 of the CWA provides that whenever any person discharges dredged or fill material into waters of the U.S. (e.g., streams, wetlands, lakes, bays) a permit is required from the ACOE. The ACOE has issued 50 separate Nationwide Permits (NWP) for different types of projects with minor impacts to wetlands (as of March 12, 2007). Depending on the level of impact, projects qualifying for an NWP may be required to provide ACOE with Pre-Construction Notification of the impacts and meet other restrictions. Projects with greater wetlands impacts than those allowed under one of the NWPs require an Individual Permit. The process of obtaining an individual permit includes public notice and response to all comments received; the permit decision document includes a discussion of the environmental impacts of the project, the permit addresses public and private needs, alternatives to achieve Project purposes if needed, and beneficial and/or detrimental effects of the project on public and private uses. In SWANCC vs. ACOE, the Supreme Court ruled that the jurisdiction of ACOE does not extend to isolated, intrastate, non-

Figure D.2-6. Biological Resources Overview: Sycamore Canyon–Elliot Substation Reconductor
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navigable waters and wetlands, such as vernal pools, ephemeral streams, and wetlands not associated with a stream channel. The ACOE also authorizes activities that involve structures or work in or affecting navigable waters of the U.S. under Section 10 of the Rivers and Harbors Act of 1899.

Section 401 of the CWA requires that an applicant for a federal license or permit to discharge into navigable waters must provide the federal agency with a water quality certification, declaring that the discharge would comply with water quality standards requirements of the CWA. ACOE issuance of a Section 404 permit triggers the requirement that a Section 401 certification also be obtained. In California, the RWQCBs issue this certification.

Executive Order 13112 – Invasive Species

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

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) designates threatened and endangered animals and plants and provides measures for their protection and recovery. “Take” of listed animal species and of listed plant species in areas under federal jurisdiction is prohibited without obtaining a federal permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” (USFWS, 1973) Harm includes any act that actually kills or injures fish or wildlife, including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife. Activities that damage the habitat of (i.e., harm) listed wildlife species require approval from the USFWS for terrestrial species. The FESA also generally requires determination of critical habitat for listed species. If critical habitat has been designated, impacts to areas that contain the primary constituent elements identified for the species, whether or not it is currently present, is also prohibited. FESA Section 7 and Section 10 provide two pathways for obtaining authority to take listed species.

Under Section 7 of the FESA, a federal agency that authorizes, funds, or carries out a project that “may affect” a listed species or its critical habitat must consult with USFWS. For example, the ACOE must issue a permit for projects impacting non-wetland Waters of the U.S. or wetlands under ACOE jurisdiction. In a Section 7 Consultation, the lead agency (e.g., ACOE) prepares a biological assessment (BA) that analyzes whether the project is likely to adversely affect listed wildlife or plant species or their critical habitat, and proposes suitable avoidance, minimization, or compensatory mitigation measures. If the action would adversely affect the species, USFWS then has 30 days to respond to the BA by issuing its Biological Opinion determining whether the project is likely to jeopardize the species or result in adverse modification of critical habitat. If a “no jeopardy” opinion is provided, the project may proceed. If a jeopardy or adverse modification opinion is provided, the USFWS may suggest “reasonable and prudent measures” that would result in no jeopardy.

Under Section 10 of the FESA private parties with no federal nexus (i.e., no federal agency will authorize, fund, or carry out the project) may obtain an Incidental Take Permit to harm listed species incidental to the lawful operation of a project. To obtain an incidental take permit, the applicant must develop a habitat conservation plan (HCP) which specifies effects to listed species, provides minimization and mitigation measures and funding, discusses alternatives considered and the reasons why such alternatives are not being used. If the USFWS finds that the HCP will not “appreciably reduce the likelihood of the sur-

vival and recovery of the species” it will issue an incidental take permit. Issuance of incidental take permits requires the USFWS to conduct an internal Section 7 consultation, thus triggering coverage of any listed plant species or critical habitat present on site (thus, listed plants on private property are protected under FESA if a listed animal is present). Unlike a Section 7 consultation, the USFWS is not constrained by a time limit to issue an incidental take permit.

Bureau of Land Management Sensitive Species

BLM Sensitive Species are species designated by the State Director that are not already federal listed proposed, or candidate species, or State listed because of potential endangerment. BLM’s policy is to “ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered.” Various offices of the BLM maintain a list of special status plant and wildlife species that are to be considered as part of the management activities carried out by the BLM on the lands that they administer.

Executive Order 11990 Protection of Wetlands

This order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative.

Fish and Wildlife Coordination Act

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

Flat-Tailed Horned Lizard Rangewide Management Strategy

The Flat-Tailed Horned Lizard Rangewide Management Strategy was prepared in order to provide management and conservation guidelines for FTHL habitat throughout the species’ range. Five MAs, four of which are in California, were designated in order to promote the maintenance of self-sustaining stable or increasing populations. For habitat outside of the MAs, a land mitigation and compensation program is in effect to balance future activities in FTHL habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations that protect migratory birds, (including their parts, eggs, and nests) from killing, hunting, pursuing, capturing, selling, and shipping unless expressly authorized or permitted.

Bald Eagle Protection Act

The Bald Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d), prohibits the take, possession, sale, or transport of bald and golden eagles and their parts, eggs, or nests without authorization from the Secretary of the Interior. Take of eagles includes the following: pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.

D.2.3.2 State Laws and Regulations

California Coastal Act

The California Coastal Act (CCA) was enacted in 1976 to provide long-term protection of the California coastline and the coastal zone. Within the coastal zone, sensitive habitats, agricultural lands, and scenic values are protected through issuance of development permits, either by the California Coastal Commission (CCC) or by cities and counties in the coastal zone that have established local coastal programs (LCPs) with CCC approval. The CCC also retains permit authority for development along the immediate coastline.

LCPs specify appropriate location, type, and scale of new or changed land and water uses through a land use plan and implementation measures, such as zoning ordinances consistent with the CCA. Because some jurisdictions have subdivided their coastal zone jurisdictions, there are 126 separate LCPs. LCPs must include a description of sensitive coastal resources to be protected, a list of significant adverse impacts that could result from development, a map of the area indicating its size and location, and appropriate implementing actions.

California Endangered Species Act

The California Endangered Species Act (CESA) provides protection and prohibits the take of plant, fish, and wildlife species listed by the State of California. Unlike FESA, State listed plants have the same degree of protection as wildlife, but insects and other invertebrates may not be listed. Take is defined similarly to FESA, and is prohibited for both listed and candidate species. Take authorization may be obtained by the project applicant from CDFG under CESA Sections 2091 and 2081. Section 2091, like FESA Section 7, provides for consultation between a State lead agency under CEQA and CDFG, with issuance of take authorization if the project does not jeopardize the listed species. Section 2081 allows take of a listed species for educational, scientific, or management purposes. In this case, private developers consult with CDFG to develop a set of measures and standards for managing the listed species, including full mitigation for impacts, funding of implementation, and monitoring of mitigation measures.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by State and local public agencies. In addition to federal or State listed species, “sensitive” plants and animals receive consideration under CEQA. Sensitive species include, but are not limited to, wildlife Species of Special Concern listed by CDFG, and plant species on the California Native Plant Society’s List 1A (presumed extinct), List 1B (rare, threatened, or endangered in California and elsewhere; eligible for State listing), or List 2 (rare, threatened, or endangered in California but more common elsewhere; eligible for State listing).

California Fish and Game Code

Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code outline protection for fully protected species of mammals, birds, reptiles, amphibians, and fish. Species that are fully protected by these sections may not be taken or possessed at any time. CDFG cannot issue permits or licenses that authorize the “take” of any fully protected species, except under certain circumstances such as scientific research and live capture and relocation of such species pursuant to a permit for the protection of livestock. Furthermore, is the responsibility of the CDFG to maintain viable populations of all native species. To that end, the CDFG has designated certain vertebrate species as Species of Special Concern because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 directed the CDFG to carry out the Legislature's intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA gave the California Fish and Game Commission the power to designate native plants as “endangered” or “rare” and protect endangered and rare plants from take. The California Endangered Species Act of 1984 expanded on the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the Fish and Game Code. To align with federal regulations, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals into the Act as threatened species, but did not do so for rare plants. Thus, there are three listing categories for plants in California: rare, threatened, and endangered. Because rare plants are not included in CESA, mitigation measures for impacts to rare plants are specified in a formal agreement between CDFG and the project proponent.

California Desert Native Plants Act

The California Desert Native Plants Act was passed in 1981 to protect non-listed California desert native plants from unlawful harvesting on both public and privately owned lands. Harvest, transport, sale, or possession of specific native desert plants is prohibited unless a person has a valid permit, or wood receipt, and the required tags and seals. The provisions are applicable within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties.

California Natural Community Conservation Planning Act

The California NCCP Act provides for regional planning to conserve listed and candidate species, their habitats, and natural communities through habitat-based conservation measures while allowing economic growth and development. The initial application of the NCCP Act was in coastal sage scrub habitat in southern California, home to the California gnatcatcher. The NCCP Act has subsequently been applied to the CAL-FED Bay Delta project and others in northern California.

The southern California coastal sage scrub NCCP region consists of 11 subregions that have been further divided into subareas corresponding to the boundaries of participating jurisdictions or landowners. In each subregion and subarea, landowners, environmental organizations, and local agencies participate in a collaborative planning effort to develop a conservation plan acceptable to USFWS and CDFG. The NCCP conservation requires that threat impacts be mitigated to a level that contributes to the recovery of listed species rather than just avoiding jeopardy.

Porter-Cologne Act

The intent of the Porter-Cologne Act is to protect water quality and the beneficial uses of water, and applies to both surface and groundwater. Under this law, the California State Water Resources Control Board develops statewide water quality plans, and the RWQCBs develop basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of both statewide and basin plans. Waters regulated under Porter-Cologne include isolated waters that are no longer regulated by ACOE. Developments which impact jurisdictional waters must demonstrate compliance with the goals of the Act by developing Storm Water Pollution Prevention Plans, Standard Urban Storm Water Mitigation Plans, and other measures in order to obtain a CWA Section 401 certification.

Lake and Streambed Alteration Program

The Lake and Streambed Alteration Program is a California law that requires that any person, State or local government agency, or public utility notify the CDFG prior to beginning any activity that would obstruct or divert the natural flow of, use material from, or deposit or dispose of material into, a river, stream, or lake, whether they are permanent, intermittent, or ephemeral waterbodies. The CDFG has 30 days to review the proposed actions and propose measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFG and the project proponent becomes the Lake or Streambed Alteration Agreement. The conditions of agreement and a CWA Section 404 permit often overlap.

California State Parks

The Proposed Project crosses ABDSP, which is managed by the California Department of Parks and Recreation and has a General Plan as of 2005. The plan provides a conceptual framework upon which ABDSP will develop management goals and strategies for future developments. Within the General Plan, mitigation measures are outlined for any activities that may cause disturbance to geological, water, biological, cultural, recreational, paleontological, and aesthetic resources. If mitigation is required, a Mitigation Monitoring Program would need to be developed in order to avoid potentially significant impacts.

D.2.3.3 Regional and Local Plans, Policies, and Regulations

San Diego Multiple Species Conservation Program

The MSCP, approved in 1996, provides a framework for protection of 23 vegetation types and 85 species in southwestern San Diego County. The MHPA was designated within which the permanent MSCP preserve will be assembled through conservation of lands already in public ownership (85,190 acres), purchase of private lands from willing sellers (27,000 acres), and additional contributions through mitigation for development impacts (63,170 acres). The MSCP is to be implemented through Subarea Plans by the county and 11 cities in the Plan Area. Section D.2.1.2.1 provides an overview of the various subarea plans along the project route that have been adopted or are proposed. While the regulations of local cities and counties do not apply to the Proposed Project, consideration should be given to the consistency of the project with regional resource planning efforts embodied in these local planning documents.

SDG&E Subregional Natural Community Conservation Plan

The SDG&E NCCP was approved by the Wildlife Agencies in December 1995, authorizing take of 110 species (covered species) resulting from impacts from SDG&E's ongoing activities including installation, use, maintenance, repair operations, and expansion to those systems. SDG&E and the Wildlife Agencies have, concurrent with the approval date, entered into a long-term Implementing Agreement that describes the legal rights and obligations regarding each of these parties with respect to the implementation and maintenance of this NCCP. The Implementing Agreement authorizes SDG&E to conduct its activities within the Plan Area provided they are performed in conformance with the Plan. Because the Proposed Project extends more than 30 miles outside of the SDG&E Plan Area, the USFWS has stated that the project will not be evaluated by the standards set forth in the SDG&E NCCP.

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Environmental Impacts and Mitigation Measures for the Proposed Project

D.2.4 Significance Criteria and Approach to Impact Assessment

D.2.4.1 Significance Criteria

The significance criteria for biological impacts for this project are based primarily on the CEQA Guidelines Appendix G (see criteria below in bold), and are supplemented with, but not limited by, more specific criteria as noted below.

- 1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies, including:**
 - a. Any impact to one or more individuals of a species that is federal or State listed as endangered or threatened
 - b. Impacts that would affect the number or range or regional long-term survival of a sensitive or special status plant species
 - c. Temporary or permanent disturbance of FTHL MAs
 - d. Temporary or permanent disturbance of designated critical habitat for federal listed species
 - e. Impacts that directly or indirectly affect the breeding success of golden eagles or bald eagles
 - f. Impacts that directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species
 - g. Activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs (Migratory Bird Treaty Act)
 - h. Impacts that take bald or golden eagles, eagle eggs or any part of an eagle (Bald Eagle Protection Act).

- 2. Have a substantial adverse effect on a riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the Wildlife Agencies, including:**
 - a. Project-related construction, grading, clearing, or other activities that would temporarily or permanently remove sensitive native or naturalized habitat
 - b. Introduction of exotic species that substantially adversely affect native vegetation communities
 - c. Project-related construction, grading, clearing, or other activities that would substantially adversely affect native vegetation communities through the spread of fugitive dust.

- 3. Have a substantial adverse effect on federally protected water quality or wetlands as defined by Section 404 of the Clean Water Act, respectively (including, but not limited to riparian, marsh, vernal pool, and desert wash) through direct removal, filling, hydrological interruption, or other means, including:**
 - a. Any of the following effects to or within jurisdictional wetland and/or riparian habitats as defined by ACOE, CDFG or local jurisdictions: removal of vegetation; grading; obstruction or diversion of water flow; adverse change in velocity, siltation, volume of flow, or runoff rate; placement of

fill; construction of a road crossing; placement of culverts, other structures, or other underground piping; any disturbance of the substratum; and/or any activity that may cause an adverse change in native species composition, diversity, or abundance.

- b. Failure to provide a wetland buffer adequate to protect the function and values of existing wetlands.
- 4. Interfere substantially with the movement of native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, including:**
 - a. Impacts that prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their survival and reproduction
 - b. Impacts that interfere with connectivity between blocks of habitat, or block or interfere with a local or regional wildlife corridor or linkage
 - c. Impacts that result in fragmentation of a species' population
 - d. Impacts that increase noise or nighttime lighting in wildlife habitat or a wildlife corridor or linkage to adversely affect the behavior of the animals.
 - 5. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.** This significance criterion for biological resources is discussed in Section D.16.
 - 6. Conflict with the provisions of a National Wildlife Refuge, State Park or an adopted Habitat Conservation Plan (HCP), Natural Communities Conservation Plan (NCCP), or other approved local, regional, or State HCP.**
 - a. Placement of development activities within locally designated preserves established to implement habitat conservation plans or State Park policies/programs
 - b. Impacts that result in direct or indirect effects to biologically sensitive lands or preserves.

Whether or not the Proposed Project would conflict with the provisions of these plans is discussed in Section D.16.

D.2.4.2 Applicant Proposed Measures

These APMs include environmental measures that are already required by existing regulations and/or requirements, or are SDG&E's standard practices that would minimize or prevent any potential impacts. APMs are designed to address temporary and/or permanent impacts, as well as impacts anticipated during operations and maintenance of the completed project. These measures would be implemented regardless of any regulatory oversight by the CPUC and BLM and are not measures added to the project based on the EIR/EIS analysis. Rather, they are integrated as part of the project description. Therefore, the assessment of potential project-related impacts and levels of significance is discussed in the context of these APMs being included as part of the project, and a determination is made as to whether additional project-specific mitigation measures would be required to further limit or reduce any impacts to less than significant. It should be noted that the APMs are based on SDG&E's NCCP which is not applicable to this project (see discussion in Section D.2.3.3). As a result, in some cases the APMs are not appropriate or are not adequate to provide mitigation for the project. In these cases, mitigation measures are proposed.

Table D.2-5. Standard Applicant Proposed Measures Specific to Biological Resources

APM No.	Description
BIO-APM-1	SDG&E would perform any detailed on-the-ground protocol surveys with regard to specific sensitive plant or wildlife species whose habitat would be impacted by the project based on final design in accordance with federal or State regulations or statutes. SDG&E would submit results of these surveys to the USFWS and CDFG and consult on reasonable and feasible mitigation measures for potential impacts, prior to any ground disturbing activities in a particular area. Mitigation would prioritize avoidance as the primary means to address impacts. If avoidance is not feasible, then relocation/restoration would be implemented. Where relocation/restoration is not feasible or deemed not to fully address impacts, then mitigation through SDG&E's NCCP mitigation credits or if necessary compensation via another on- or offsite purchase or dedication of habitat at a ratio of 2:1 for impacts inside preserves and 1:1 for impacts outside of preserves would be identified and implemented.
BIO-APM-2	Prior to construction, all SDG&E, contractor, and subcontractor Project personnel would receive training regarding the appropriate work practices necessary to effectively implement the biological APMs and to comply with the applicable environmental laws and regulations including appropriate wildlife avoidance and impact minimization procedures, the importance of these resources and the purpose and necessity of protecting them, and methods for protecting sensitive ecological resources.
BIO-APM-3	Except when not feasible due to physical or safety constraints, all Project vehicle movement would be restricted to existing and constructed roads as a part of the project and determined and marked by SDG&E in advance for the contractor, contractor-acquired accesses, or public roads. New access road construction for the project would be allowed year-round. However, when feasible, every effort would be made to avoid constructing roads during the nesting season. When it is not feasible to keep vehicles on existing access roads or to avoid constructing new access roads during the nesting, breeding, or flight season, SDG&E would perform a site survey, or more as appropriate, in the area where the work is to occur. This survey would be performed to determine presence or absence of endangered nesting birds, or other endangered species in the work area. SDG&E would submit results of this survey to the USFWS and CDFG and consult on reasonable mitigation measures to avoid or minimize for potential impacts, prior to vehicle use off existing access roads or the construction of new access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys otherwise required by BIO-APM-1. Parking or driving underneath oak trees is not allowed in order to protect root structures. In addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, and other construction activities which could interfere with plant photosynthesis, a 15-mile-per-hour speed limit shall be observed on dirt access roads to reduce dust and allow reptiles and small mammals to disperse.
BIO-APM-4	The area limits of Project construction and survey activities would be predetermined based on temporary and permanent disturbance areas noted on final design engineering drawings with activity restricted to and confined within those limits. Survey personnel shall keep survey vehicles on existing roads. During Project surveying activities, brush clearing for footpaths, line-of-sight cutting, and land surveying panel point placement in sensitive habitat would require prior approval from the project biological resource monitor in conformance with the APMs. Hiking off roads or paths for survey data collection is allowed year-round as long as other APMs are met. Stringing of new wire and reconductoring for the project would be allowed year round in sensitive habitats if the conductor is not allowed to drag on the ground or in brush and all vehicles used during stringing remain on Project access roads. Where stringing requires that conductor drag on the brush or ground or vehicles leave Project access roads, SDG&E would perform a site survey (or more as appropriate) to determine presence/absence of endangered nesting birds or other endangered species in the work area. SDG&E would submit results of this survey to the USFWS and CDFG and consult on reasonable and feasible mitigation measures for potential impacts prior to dragging wire on the ground or through brush or taking vehicles off Project access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate limits of survey or construction activity where any sensitive biological resources or wildlife habitats are encountered in the field.

Table D.2-5. Standard Applicant Proposed Measures Specific to Biological Resources

APM No.	Description
BIO-APM-5	To the extent feasible, access roads would be built at right angles to the streambeds and washes; where not feasible for access roads to cross at right angles, SDG&E would limit roads constructed parallel to streambeds or washes to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." or waters of the State. Streambed crossings and roads constructed parallel to streambeds would require review and approval of necessary permits from the ACOE, CDFG, and RWQCB. Culverts would be installed where needed for right angle crossings, but rock crossings would be utilized across most right angle drainage crossings. All construction and maintenance activities would be conducted in a manner that would minimize disturbance to vegetation, drainage channels and stream banks (e.g., structures would not be located within a stream channel, construction activities would avoid sensitive features). Prior to construction in streambeds and washes, SDG&E would perform a pre-activity survey, or more as appropriate, to determine the presence/absence of endangered riparian species. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by the BIO-APM-1.
BIO-APM-6	In the construction, operation, and maintenance of the project, SDG&E would comply with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting wildlife and its habitat.
BIO-APM-7	Littering is not allowed. Project personnel would not deposit or leave any food or waste in the project area, and no biodegradable or nonbiodegradable debris would remain in the right-of-way following completion of construction.
BIO-APM-8	Prior to construction, plant population boundaries designated as sensitive by USFWS or CDFG and other resources designated sensitive by SDG&E and resource agencies would be clearly delineated with clearly visible flagging or fencing, which shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction activities in that area. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with BIO-APM-1, and the responsible resource agency(s) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of presence of any covered plant species to be removed in the work area would occur within ten (10) working days prior to Project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG has removed such plant(s) within ten (10) working days following written notice, SDG&E may proceed with work and cause a take of such plant(s), if minimization measures are not implemented.
BIO-APM-9	Brush clearing around any Project facilities (e.g., structures, substations) for fire protection, visual inspection or Project surveying, in areas which have been previously cleared or maintained within a two-year or shorter period shall not require a pre-activity survey. In areas not cleared or maintained within a two-year period, brush clearing shall not be conducted during the breeding season (March through August) without a pre-activity survey for vegetation containing active nests, burrows, or dens. The pre-activity survey performed by the onsite biological resource monitor would make sure that the vegetation to be cleared contains no active migratory bird nests, burrows, or active dens prior to clearing. If occupied migratory bird nests are present, fire protection or visual inspection brush clearing work would be avoided until after the nesting season, or until the nest becomes inactive. If no nests are observed, clearing may proceed. Where burrows or dens are identified in the reconnaissance-level survey, soil in the brush clearing area would be sufficiently dry before clearing activities occur to prevent mechanical damage to burrows that may be present.
BIO-APM-10	No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all Project areas except for those used by security personnel.
BIO-APM-11	Feeding of wildlife is not allowed.
BIO-APM-12	Project personnel are not allowed to bring pets to any Project area in order to minimize harassment or killing of wildlife and to prevent the introduction of destructive animal diseases to native wildlife populations.
BIO-APM-13	Plant or wildlife species may not be collected for pets or any other reason.
BIO-APM-14	All steep-walled trenches or excavations used during construction shall be inspected twice daily (early morning and evening) to protect against wildlife entrapment. If wildlife is located in the trench or excavation, the onsite biological resource monitor shall be called immediately to remove them if they cannot escape unimpeded. The onsite biological resource monitor would make required contacts with the USFWS and CDFG resource personnel and obtain verbal approval prior to removing any entrapped wildlife. If the biological resource monitor is not qualified to remove the entrapped wildlife, a recognized wildlife rescue agency (such as Project Wildlife) may be employed to remove the wildlife and transport them safely to other suitable habitats.

Table D.2-5. Standard Applicant Proposed Measures Specific to Biological Resources

APM No.	Description
BIO-APM-15	Emergency repairs may be required during the construction and maintenance of the project to address situations (e.g., downed lines, slides, slumps, major subsidence, etc.) that potentially or immediately threaten the integrity of the project facilities. During emergency repairs, the APMs shall be followed to the fullest extent practicable. Once the emergency has been abated, any unavoidable environmental damage would be reported to the project biological construction monitor, who would promptly submit a written report of such impacts to the USFWS and CDFG and any other government agencies having jurisdiction over the emergency actions. If required by government agencies, the biological construction monitor would develop a reasonable and feasible mitigation plan consistent with the APMs and any permits previously issued for the project by the governmental agencies.
BIO-APM-16	Environmentally sensitive tree trimming locations for the project would be identified in SDG&E's existing vegetation management tree trim database utilized by tree trim contractors. The biological field construction monitor shall be contacted prior to trimming in environmentally sensitive areas. Whenever feasible, trees in environmentally sensitive areas, such as areas of riparian or native scrub vegetation, would be scheduled for trimming during non-sensitive (i.e., outside breeding or nesting) times. Where trees cannot be trimmed during non-sensitive times, SDG&E would perform a site survey, or more as appropriate, to determine presence or absence of endangered nesting bird species in riparian or native scrub vegetation. SDG&E would submit results of this survey to the USFWS and CDFG and consult on mitigation measures for potential impacts, prior to tree trimming in environmentally sensitive areas. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1. Where riparian areas with overstory vegetation are crossed, tree removal (i.e., clear-cut) widths would be varied where feasible to minimize visual landscape contrast and to maintain habitat diversity at established wildlife corridor edges. Where tree removal widths cannot be varied, SDG&E would consult with the USFWS and CDFG to develop alternative tree removal options that could reasonably maintain edge diversity.
BIO-APM-17	All new access roads or spur roads constructed as part of the project that are not required as permanent access for future Project maintenance and operation would be permanently closed. Where required, roads would be permanently closed using the most effective feasible and least environmentally damaging methods appropriate to that area with the concurrence of the underlying landowner and the governmental agency having jurisdiction (e.g., stockpiling and replacing topsoil or rock replacement). This would limit new or improved accessibility into the area. Mowing of vegetation can be an effective method for protecting the vegetative understory while at the same time creating access to the work area. Mowing should be used when permanent access is not required since, with time, total revegetation is expected. If mowing is in response to a permanent access need, but the alternative of grading is undesirable because of downstream siltation potential, it should be recognized that periodic mowing would be necessary to maintain permanent access. The project biological construction monitor shall conduct checks on mowing procedures to ensure that mowing for temporary or permanent access roads is limited to a 14-foot-wide area on straight portions of the road and a 16- to 20-foot-wide area at turns, and that the mowing height is no less than 4 inches from finished grade.
BIO-APM-18	In areas designated as sensitive by SDG&E or the resource agencies, to the extent feasible structures and access roads would be designed to minimize impacts to sensitive features. These areas of sensitive features include but are not limited to high-value wildlife habitats, sensitive vegetation communities, and high value plant habitats, and/or to allow conductors to clearly span the features, within limits of standard structure design. If the sensitive features cannot be completely avoided, structures and access roads would be placed to minimize the disturbance to the extent feasible. When it is not feasible to avoid constructing poles or access roads in high value wildlife habitats, SDG&E would perform a site survey to determine presence or absence of endangered species in sensitive habitats. SDG&E would submit results of this survey to the USFWS and consult on mitigation measures for potential impacts, prior to constructing structures or access roads. However, this survey would not replace the need for SDG&E to perform detailed on-the-ground surveys as otherwise required by BIO-APM-1. Where it is not feasible for access roads to avoid sensitive water resource features, such as streambed crossings, such crossings would be built at right angles to the streambeds. Where such crossings cannot be made at right angles, roads constructed parallel to streambeds would be limited to a maximum length of 500 feet at any one transmission line crossing location. Such parallel roads would be constructed in a manner that minimizes potential adverse impacts on "waters of the U.S." Streambed crossings or roads constructed parallel to streambeds would require review and approval of necessary permits from the ACOE, CDFG, and RWQCB.

Table D.2-5. Standard Applicant Proposed Measures Specific to Biological Resources

APM No.	Description
BIO-APM-19	Restoration and habitat enhancement and mitigation measures developed during the consultation period with the BLM under Section 7 of the Endangered Species Act (ESA) would be implemented and complied with as specified in the Biological Opinion (BO) of the USFWS. The Section 7 process would be used to obtain an incidental take authorization through a compensation-based mitigation program for permanent impacts to occupied sensitive plant and animal habitat at a ratio of 1:1 or 2:1 based on site-specific studies, as outlined in BIO-APM-1. The Section 7 process may include consideration of SDG&E's existing NCCP mitigation credits as compensation for project impacts.
BIO-APM-20	In construction areas where recontouring is not required, vegetation shall be left in place wherever possible to avoid excessive root damage and allow for re-sprouting.
BIO-APM-21	Structures shall be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc., 1981) to minimize impacts to raptors.
BIO-APM-22	Species identified as sensitive by the land managing agency shall be salvaged where avoidance is not feasible in accordance with State law. Generally, salvage may include removal and stockpiling for replanting on site, removal and transplanting out of surface disturbance area, removal and salvage by private individuals, and removal and salvage by commercial dealers, or any combination.
BIO-APM-23	Only the minimum amount of vegetation necessary for the construction of structures and facilities will be removed. Topsoil located in areas containing sensitive habitat shall be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation. Topsoil located in developed or disturbed areas is excluded from this APM.
BIO-APM-24	Construction holes left open overnight shall be covered. Covers shall be secured in place nightly prior to workers leaving the site and shall be strong enough to prevent livestock or wildlife from falling through and into a hole. Holes and/or trenches shall be inspected prior to filling to ensure absence of mammals and reptiles.
BIO-APM-25	Disturbed soils shall be revegetated with an appropriate seed mix that does not contain invasive non-native plant species.
BIO-APM-26	Excavations shall be sloped on one end to provide an escape route for small mammals and reptiles.
BIO-APM-27	<ol style="list-style-type: none"> 1. Prior to construction, SDG&E shall remove all existing raptor nests from structures that would be affected by Project construction 2. Removal of nests shall occur outside the raptor breeding season (January to July) 3. If it is necessary to remove an existing raptor nest during the breeding season, a qualified biologist shall survey the nest prior to removal to determine if the nest is active. A nest would be considered active if it contains eggs or nestlings. If the nest does not contain eggs or nestlings and is inactive, it shall be removed promptly. If a nest is determined to be active, the nest shall not be removed and the biologist shall monitor the nest to ensure nesting activities/breeding activities are not disrupted. If the biological monitor determines that Project activities are disturbing or disrupting nesting activities, the monitor shall make feasible recommendations to reduce the noise and/or disturbance in the vicinity of the nest.
BIO-APM-28	<p>Potential roost trees that must be removed will be surveyed and identified in the field for application of the following procedures:</p> <p>Before felling the tree:</p> <ol style="list-style-type: none"> 1. Trees should be removed under the warmest possible conditions. 2. Peel any sections of the exfoliating bark off the tree gently and search for any roosting bats underneath. 3. Create noise and vibrations on the tree itself. Noise and vibrations include: <ol style="list-style-type: none"> a. Running chain saw and making shallow cuts in the trunk (where bark has been peeled off). b. Striking the tree base with fallen limbs or tools such as hammers. <p>Felling the tree:</p> <ol style="list-style-type: none"> 4. Disturbance should be near-continuous for ten minutes, and then another ten minutes should pass before the tree is felled. 5. When cutting sections of the bole, if any hollows or cavities (such as woodpecker holes) are discovered, be especially careful to check for the presence of bats in those areas. Cut slowly and carefully at all times. If possible, section bole near cavities to focus noise and vibrations, and open hollows by sectioning off a side.
BIO-APM-29	Reduce construction night lighting on sensitive habitats. Exterior lighting within the project area adjacent to preserved habitat shall be the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable. Vehicle traffic associated with project activities would be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species moving about.

D.2.4.3 Impacts Identified

In this EIR/EIS, 12 general impacts to biological resources are evaluated (See Table D.2-6). Several impacts include subsets of analysis for specific special status species. These impacts are discussed in more detail in subsequent sections. Immediately following is an overview of the impacts.

The project could result in temporary disturbance and/or permanent loss to sensitive vegetation communities, special status species, and jurisdictional areas. Temporary disturbance includes short-term impacts during construction of new structures, removal of existing structures, and work in conductor tensioning/splicing and staging/laydown areas. Permanent loss involves long-term impacts associated with permanent project features (e.g., new transmission structures, access roads, new substation) that would remain throughout the life of the project.

Unanticipated surface disturbance could occur during construction, operation, and maintenance of the project, mainly when vehicles are driven over existing vegetation that has not been regularly cleared to maintain utility access roads or firebreaks. Such impacts would be related to the following activities:

- Movement of equipment and project personnel for project maintenance
- Movement of equipment and project personnel during line-stringing/cable pulling where ground clearance is not required.

Each of these activities could cause temporary damage to existing vegetation. The most common type of surface disturbance is associated with rubber-tired or steel-tracked vehicles used to string/pull the line and transport personnel and materials along the project ROW. Impacts to vegetation communities could also be caused by the movement of construction/maintenance vehicles and equipment within the transmission line ROW. Impacts could include crushing of vegetation or accumulation of dust on plants. Not all vegetation communities are equally sensitive to disturbance; not all of these impacts would occur in every community; and such disturbance would be limited to areas where other existing surface roads are not available. To determine temporary and permanent impacts, routes that were prepared using existing data supplemented with on-the-ground surveys where access was allowed were overlaid on the biological resources maps. Maps contained in Appendix 8A show biological resources and impacts for the Proposed Project.

Impact Summary

Table D.2-6 lists the impacts and their significance to biological resources for the Proposed Project, Future Transmission System Expansion, and Connected Actions. The impacts are based on the implementation of the APMs (only for the Proposed Project that are integrated as part of the project description; see Table D.2-5) and implementation of recommended mitigation measures for the Proposed Project, Future Transmission System Expansion, and Connected Actions. The full text of all mitigation measures can be found in Appendix 12. Impacts are classified as No Impact, Class I (significant, cannot be mitigated to a level that is less than significant), Class II (significant, can be mitigated to a level that is less than significant), Class III (adverse but less than significant), and Class IV (beneficial).

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Table D.2-6. Impacts Identified – Biological Resources

Impact No.	Description	Impact Significance
Proposed Project		
B-1	Construction activities would result in temporary and permanent losses of native vegetation	I, II, III
B-2	Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	II
B-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	II
B-4	Construction activities would create dust that would result in degradation of vegetation	III
B-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	I
B-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality	III
B-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (includes Impacts B-7A through B-7O for individual wildlife resources)	I, II, No Impact
B-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	II
B-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	II, No Impact
B-10	Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	No impact (electrocution) I, II (collision)
B-11	Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	II, III
B-12	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality	I, II, III
Proposed Project Future Transmission System Expansion		
B-1	Construction activities would result in temporary and permanent losses of native vegetation	I, II, III
B-2	Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	II
B-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	II
B-4	Construction activities would create dust that would result in degradation of vegetation	II
B-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	I
B-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality	II
B-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (includes Impacts B-7D through B-7T for individual wildlife resources)	I, II
B-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	II
B-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	II
B-10	Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	No impact (electrocution) I, II (collision)
B-11	Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	III
B-12	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality	II

Table D.2-6. Impacts Identified – Biological Resources

Impact No.	Description	Impact Significance
Proposed Project Connected Actions		
B-1	Construction activities would result in temporary and permanent losses of native vegetation	I, III, No impact
B-2	Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	II
B-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	II
B-4	Construction activities would create dust that would result in degradation of vegetation	II, III
B-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	I
B-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality	III
B-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (includes Impacts B-7A through B-7G for individual wildlife resources)	I, II
B-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	II
B-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	II, III, No Impact
B-10	Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	No impact (electrocution) I, II (collision)
B-11	Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	II, III, No impact
B-12	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality	I, II, III
B-13	Operation of the RWD project would lead to avian mortality from collision with turbines	I
B-14	Operation of the RWD project would lead to bat mortality from collision with turbines	I

This section presents a discussion of impacts and mitigation measures for the Proposed Project as a result of construction, operation, and maintenance. The impacts are summarized in Table D.2-6. Biological resources are not separated geographically by the five “links” in which the Proposed Project is analyzed in other sections because biological resources do not separate logically along “link” boundaries. Therefore, the impacts are presented here for the Proposed Project as a whole.

D.2.5 Vegetation

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class II for vernal pools; Class III for non-sensitive vegetation)

Construction of the Proposed Project would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers or permanent access roads) impacts to vegetation communities. Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction would be impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all. Furthermore, construction activities would create disturbed conditions that may be favorable for the invasion of non-native plant species that inhibit the establishment of native vegetation and may adversely affect wildlife.

Emergency repairs may also be required during construction (e.g., downed lines, slides, slumps, major subsidence) that could cause additional temporary impacts to vegetation. Depending on site-specific topography, impacts may extend beyond the Proposed Project footprint (for example, if construction must travel around a large boulder or a gully). Erosion caused by construction could cause deposition of soil downslope, and non-native plant species established in the construction zone could spread into adjacent, undisturbed vegetation.

Table D.2-7 presents the specific impacts to vegetation communities from the Proposed Project including how many acres of each vegetation community would be temporarily disturbed and how many acres would be permanently impacted. In total, the Proposed Project would temporarily disturb approximately 982 acres of sensitive vegetation (353 acres of non-sensitive vegetation) and would permanently impact approximately 441 acres of sensitive vegetation (48 acres of non-sensitive vegetation). Figure D.2-7 presents a sample graphic showing impacts to vegetation communities. Appendix 8A includes maps of the entire Proposed Project using the format illustrated in Figure D.2-7.

Within ABDSP, temporary disturbance to vegetation totals approximately 64 acres, and permanent impacts to vegetation total approximately 38 acres. Within those impact totals, temporary disturbance to State Wilderness totals approximately eight acres, and permanent impacts to State Wilderness total approximately six acres.

The following APMs, as set forth in Table D.2-5, would be implemented as part of the Proposed Project to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

The APMs provide mitigation ratios that are not adequate, do not specify enough time for the habitat restoration monitoring, state that only the Wildlife Agencies must be consulted on various issues, do not require a Habitat Management Plan, and do not require an endowment for future management of mitigation lands. Because APMs are not considered to be adequate, mitigation measures are presented to further define and expand on mitigation requirements. Mitigation Measures B-1a and B-1b (defined below) include mitigation ratios required by the various resource agencies based on consultation for this project. These measures also provide more specific information on the required Habitat Restoration Plans, and they include the BLM, CPUC, Wildlife Agencies, and State Parks as approving agencies. They require preparation of a Habitat Management Plan, and they require a Property Analysis Record that will identify funding requirements for management of mitigation sites in perpetuity.

Vernal Pools. Vernal pools and road pools (i.e., water-holding basins) with potential to support fairy shrimp were mapped along the Proposed Project in the spring of 2007 (MPs 146-148; see Appendix 8A, Figure Ap.8A-23). Potential pool areas were observed along the Proposed Project route and in access roads north of the route. There are a substantial number of pools with potential to support fairy shrimp and a smaller number of pools containing vernal pool plant indicator species. At Tower C11 and the adjacent pulling site, vernal pools and fairy shrimp were observed within the impact footprint. Potential road pool basins were also observed within the impact footprint for Towers C13, C15, and C16; five basins were observed within the underground portion of the Proposed Project south of structure CUG2. A vernal pool was also mapped along the underground portion of the route midway between MPs 146 and 145 in Los Peñasquitos Canyon Preserve. The Proposed Project would have a significant impact on two locations

with vernal pools and five locations with vernal pools or road pools with potential to support fairy shrimp. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b and B-1c, presented below.

Vegetation Management (Loss of Trees). The methods that SDG&E used to gather the information for this analysis is provided in Section D.2.1.1 (Approach to Data Collection, Biological Surveys, Vegetation Survey Methods). SDG&E has estimated that up to approximately 858 non-native trees (acacia, eucalyptus, locust, pine, and tamarisk) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the Proposed Project. Additionally, SDG&E states that up to approximately 5,784 native trees (17 elderberry, 2,594 desert willow, 748 desert ironwood, 465 mesquite, and 1,960 oak trees [coast live oak, Engelmann oak, and black oak]) and up to 538 creosote bushes would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the Proposed Project.

The loss of non-native trees and shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees or shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

According to SDG&E, the Proposed Project would also require trimming of up to approximately 178 non-native trees (acacia, brisbane box, eucalyptus, and pine) and up to approximately 1,013 native oak trees and 26 native willow trees. Although the trimming of non-native trees or shrubs would be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise, trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Sensitive Vegetation Communities. Some of the vegetation communities impacted would occur within preserves, including, for example, the Multi-Habitat Planning Area (MHPA) or Pre-Approved Mitigation Area (PAMA), which are part of regional conservation plans. Impacts to these areas are significant according to Significance Criteria 6.a. and 6.b., which state that the Proposed Project would conflict with the provisions of local, regional, or State habitat conservation plans and State Park policies/programs by placing development in preserves or impacting biologically sensitive lands. Whether or not the Proposed Project would conflict with the provisions of these plans and policies is discussed in Section D.16.

Implementation of Mitigation Measure B-1a (presented below) is required to compensate, at least in part, for impacts to sensitive vegetation communities (except vernal pools) inside and outside preserves. Mitigation Measure B-1a supersedes the purchase or dedication of habitat requirements in BIO-APM-1. However, it is unknown if the land required by Mitigation Measure B-1a is available. Based on the data in Table D.2-7 and Mitigation Measure B-1a, nearly 1,360 acres of mitigation land will be required to fully mitigate this impact. It is anticipated that adequate acreage of mitigation land will be available for this

Figure D.2-7. Sample Proposed Project Biological Resources/Impacts Map
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project based on the availability of potential mitigation land in ABDSP, FTHL MAs, unincorporated areas of San Diego, and other jurisdictions. The final mitigation package for this project must be acceptable to the CPUC, BLM, Wildlife Agencies, State Parks (for impacts to ABDSP), and USDA Forest Service (for impacts to forest lands). However, due to the large number of vegetation types; the large acreage of mitigation; and the vast area, different jurisdictions, and biomes that a long linear project like this one traverses, it is not likely that all the sensitive vegetation communities can be mitigated “in-kind” or that all the mitigation will occur within close proximity to the impacts. Therefore, the impacts to sensitive vegetation communities would be significant and are not mitigable to less than significant levels (Class I). Please note the full text of the mitigation measures appears in Appendix 12.

Impacts to non-sensitive vegetation communities would be adverse but less than significant (Class III) because the communities are not sensitive, and no mitigation would be required unless they occur within designated critical habitat for a federal listed species (i.e., only critical habitat with constituent elements of the species’ habitat, and not developed land, for example) or within a FTHL MA or in FTHL habitat outside an MA (see Impacts B-7A and B-7M). Impacts to species-specific habitats are discussed individually in Section D.2.11, Impacts B-7A through B-7O.

Table D.2-7 presents the impacts to vegetation communities from the Proposed Project, mitigation ratios, and mitigation acreages. These same ratios would apply to any emergency repairs that occur during construction. Mitigation ratios are defined as the ratio of land gained per unit area to land lost per unit area. For example, a 3:1 ratio means that for every one acre of land impacted, the mitigation must consist of three acres of land (a portion of that, for example 1:1, could include on-site habitat restoration). Mitigation ratios were developed in consultation with the USFWS, BLM, and State Parks, and are based primarily on the requirements established in regional habitat conservation plans and also on mitigation required for other projects. Much of the western end of the project route extends through the MSCP area, where mitigation ratios vary depending on the location of the impact and the location of the mitigation. In this case, mitigation ratios are conservatively calculated based on an assumption that all impacts occur in preserve areas and that all mitigation will occur in preserve areas. The assumption that all impacts occur in preserve areas is conservative since not all impacts would occur there, but the higher ratios are being used to help offset the impacts to the preserves that regional conservation plans rely upon. It is noted that mitigation acreage will also be required for listed and highly sensitive species (see Section D.2.11) that may overlap with mitigation required for impacts to vegetation.

Table D.2-7. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Off-site Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Eucalyptus woodland	0.00	0	0.00	0.18	0	0.00	0.00	0.00
Disturbed habitat	16.17	0	0.00	12.22	0	0.00	0.00	0.00
Developed	4.94	0	0.00	42.66	0	0.00	0.00	0.00
Intensive agriculture – dairies, nurseries, chicken ranches	1.65	0	0.00	18.94	0	0.00	0.00	0.00
Extensive agriculture – field/pasture, row crops	25.31	0	0.00	279.23	0	0.00	0.00	0.00
Orchards and Vineyards	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	48.07	—	0.00	353.23	—	0.00	0.00	0.00
Desert Scrub and Dune Habitats								

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Table D.2-7. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Off-site Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Stabilized and partially stabilized desert sand field	16.12	2:1	32.24	10.48	1:1	10.48	0.00	32.24
Sonoran desert scrub	6.29	2:1	12.58	8.71	2:1	8.71	8.71	21.29
Sonoran creosote bush scrub	93.65	2:1	187.30	511.06	2:1	511.06	511.06	698.36
Sonoran mixed woody scrub	1.21	2:1	2.42	2.04	2:1	2.04	2.04	4.46
Sonoran mixed woody and succulent scrub	18.98	2:1	37.96	33.25	2:1	33.25	33.25	71.21
Sonoran wash scrub	8.65	2:1	17.30	7.41	2:1	7.41	7.41	24.71
Sonoran wash scrub – disturbed	0.04	2:1	0.08	0.00	2:1	0.00	0.00	0.08
Encelia scrub	1.62	2:1	3.24	1.22	2:1	1.22	1.22	4.46
Desert saltbush scrub	9.99	2:1	19.98	7.71	2:1	7.71	7.71	27.69
Desert saltbush scrub – disturbed	0.14	2:1	0.28	18.96	2:1	18.96	18.96	19.24
Subtotal	156.69	—	313.38	600.84	—	600.84	590.36	903.74
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub	1.41	1.5:1	2.12	5.79	1:1	5.79	0.00	2.12
Diegan coastal sage scrub – disturbed	0.00	1.5:1	0.00	10.88	1:1	10.88	0.00	0.00
Coastal sage scrub – inland form	10.10	1.5:1	15.15	26.79	1:1	26.79	0.00	15.15
Coastal sage scrub – inland form –disturbed	2.03	1.5:1	3.05	0.10	1:1	0.10	0.00	3.05
Coastal sage-chaparral scrub	21.64	1.5:1	32.46	41.36	1:1	41.36	0.00	32.46
Coastal sage-chaparral scrub – disturbed	0.32	1.5:1	0.48	0.24	1:1	0.24	0.00	0.48
Subtotal	35.50	—	53.26	85.16	—	85.16	0.00	53.26
Grasslands and Meadows								
Valley needlegrass grassland	5.01	2:1	10.02	4.08	1:1	4.08	0.00	10.02
Valley needlegrass grassland – disturbed	0.49	2:1	0.98	0.00	1:1	0.00	0.00	0.98
Meadow	0.10	2:1	0.20	0.31	1:1	0.31	0.00	0.20
Non-native grassland	38.13	1:1	38.13	174.38	1:1	174.38	0.00	38.13
Subtotal	43.73	—	49.33	178.77	—	178.77	0.00	49.33
Chaparrals								
Northern mixed chaparral	16.49	1:1	16.49	15.77	1:1	15.77	0.00	16.49
Northern mixed chaparral – burned	18.94	1:1	18.94	7.95	1:1	7.95	0.00	18.94
Northern mixed chaparral – granitic	115.18	1:1	115.18	9.19	1:1	9.19	0.00	115.18
Southern mixed chaparral	6.20	1:1	6.20	14.40	1:1	14.40	0.00	6.20
Southern mixed chaparral – granitic	2.00	1:1	2.00	5.68	1:1	5.68	0.00	2.00
Southern mixed chaparral – disturbed	0.32	1:1	0.32	0.93	1:1	0.93	0.00	0.32

Table D.2-7. Impacts to Vegetation Communities and Required Mitigation – Proposed Project Area

Vegetation Communities	Permanent Impacts (acres)			Temporary Impacts (acres)				Total Off-site Mitigation (acres)
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Chamise chaparral	1.34	1:1	1.34	2.27	1:1	2.27	0.00	1.34
Red shank chaparral	0.87	1:1	0.87	0.22	1:1	0.22	0.00	0.87
Semi-desert chaparral	1.46	1:1	1.46	3.50	1:1	3.50	0.00	1.46
Scrub oak chaparral	0.36	2:1 ¹	0.72	1.76	1:1	1.76	0.00	0.72
Subtotal	163.16	—	163.52	61.67	—	61.67	0.00	163.52
Woodlands and Forests								
Black oak woodland	1.06	3:1	3.18	0.87	3:1	0.87	1.74	4.92
Coast live oak woodland	12.01	3:1	36.03	25.89	3:1	25.89	51.78	87.81
Engelmann oak woodland	14.36	3:1	43.08	7.21	3:1	7.21	14.42	57.50
Peninsular juniper woodland and scrub	3.98	3:1	11.94	1.79	2:1	1.79	1.79	13.73
Subtotal	31.41	—	94.23	35.76	—	35.76	69.73	163.96
Herbaceous Wetlands, Freshwater, and Streams								
Disturbed wetland	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Freshwater	0.31	1:1	0.31	0.12	1:1	0.12	0.00	0.31
Non-vegetated channel	0.44	1:1	0.44	0.38	1:1	0.38	0.00	0.44
Vernal pool	0.02	2:1	0.04 ²	0.15	2:1	0.15 ²	0.15 ²	0.19 ²
Freshwater marsh	0.01	3:1	0.03	0.00	2:1	0.00	0.00	0.03
Emergent wetland	0.14	2:1	0.28	0.17	2:1	0.17	0.17	0.45
Subtotal	0.92	—	1.10	0.82	—	0.82	0.32	1.42
Riparian Scrubs								
Mesquite bosque	0.11	3:1	0.33	0.34	2:1	0.34	0.34	0.67
Southern willow scrub	0.20	3:1	0.60	0.40	2:1	0.40	0.40	1.00
Mule fat scrub	0.12	3:1	0.36	0.28	2:1	0.28	0.28	0.64
Tamarisk scrub	5.68	1:1	5.68	12.60	1:1	12.60	0.00	5.68
Arrowweed scrub	0.33	2:1	0.66	0.38	2:1	0.38	0.38	1.04
Subtotal	6.44	—	7.63	14.00	—	14.00	1.40	9.03
Riparian Forests and Woodlands								
Riparian woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern coast live oak riparian forest	1.30	3:1	3.90	1.94	2:1	1.94	1.94	5.84
Southern arroyo willow riparian forest	0.27	3:1	0.81	0.03	2:1	0.03	0.03	0.84
Southern cottonwood-willow riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Desert dry wash woodland	1.76	3:1	5.28	3.38	2:1	3.38	3.38	8.66
Subtotal	3.33	—	9.99	5.35	—	5.35	5.35	15.34
GRAND TOTAL	489.25	--	692.44	1,335.60	--	982.37	667.16	1,359.60

1 This ratio is higher than the 1:1 ratio for scrub oak chaparral located elsewhere in the County of San Diego because it is dominated by Nuttall's scrub oak, a special status (CNPS List 1B) species.

2 Impacts to vernal pools shall be mitigated in the form of habitat restoration (USFWS, 2007b) at a 2:1 ratio outside the impact zone. The location selected for the vernal pool restoration shall be located in the project region, be appropriate for vernal pool restoration, and be acceptable to the CPUC, BLM, and the Wildlife Agencies (see Mitigation Measure B-1b).

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for affected sensitive vegetation communities. Surface-disturbing components of the project shall be located in previously disturbed areas or where habitat quality is poor to the extent possible, and disturbance of vegetation and soils shall be minimized. If avoidance of sensitive vegetation communities is not feasible due, for example, to physical or safety constraints, the applicant shall restore temporarily impacted areas to pre-construction conditions following construction (or emergency repairs) and shall permanently block off all public access to them, and/or shall purchase/dedicate suitable habitat for preservation to off-set permanently impacted areas. Restoration of some vegetation communities in temporarily impacted areas may not be possible if those areas are subject to vegetation management to maintain proper clearance between transmission lines and vegetation. In those instances, the mitigation shall consist of off-site acquisition and preservation of the vegetation community instead. Restoration involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.) and monitoring the restored area for a period five years. Restoration in ABDSP shall be maintained and monitored for a minimum of five years. The success of the restoration is usually based on how the habitat compares with similar, nearby, undisturbed habitat. Any restoration efforts would be subject to a Habitat Restoration Plan approved by the CPUC, BLM, Wildlife Agencies, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). Mitigation ratios and mitigation acreages for construction within authorized limits are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). The mitigation ratios also apply to impacts from emergency repairs.

All limits of construction shall be delineated with orange construction fencing. During and after construction, entrances to access roads shall be gated 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.

Any impacts associated with unauthorized activity (e.g., exceeding approved construction footprints) shall be mitigated at a 5:1 ratio (5.5:1 in FTHL MA). Restoration of the unauthorized impacts shall be credited at a 1:1 ratio (i.e., mitigated by in-place habitat restoration); the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.

Areas to be restored shall include all areas temporarily impacted by construction, such as tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations where towers are removed. Where on-site restoration is planned, the applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Habitat Restoration Plan, for restoring temporarily impacted sensitive vegetation communities, to be approved by the CPUC, Wildlife Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration). The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. This Habitat Restoration Plan must be approved in writing by the above-listed agencies prior to the initiation of any vegetation disturbing activities. Hydroseeding, drill seeding, or an otherwise proven restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the CPUC, Wildlife

Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration). The Habitat Restoration Plan shall incorporate the measures identified in the May 25, 2006 Memorandum of Understanding among Edison Electric Institute, USDA Forest Service, BLM, USFWS, National Park Service, and the Environmental Protection Agency (Edison Electric Institute, et al., 2006) where applicable. The MOU discusses vegetation management along ROWs for electrical transmission and distribution facilities on federal lands. The major provisions of the MOU include reducing soil erosion and water quality impacts; promoting local ecotypes in revegetation projects; planting native species and protecting rare species; and reducing the introduction of non-native, invasive or noxious plant species to the ROWs. The MOU can be viewed online at http://www.eei.org/industry_issues/environment/land/vegetation_management/EEI_MOU_FINAL_5-25-06.pdf.

The following habitat restoration requirements are not included in the MOU described above. The restoration of habitat shall be maintained and monitored for five years after installation by an experienced, licensed Habitat Restoration Contractor, or until established success criteria identified in the Restoration Plan (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met. Maintenance and monitoring for restoration in ABDSP shall be for a minimum of five years, even if established success criteria are met before the end of five years. Maintenance and monitoring shall be conducted following a prescribed schedule to assess progress and identify potential problems with the restoration. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed Habitat Restoration Contractor during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. For areas where habitat restoration cannot meet mitigation requirements, off-site purchase and dedication of habitat shall be provided at the mitigation ratios provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives) or as otherwise required by the Wildlife Agencies or ABDSP (supersedes the mitigation ratios in BIO-APM-1).

Tree Mitigation. Mitigation for loss of native trees or native tree trimming shall be provided by (1) acquiring and preserving habitat within which the trees occur and/or (2) restoring (i.e., planting) trees on land that would not be subject to vegetation clearing (either in the applicant's ROW and/or on land acquired and preserved). Any land to be used for this mitigation shall be approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies.

For habitat acquisition and preservation, the mitigation ratios shall follow those in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). For example, removal of coast live oak trees (that occur in coast live oak woodland) shall require mitigation at a 3:1 ratio based on the permanent impact to the summed acreage of all individual coast live oak trees impacted. Therefore, if the total acreage of all individual coast live oak trees in coast live oak woodland impacted is 10 acres, then 30 acres of coast live oak woodland shall be acquired and preserved. For all trimmed native trees, the ratio shall be 1:1.

For restoration (planting trees), these guidelines, based on recommendations from the CDFG, shall be followed.

Native trees that are removed shall be replaced in-kind as follows.

- Trees less than five inches diameter at breast height (DBH) shall be replaced at 3:1
- Trees between five and 12 inches DBH shall be replaced at 5:1
- Trees between 12 and 36 inches shall be replaced at 10:1
- Trees greater than 36 inches shall be replaced at 20:1

Native trees that are trimmed shall be replaced in-kind as follows.

- Trees less than 12 inches DBH shall be replaced at 2:1
- Trees greater than 12 inches DBH shall be replaced at 5:1

All restoration shall be maintained and monitored for a minimum of 10 years. The restoration shall be directed according to a Habitat Restoration Plan approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for National Forest land restoration), and the Wildlife Agencies.

Mitigation Parcels/Habitat Management Plans. All off-site mitigation parcels shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for impacts to ABDSP), and USDA Forest Service (for alternatives with impacts to National Forest lands) and must be acquired prior to the initiation of vegetation disturbing activities. A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired off-site mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any vegetation disturbing activities. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all mitigation parcels
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies,

State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

B-1b Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat. Direct impacts to vernal pools and water-holding basins (aka road pools) shall be avoided where the absence of fairy shrimp has not been proven by USFWS protocol wet/dry sampling and/or where the absence of vernal pool indicator species has not been proven. Indirect impacts to vernal pool watersheds shall also be avoided. Temporary and permanent access roads shall not enter vernal pools or water holding basin areas unless absolutely necessary. Where not avoided, the following mitigation shall be implemented.

Prior to construction, a qualified biologist (to be approved by the CPUC, BLM, and Wildlife Agencies; see Mitigation Measure B-1c) shall clearly stake and flag all vernal pools and potential water-holding basins that occur in proximity to the project that are not within the impact zone. In addition to vehicles being restricted from the staked and flagged areas, crewmembers on foot shall also avoid these areas. The qualified biologist shall conduct a pre-construction training session for the construction crew to inform them of the constraints. The qualified biologist shall ensure compliance with this mitigation measure by being present during all construction activities in areas with vernal pools and water-holding basins.

Access roads, including those used during maintenance activities, containing water-holding basins shall be used only when the water-holding basins are completely dry. If access roads must be used while any portion of the depressions within the roads are wet, metal plating or bridging shall be placed over the depressions to prevent alteration of the depression topography and hydrology, and to prevent impacts to fairy shrimp (where the absence of fairy shrimp has not been proven). This bridging or plating shall not be left in place for more than three weeks. Any bridging or plating shall be considered a direct impact to fairy shrimp (where not proven absent) and shall be mitigated in accordance with this mitigation measure as follows.

Permanent impacts to vernal pools (0.02 acres for the Proposed Project; see Table D.2-7) shall be mitigated in the form of vernal pool habitat restoration at a 2:1 ratio outside the impact zone. Temporary impacts to vernal pools (0.15 acres for the Proposed Project; see Table D.2-7) shall be mitigated at a 2:1 ratio in the form of 1:1 on-site habitat restoration and 1:1 vernal pool habitat restoration outside the impact zone.

For the Proposed Project, the required mitigation for impacts to vernal pools includes on-site restoration of 0.15 acres and restoration of 0.19 acres of vernal pools outside the impact zone.

Permanent impacts to occupied fairy shrimp habitat (0.02 acres for the Proposed Project) shall be mitigated in the form of vernal pool habitat restoration at a 2:1 ratio outside the impact zone. Temporary impacts to occupied fairy shrimp habitat (0.04 acres for the Proposed Project) shall be mitigated at a 2:1 ratio in the form of 1:1 on-site habitat restoration and 1:1 vernal pool habitat restoration outside the impact zone.

For the Proposed Project, the required mitigation for impacts to occupied fairy shrimp habitat includes on-site restoration of 0.04 acres and restoration of 0.08 acres of vernal pools outside the impact zone.

Unauthorized impacts to vernal pools or occupied fairy shrimp habitat shall be mitigated at a 5:1 ratio. Restoration of the unauthorized impacts shall be credited at a 1:1 ratio; the remaining 4:1 shall be mitigated in the form of vernal pool restoration outside the impact zone.

The location selected for vernal pool restoration shall be located in the project region, be appropriate for vernal pool restoration, and be acceptable to the CPUC, BLM, and the Wildlife Agencies. The applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Mitigation Plan to be approved in writing by the CPUC, BLM, and the Wildlife Agencies. This Mitigation Plan, including the specific location and methods of the restoration efforts (e.g., removal of non-native plant species, use of salvaged vernal pool soils), must be approved in writing prior to the initiation of any activities which will impact (directly or indirectly) vernal pools or water-holding basins. The applicant shall work with the CPUC, BLM, and the Wildlife Agencies until a plan is approved by all.

The restoration of vernal pool habitat shall include the salvage of vernal pool/water-holding basin soils that would be impacted and that likely contain fairy shrimp cysts. The soils shall be used in the restoration of vernal pool habitat. The restored vernal pool habitat shall be maintained and monitored for five years after installation, or until established success criteria identified in the Mitigation Plan (e.g., specified percent cover of native and non-native species, species diversity, and species composition as compared with undisturbed reference pools) are met. If the mitigation fails to meet the established success criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, and the Wildlife Agencies.

A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, and the Wildlife Agencies for all vernal pool habitat restoration areas. The Habitat Management Plan must be approved in writing by the CPUC, BLM, and Wildlife Agencies prior to the initiation of any activities which may impact (directly or indirectly) vernal pools or water-holding basins. The applicant shall work with the CPUC, BLM, and Wildlife Agencies until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all vernal pool habitat restoration areas. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all restoration areas approved by the CPUC, BLM, and Wildlife Agencies
- Baseline biological data for all restoration areas
- Designation of a land management entity approved by the CPUC, BLM, and Wildlife Agencies to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, and Wildlife Agencies.

B-1c Conduct biological monitoring. Monitoring shall be provided by a qualified biologist approved by the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies to

ensure that all impacts occur within designated limits. Monitoring entails communicating with contractors, taking daily notes, and ensuring that the requirements of the APMs and mitigation measures are being met by being present during construction activities. The qualified biologist shall conduct monitoring for any area subject to disturbance from construction activities (or access roads used during maintenance activities in the case of vernal pools/water-holding basins; see Mitigation Measure B-1b). The applicant, its contractors and subcontractors, and their respective project personnel, shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste, or questions about environmental impacts to the qualified biologist. Experts in wildlife handling (e.g., Project Wildlife) may need to be brought in by the qualified biologist for assistance with wildlife relocations.

The qualified biologist shall have the authority to issue stop work orders if any part of the mitigation measures or APMs are being violated. The qualified biologist shall immediately notify the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies of any significant events discovered during the monitoring. Reinitiation of work following a stop work order shall only occur when the CPUC, BLM, State Parks (for impacts in ABDSP), USDA Forest Service (for alternatives with impacts on National Forest lands), and the Wildlife Agencies are satisfied that the impacts have been fully documented, that compensation for these impacts shall be made, and that any additional protection measures they deem necessary shall be undertaken.

D.2.6 Jurisdictional Waters and Wetlands

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional Waters of the U.S. and possibly wetlands (i.e., areas regulated by the ACOE and RWQCB and/or CDFG) would occur from the Proposed Project. Impacts to jurisdictional areas can not be clearly defined until a final route is selected that includes project-specific features and final engineering. At that time, a formal delineation would be conducted to determine those impacts so that SDG&E can apply for permits from the ACOE, Regional Water Quality Control Board (RWQCB), and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the Proposed Project would impact the following vegetation communities that generally occur in jurisdictional areas, some of which may be wetland: Sonoran wash scrub, disturbed wetland, freshwater, non-vegetated channel, emergent wetland, freshwater marsh, mesquite bosque, mule fat scrub, southern willow scrub, tamarisk scrub, arrowweed scrub, southern coast live oak riparian forest, southern arroyo willow riparian forest, and desert dry wash woodland (see Table D.2-7 for impacts to these potential jurisdictional communities).

Direct impacts would include removal of wetland/riparian vegetation and/or filling of jurisdictional areas to create stream crossings. Examples of indirect impacts to jurisdictional resources are streambank erosion and stream sedimentation. Important functions of jurisdictional areas include flood conveyance or storage; sediment control; providing surface water and food for wildlife; providing spawning grounds for aquatic fauna; providing habitat for rare and endangered species; providing corridors for wildlife movement; and providing erosion control and preservation of water quality.

Surface water resources along the Proposed Project include desert washes and other streams, the majority of which are dry at most times. Based on the National Wetland Inventory, there are 19 major drainages that the Proposed Project would cross (SDG&E, 2006). Based on the hydrologic study for the Proposed Project, there are approximately 167 identified watercourses that the Proposed Project would cross. Other minor watercourse crossings may be found along the route. The majority of these watercourses would be spanned by the transmission lines, and impacts would occur in accordance with BIO-APM-5 which limits impacts to jurisdictional areas through project design. However, impacts to jurisdictional waters or wetlands would still occur, for example, where an access road would cross a watercourse. The formal jurisdictional delineation will identify all watercourses directly affected by the Proposed Project.

The following APMs, as set forth in Table D.2-5, would be implemented as part of the Proposed Project to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, impacts to jurisdictional areas would be significant according to Significance Criterion 3.a. which states the Proposed Project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG and Significance Criterion 3.b. which states that the Proposed Project would fail to provide an adequate buffer to protect the function and values of existing wetlands. These impacts could occur from vegetation removal, erosion, sedimentation, and/or degradation of water quality during construction and the placement of access roads. Impacts to jurisdictional areas are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a. The full text of the mitigation measures appears in Appendix 12.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c **Conduct biological monitoring.**

B-2a **Provide restoration/compensation for affected jurisdictional areas.** Impacts to areas under the jurisdiction of the ACOE, RWQCB, and CDFG shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible (including for emergency repairs), the applicant shall provide the necessary mitigation required as part of wetland permitting by creation/restoration/preservation of suitable jurisdictional habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation in ABDSP), USDA Forest Service (for alternatives with mitigation on National Forest lands), ACOE, RWQCB, and CDFG, as part of the wetland permitting process. It is anticipated that the sites would be in close proximity to the impacts or in the same watershed. A jurisdictional delineation and impact assessment shall be prepared based on the final alignment and final engineering plans when they are complete. Mitigation ratios would range from 1:1 up to 4:1 and would depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. The width of wetland buffers would also depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. Recommended mitigation ratios for vegetation communities that generally occur in jurisdictional areas are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sec-

tions for the alternatives). It is anticipated that at least a 1:1 ratio of the mitigation would include creation of jurisdictional habitat so there would be no net loss of jurisdictional habitat. For example, permanent impacts to emergent wetland would require a 2:1 mitigation ratio. Half (or 1:1) of the mitigation acreage would have to consist of created emergent wetland in an appropriate location to be preserved, and the other half (1:1) would require acquisition and preservation of already-existing emergent wetland (or other wetland community acceptable to the permitting agencies — ACOE, RWQCB, and CDFG). It is also anticipated that a 1:1 ratio would be required for impacts to jurisdictional non-wetland Waters of the U.S. in the form of wetland enhancement, restoration, or creation as determined in consultation with the permitting agencies. Wetland permits shall be obtained from the ACOE, RWQCB, and CDFG prior to initiating construction in jurisdictional areas.

All limits of construction shall be delineated with orange construction fencing. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete. During and after construction, entrances to access roads shall be gated 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.

Any impacts associated with unauthorized activity (e.g., exceeding approved construction footprints) shall be mitigated as follows, unless otherwise directed by the ACOE, RWQCB, and CDFG: restoration of the unauthorized impacts shall be credited at a 1:1 ratio; the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.

The applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). The Habitat Restoration Specialist shall prepare and implement a Wetland Mitigation Plan to be approved in writing by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for ABDSP mitigation), and USDA Forest Service (for alternatives with mitigation on National Forest lands). The applicant shall work with the above-listed agencies until a plan is approved by all. The mitigation of habitat shall be maintained and monitored for five years after installation, or until established success criteria (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met, to assess progress and identify potential problems with the mitigation. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the mitigation. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for ABDSP restoration), and USDA Forest Service (for alternatives with restoration on National Forest lands).

A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired off-site mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact jurisdictional areas. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation

and in-perpetuity management of all acquired, off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all mitigation parcels
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

D.2.7 Introduction of Invasive, Non-native, or Noxious Plant Species

The introduction of non-native plant species is a special concern, especially for sensitive vegetation communities and communities that support special-status plant species. Non-native plants pose a threat to the natural processes of plant community succession, affect fire frequency, affect the biological diversity and species composition of native communities, and can affect a community's value as wildlife habitat. Non-native plant species can spread when seeds (or, rarely, vegetative propagules) are brought in on the soles of shoes or on the tires and undercarriages of vehicles, and deposited. They can also be brought in if soil containing non-native plant seed is imported. Furthermore, ground disturbance from construction activities, generally favors the establishment of non-native species because they are more adapted to disturbance than native species. Once established, these non-native species are often able to out-compete the natives and sometimes displace them, especially if there is further disturbance, for example, from fire.

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

Implementation of BIO-APM-23 would ensure that the Proposed Project would only remove the minimum amount of vegetation necessary for the construction of structures and facilities and that topsoil located in areas containing sensitive habitat with little no non-native species would be conserved during excavation and reused as cover on temporarily disturbed areas to facilitate re-growth of native vegetation and hinder the establishment of non-native species should non-native seeds be present in the temporarily disturbed areas. Implementation of BIO-APM-25 would ensure that disturbed soils would be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species.

Although the reuse of topsoil can be effective, it may not be appropriate if there are any non-native species present. Furthermore, it is not always possible to obtain seed mixes that are absolutely free of invasive,

non-native plant (weed) species. Therefore, the Proposed Project would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact is considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-2a, and B-3a that include habitat restoration/compensation, a pre-construction weed inventory, and a Weed Control Plan.

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-3a Prepare and implement a Weed Control Plan. The applicant shall prepare and implement a comprehensive, adaptive Weed Control Plan for pre-construction and long-term invasive weed abatement. Where the applicant owns the ROW property, the Weed Control Plan shall include specific weed abatement methods, practices and treatment timing developed in consultation with the San Diego County Agriculture Commissioner's Office and the California Invasive Plant Council (Cal-IPC). On the ROW easement lands administered by public agencies (BLM, USDA Forest Service (for alternatives routes within Cleveland National Forest lands), Wildlife Agencies, and State Parks (ABDSP) the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the ROW land-holding public agencies 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 for the implementation of the Weed Control Plan. Prior to implementation, the applicant shall work with the landowners to obtain authorization of the weed control treatment that is required.

The Weed Control Plan shall include the following:

- A pre-construction weed inventory shall be conducted by surveying the entire ROW and areas immediately adjacent to the ROW as well as at all ancillary facilities associated with the project for weed populations that: (1) are considered by the San Diego County Agriculture Commissioner as being a priority for control and (2) aid and promote the spread of wildfires (such as cheatgrass [*Bromus tectorum*], Saharan mustard [*Brassica tournefortii*] and medusa head [*Taeniatherum caput-medusae*]). These populations shall be mapped and described according to density and area covered. These plant species shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the San Diego County Agriculture Commissioner's Office.
- A pre-construction weed inventory shall also be conducted by surveying areas that will be directly impacted by the project for weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006). These plant species shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with Cal-IPC.
- Weed control treatments shall include all legally permitted chemical, manual and mechanical methods applied with the authorization of the San Diego County Agriculture Commissioner and the ROW easement land-holding agencies where appropriate. 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) and implemented by a Licensed

Qualified Applicator. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the San Diego County Agriculture Commissioner. The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA, the San Diego County Agriculture Commissioner, and Cal-IPC with the goal of controlling populations before they start producing seeds.

For the lifespan of the project, long-term measures to control the introduction and spread of noxious weeds in the project area shall be taken as follows.

- From the time construction begins until two years after construction is complete, annual surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required in the survey areas described above. After this time, surveying for new invasive weed populations and monitoring of identified and treated populations shall be required at an interval of every two years. However, the treatment of weeds shall occur on a minimum annual basis.
- During project construction and operation/maintenance, all seeds and straw materials shall be certified weed free, and all gravel and fill material shall be certified weed free by the San Diego County Agriculture Commissioner's Office.
- During project construction and operation/maintenance, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering all project areas. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all project areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill. 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, BLM, USDA Forest Service (for alternative routes within Cleveland National Forest lands), Wildlife Agencies and State Parks (for weeds in ABDSP) for inspection at any time and shall be submitted to the CPUC on a monthly basis.

D.2.8 Dust

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class III)

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community.

Implementation of BIO-APM-3 would ensure that, in addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, or other construction activities that could interfere with plant photosynthesis, a 15-mile-per-hour speed limit would be observed on dirt access roads to reduce dust. This would ensure that the Proposed Project would not result in a substantial adverse effect on riparian or other sensitive vegetation communities (Significance Criterion 2.b.) through the spread of fugitive dust (Significance Criterion 2.c.) and would render the potential impact from dust to a level of adverse but less than significant (Class III). No mitigation is required.

D.2.9 Listed or Sensitive Plant Species

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals, or direct loss of habitat. Known locations of individuals are where a species was observed during on-the-ground surveys. Direct loss of known locations of individuals or habitat occurs from temporary or permanent grading or vegetation clearing. Indirect loss of individuals occurs in instances such as sediments transported (e.g., from cleared areas during rain events) that cover adjacent plants or changes in a plant's environment that cause its loss (e.g., adjacent shrubs that provided necessary shade are removed). The following 17 special status plant species were observed along the Proposed Project route in 2007 and/or have been documented in CNDDDB, USFWS, and/or ABDSP records. Four of these species are listed: San Diego thorn-mint, Del Mar manzanita, San Diego button-celery, and Borrego bedstraw.

- San Diego button-celery (FE, SE)
- San Diego thorn-mint (FT, SE)
- Del Mar manzanita (FE)
- Borrego bedstraw (SR)
- Delicate clarkia (L1B)
- Nuttall's scrub oak (L1B)
- San Diego gumplant (L1B)
- San Diego sand aster (L1B)
- San Diego sunflower (L1B)
- San Felipe monardella (L1B)
- Summer-holly (L1B)
- California adolphia (L2)
- Coves' cassia (L2)
- San Diego barrel cactus (L2)
- Ramona horkelia (L1B)
- Felt-leaved monardella (L1B)
- Pygmy lotus (L1B)

Status: FT=federally threatened, FE=federally endangered, SE=State endangered, SR=State rare, L1B or L2=CNPS List 1B or CNPS List 2

Twenty-six other special status plant species have moderate to high potential to occur along the Proposed Project route (see Table D.2-3). Six of these are federal and/or State listed: San Diego ambrosia (FE), Nevin's barberry (FE, SE), Orcutt's brodiaea (SR), willowy monardella (FE, SE), Gander's ragwort (SR), and San Diego mesa mint (FE, SE). Table D.2-3 lists all special status plant species potentially occurring or observed along the Proposed Project route. Due to poor rainfall conditions in 2007, special status plant surveys conducted for the Proposed Project may not have detected all annual plant species that could occur in the PSA.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Focused plant species surveys were conducted in spring/summer of 2007 where ROE permission was granted, and although some special status plant species were found, the results of the surveys are inconclusive because the poor rainfall conditions likely prevented the germination of many annual species. Habitat for special status species may also occur where ROE permission was not granted.

The following APMs, as set forth in Table D.2-5, would be implemented as part of the Proposed Project to address potential impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the Proposed Project would impact special status plant species as follows.

Borrego Bedstraw. Borrego bedstraw was observed in the Anza-Borrego Link near MPs 79, 81, and 82 (Appendix 8A; Figures Ap. 8A-14 and Ap. 8A-15). The two individuals near MP 79 occur outside the PSA and would not be affected by construction of the Proposed Project. Near MP 81, up to 38 individuals would be removed during access road construction and construction of Tower SP48. Finally, up to 22 individuals would be removed during access road construction and construction of Tower SP 46 near MP 82.

California Adolphia. California adolphia was observed in the Coastal Link. A total of up to 1,920 individual California adolphia would be affected by construction of the Proposed Project (Appendix 8A, Figures Ap. 8A-24 and Ap. 8A-25). Up to 100 individuals would be removed during construction of Towers Co35 and Co36 near MP 141.5. Up to 1,179 individuals would be removed during vegetation clearing for a staging area and for construction of Towers CUG5 and Co32 north of MP 142 (Appendix 8A, Figure Ap.8A-24). As many as 435 California adolphia would be removed during trenching operations for the underground portion of the Proposed Project west of MP 146. In this same area, up to 24 individuals would be removed during access road construction and construction of Tower CUG2. Additionally, up to 49 California adolphia would be removed during construction of an access road and Tower Co15 at MP 147; up to 28 individuals would be removed during construction of a pull site and Tower Co11 northeast of MP 148; and up to 105 individuals would be removed during construction of Tower Co9 southwest of MP 148. Three locations of 104, 15, and 7 individual California adolphia plants (totaling 126 plants) would not be affected by construction of the Proposed Project (Appendix 8A, Figure Ap.8A-25).

Coves' Cassia. Coves' cassia was observed in the Anza-Borrego Link. One individual would be removed during construction of Tower SP77 near MP 77 (Appendix 8A, Figure Ap.8A-13). Up to 350 individuals would be removed during construction of an access road and Tower SP53 near MP 80.5. Up to six individuals would be removed during construction of an access road and Tower SP50 near MP 81. Fifty Coves' cassia plants (located near MP 81) would not be affected by construction of the Proposed Project (Appendix 8A, Figure Ap.8A-14).

Del Mar Manzanita. Up to 78 individual Del Mar manzanita plants were observed in the Coastal Link near MP 147 (Appendix 8A, Figure Ap.8A-25). Ten Del Mar manzanita plants were also observed at MP 5.5 of the Reconductor Sycamore Canyon to Elliot 69 kV Line (Appendix 8A, Figure Ap.8A-30). The Proposed Project would impact up to 78 individuals of this species through access road construction. Del Mar manzanita would not be affected for the reconductor since no vegetation would be removed at its location.

Delicate Clarkia. Delicate clarkia was observed in the Central and Inland Valley Links. A total of up to 225 individual delicate clarkias would be affected by construction of the Proposed Project as follows. Up to 50 individuals would be affected during vegetation removal at the Central East Substation site (Appendix 8A, Figure Ap.8A-16). Up to 35 individuals would be affected during construction of an access road near MP 99 (Appendix 8A, Figure Ap.8A-17). Up to 50 individuals of delicate clarkia would be affected by construction of Tower I65 south of MP 125, and up to 40 individuals would be affected by construction of Tower I64. Finally, up to 50 delicate clarkias would be affected by construction of an access road and a pull site north of MP 126 (Appendix 8A, Figure Ap.8A-22). Two locations totaling approximately 1,500 individuals near MP 115 (Appendix 8A, Figure Ap.8A-20) would not be affected. Approximately

15 individuals north of MP 125 and 160 individuals south of MP 125 would also not be affected (Appendix 8A, Figure Ap.8A-22) by construction of the Proposed Project.

Felt-Leaved Monardella. Felt-leaved monardella was observed in the Inland Valley Link. Up to 70 individuals would be affected by construction of an access road and Tower I98 east of MP 116 (Appendix 8A, Figure Ap.8A-20).

Nuttall's Scrub Oak. Nuttall's scrub oak was observed in the Central and Coastal Links. A total of up to 4,061 individuals would be affected by construction of the Proposed Project as follows. Up to 25 individuals would be affected by construction of an access road near MP 110 (Appendix 8A, Figure Ap.8A-19). Up to 100 individuals would be affected by construction of an access road, pull site, and Tower Co45 (Appendix 8A, Figure Ap.8A-24). Up to 2,650 Nuttall's scrub oaks would be affected by construction of Towers CUG1 and CUG2 as well as a pull site near MP 147 (Appendix 8A, Figure Ap.8A-25). As many as 30 individuals would be removed during trenching for the underground portion of the Proposed Project east of MP 147 (Appendix 8A, Figure Ap.8A-25). Approximately, 1,007 Nuttall's scrub oaks would be affected by construction of an access road and Tower Co15, as well as 242 individual Nuttall's scrub oaks by an access road and Tower Co14 Appendix 8A, Figure Ap.8A-25). Finally, up to seven individuals would be removed during construction of an access road and Tower Co2 near MP 149.9 (Appendix 8A, Figure Ap.8A-25). These Nuttall's scrub oaks would not be affected by construction of the Proposed Project: 30 individuals north of MP 141 (Appendix 8A, Figure Ap.8A-24); 382 individuals east of MP 147 (Appendix 8A, Figure Ap.8A-25); and 70 individuals east of MP 148 (Appendix 8A, Figure Ap.8A-25). Lastly, Nuttall's scrub oak also occurs along the Reconductor Sycamore Canyon to Elliot 69 kV Line. Seven individuals were observed (Appendix 8A, Figures Ap. 8A-27 through Ap. 8A-30). Nuttall's scrub oak would not be affected by the reconductor.

Pygmy Lotus. One pygmy lotus was observed in the Anza-Borrego Link near MP 78. This individual was observed just outside the PSA and would not be affected by construction of the Proposed Project.

Ramona Horkelia. Ramona horkelia was observed in the Inland Valley Link. Up to 75 individuals would be affected by construction of an access road and Tower I95 west of MP 116 (Appendix 8A, Figure Ap.8A-20).

San Diego Barrel Cactus. San Diego barrel cactus was observed in the Coastal Link. A total of up to 92 barrel cacti would be affected by construction of the Proposed Project (Appendix 8A, Figures Ap. 8A-24 and Ap. 8A-25). Up to 11 would be removed during construction of Tower Co34. Up to 70 barrel cacti would be removed during trenching of the underground portion of the Proposed Project east of MP 143 and west of MP 146. Up to 10 individuals would be removed during construction of Tower Co10 and up to one individual during construction of Tower Co8. Three San Diego barrel cacti were observed at MP 7.5 of the Reconductor Sycamore Canyon to Elliot 69 kV Line. The Proposed Project would not impact this plant because the existing dirt access road would be used to access Tower 379523. Ninety-seven San Diego barrel cacti would not be affected by construction of the Proposed Project. These cacti occur near MP 147, northeast of MP 148, and southwest of MP 148.

San Diego Button-Celery. One San Diego button-celery was observed at MP 7.5 of the Reconductor Sycamore Canyon to Elliot 69 kV Line in association with a vernal pool (Appendix 8A, Figure Ap.8A-31). The Proposed Project would not impact this plant because the existing dirt access road would be used to access Tower 379523.

San Diego Gumplant. San Diego gumplant was observed in the Central Link. Up to five individuals of this species would be affected during construction of access roads and removal of existing towers to relocate the existing 69 kV line in the ROW for the Proposed Project. The five individuals are located south of the town of Santa Ysabel.

San Diego Sand Aster. San Diego sand aster was observed in the Inland Valley and Coastal Links. A total of up to 865 individuals would be affected by construction of the Proposed Project as follows. One San Diego sand aster would be removed during construction of Tower I9 west of MP 135. Up to 841 individuals would be removed during construction of Towers Co 12, Co39, Co44, Co45, Co50, Co53, Co54, and Co55 (Appendix 8A, Figures Ap. 8A-24 and Ap. 8A-25). Up to two more individuals would be removed during access road construction for Tower Co7 northeast of MP 149 (Appendix 8A, Figure Ap.8A-25). Ninety-three San Diego sand aster plants would not be affected by construction of the Proposed Project: 14 individuals near MP 148, one individual southwest of MP 148, and 78 individuals between MPs 149 and 149.9 (Appendix 8A, Figure Ap.8A-25).

San Diego Sunflower. San Diego sunflower was observed in the Central Link. A total of up to 403 individual San Diego sunflower plants would be affected by construction of the Proposed Project (Appendix 8A, Figure Ap.8A-16). Up to 69 individuals would be removed during construction of an access road east of MP 90, and up to one individual would be removed during construction of an access road north of MP 91 (at the Central East Substation site). Up to 333 San Diego sunflower plants would be removed during construction of an access road and Towers C106 through C108 east of MP 93. Three individual San Diego sunflower plants would not be affected by construction of the Proposed Project: one east of Tower SP2 east of MP 90, one near MP 91.5, and one west of Tower C105 near MP 93 (Appendix 8A, Figure Ap.8A-16).

San Diego Thorn-Mint. San Diego thorn-mint was observed north of MP 8 of the Reconductor Sycamore Canyon to Elliot 69 kV Line in coastal sage-chaparral scrub adjacent to an existing dirt access road (Appendix 8A, Figure Ap.8A-31). Approximately 28 individuals were observed at this location. The Proposed Project would not impact this species since the existing access road would be used.

San Felipe Monardella. San Felipe monardella was observed in the Central Link. Three-hundred individuals of San Felipe monardella were observed east of MP 89. Up to 300 of the individuals would be removed during construction of an access road at this location (Appendix 8A, Figure Ap.8A-16).

Summer-Holly. Summer-holly was observed in the Coastal Link. Two individuals of summer holly were observed west of MP 146, and both would be removed during trenching for the underground portion of the Proposed Project at this location (Appendix 8A, Figure Ap.8A-25). Additionally, two summer holly plants were observed outside the PSA for the Reconductor Sycamore Canyon to Elliot 69 kV Line; these plants would not be affected by the reconductor (Appendix 8A, Figure Ap.8A-31).

Even with implementation of the APMS, the impacts from the Proposed Project are significant according to Significance Criteria 1.a. and 1.b. Significance Criterion 1.a. states that any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant. Significance Criterion 1.b. states that any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant.

Because it is not possible to completely assess the impacts to all special status plant species (i.e., those with potential to occur [see Table D.2-3] since the survey results were inconclusive and some areas could not be surveyed), and because the possibility exists that the results of complete conclusive surveys would result in a significant impact, the overall impacts to special status plant species are considered significant

and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a (detailed below) is required to, at least in part, compensate for impacts to special status plant species. Wherever these mitigation measures are more specific or restrictive than the APMs, the mitigation measures take precedence. Mitigation Measures B-1a, B-1c, B-2a, and B-5a include: habitat restoration/compensation, biological monitoring, spring pre-construction survey; reporting to CPUC, BLM, Wildlife Agencies, and State Parks (for activities in ABDSP); avoidance, relocation, or restoration; preparation of a restoration plan; purchase/dedication of habitat; flagging populations; monitoring construction near flagged populations; and preparation of a habitat management plan for preserved populations/habitat. The full text of the mitigation measures appears in Appendix 12.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-5a Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies. A qualified biologist shall survey for special status plants in the spring prior to initiating construction activities in a given area. A report of special status plants observed shall be prepared and submitted for approval by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies prior to activities which may impact the plant resources.

All special status plant populations shall be staked or flagged by a qualified biologist approved by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete.

Impacts to federal or State listed plant species shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through salvage and relocation (salvage and relocation for plants in ABDSP shall be determined in consultation with, and approval of, State Parks) via a restoration program and/or off-site acquisition and preservation of habitat containing the plant at a 2:1 ratio. Avoidance may not be feasible due to physical or safety constraints. The CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies shall decide whether the applicant can restore rare plant populations or shall acquire habitat with rare plant populations off site (locations to be approved by the CPUC, BLM, State Parks [for activities in ABDSP], USDA Forest Service [for alternatives with activities on National Forest lands], and the Wildlife Agencies). A qualified biologist shall prepare a Restoration Plan that shall indicate where restoration would take place. The restoration plan shall also identify the goals of the restoration, responsible parties, methods of restoration implementation, maintenance and monitoring requirements, final success criteria, and contingency measures. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service (for alternatives with restoration on National Forest lands) until a plan is approved by all.

Impacts to moderately sensitive plant species (i.e., BLM Sensitive, USDA Forest Service Sensitive, CNPS List 1 and 2 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseedling (with locally collected seed stock) or relocation to temporarily disturbed areas (reseedling and relocation of plants in ABDSP shall be deter-

mined by State Parks). Avoidance may not be feasible due to physical or safety constraints. Mitigation Measure B-1a would also provide habitat-based mitigation for these impacts.

Where reseeded or salvage and relocation is required, the applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Restoration Plan for reseeded or salvaging and relocating special status plant species to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies in writing prior to impacting the plant resources. The applicant shall work with the above-listed agencies until a plan is approved by all. The reseeded or relocation of plants shall be maintained and monitored for five years after installation, or until established success criteria are met, to assess progress and identify potential problems with the mitigation. Remedial action (e.g., additional seeding, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies.

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact special status plant resources. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all off-site mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all mitigation parcels
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)

- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

D.2.10 Construction Activities: Disturbance to Wildlife

As detailed below, direct impacts to wildlife anticipated as a result of the Proposed Project include the removal of vegetation that would result in the temporary loss of wildlife habitat along with the displacement and/or potential mortality of resident wildlife species that are poor dispersers such as snakes, lizards, and small mammals. Construction may also result in the temporary degradation of the value of adjacent native habitat areas due to noise, increased human presence, and vehicle traffic. Depending on the timing and location of Proposed Project activities, construction may also result in temporary disruption along terrestrial and riparian wildlife movement corridors crossed by the Proposed Project. See Section D.2.13 for a discussion of wildlife corridors. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Section D.2.11.

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct mortality of small mammals; reptiles; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Section D.2.12); 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. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Noise, dust, and visual disturbances from increased human activity, and exhaust fumes from heavy equipment used during construction would result in habitats adjacent to the construction zone being temporarily unattractive to wildlife. Construction would affect wildlife in adjacent habitats by interfering with breeding or foraging activities, altering movement patterns, or causing animals to temporarily avoid areas adjacent to the construction zone. Nocturnally active (i.e., active at night) wildlife would be affected less by construction than diurnally active (i.e., active during the day) species since construction would occur primarily during daylight hours (there may be some exceptions if construction occurs in the desert during the summer months).

Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances would result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding season.

The use of access roads by construction/maintenance vehicles would result in accidental road-killed wildlife if these species were to be on the roads when they are used. Diurnally active reptiles and small mammals such as desert cottontails (*Sylvilagus audubonii*) and California ground squirrels (*Spermophilus beecheyi*) are the most likely to be subject to vehicle-caused mortality.

All of these impacts to general wildlife would be significant according to Significance Criterion 4.a. (prevent access to foraging habitat, breeding habitat, water sources, or other areas necessary for survival and reproduction) and Significance Criterion 4.d. (adversely affect animal behavior through increased noise or nighttime lighting); however, with implementation of the following APMs, as set forth in Table D.2-5,

the impacts would be adverse but less than significant (Class III), and no mitigation is required. Impacts to listed or sensitive wildlife species are addressed in Section D.2.11 below.

These APMs would be implemented as part of the Proposed Project to address impacts to wildlife from construction activities, including the use of access roads: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-9, BIO-APM-16, BIO-APM-24, BIO-APM-26, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, clearing brush and trimming trees outside the breeding season, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

D.2.11 Listed or Sensitive Wildlife Species

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals, or direct loss of habitat. Known locations of individuals are where a species was observed during on-the-ground surveys. Direct loss of known locations of individuals or habitat occurs from temporary or permanent grading or vegetation clearing. Indirect loss of individuals occurs in an instance such as human activity during construction causing animals to avoid necessary resources (e.g., a watering hole) that could lead to their mortality. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from construction equipment, noise, and human activity in the construction zone.

The following federal and/or State listed wildlife species were observed along the Proposed Project route in 2007 and/or have been documented in CNDDDB, USFWS, and/or ABDSP records (see Table D.2-4).

- Peninsular bighorn sheep (FE, ST)
- Least Bell's vireo (FE, SE)
- Southwestern willow flycatcher (FE, SE)
- Desert pupfish (FE, SE)
- Desert tortoise (FT, ST)
- Quino checkerspot butterfly (FE)
- Arroyo toad (FE)
- Stephens' kangaroo rat (FE, ST)
- Coastal California gnatcatcher (FT)
- San Diego fairy shrimp (FE)
- Swainson's hawk (ST)
- Barefoot banded gecko (ST)

Status: FT=federally threatened, FE=federally endangered, ST=State threatened, SE=State endangered

The following non-listed but highly sensitive species have also been observed along the Proposed Project route in 2007 or have been documented there in CNDDDB, USFWS, ABDSP, or Wildlife Research Institute (Bittner, 2007) records.

- Flat-tailed horned lizard
- Burrowing owl
- Golden eagle

Table D.2-4 lists all of the special status wildlife species potentially occurring or observed along the Proposed Project route.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I for construction impacts to sensitive species. Other impact classes depend on species; see individual discussions)

The Proposed Project would impact the following listed wildlife species: Peninsular bighorn sheep, least Bell's vireo, quino checkerspot butterfly, arroyo toad, Stephens' kangaroo rat, coastal California gnat-catcher, and San Diego fairy shrimp. Each of these species is addressed individually in this section along with discussions of the listed desert pupfish, desert tortoise, southwestern willow flycatcher, Riverside fairy shrimp, and barefoot banded gecko that could be impacted (see individual impact discussions). Discussions are also provided for the sensitive FTHL, burrowing owl, and golden eagle that would be impacted. Although these latter three species are not listed, they are included in the discussion of listed species because of their highly sensitive statuses in San Diego and/or Imperial Counties. Impacts to the listed Swainson's hawk are discussed in Section D.2.14, Impact B-10.

The Proposed Project would also impact the following non-listed, sensitive wildlife species and their habitats as described below.

Red-Diamond Rattlesnake. The red-diamond rattlesnake was observed in the Anza-Borrego and Inland Valley Links. One rattlesnake was observed near MP 75 (Appendix 8A, Figure Ap.8A-13), and one was observed near MP 125 (Appendix 8A, Figure Ap.8A-22). Neither of these locations would be directly affected by construction activity, but the species would be affected by the removal of vegetation and habitat modification in the area. Individuals of this species could also be killed if they occur within the construction zone and are crushed by equipment.

Two-Striped Garter Snake. The two-striped garter snake was observed in the Central Link. Three individuals of this species were observed—one at each of these locations: west of MP 107.5, south of MP 108 (Appendix 8A, Figure Ap.8A-18), and at approximately MP 110.5 (Appendix 8A, Figure Ap.8A-19). Each of these locations would be directly affected by the construction of access roads. The two-striped garter snake would be affected by the removal of vegetation and habitat modification, and individuals of the species could also be killed if they are within the construction zone and are crushed by equipment.

Western Spadefoot. The western spadefoot was observed in the Central and Inland Valley Links. Four western spadefoots were observed between MPs 96 and 99, and three western spadefoots were observed near MP 117 (Appendix 8A, Figure Ap.8A-17). None of the locations where the western spadefoot was observed would be directly affected by construction. However, the species would be affected by the removal of vegetation and habitat modification in the area.

California Horned Lark. The California horned lark was observed outside the PSA near MPs 1 through 1.5 of the Reconductor Sycamore Canyon to Elliott 69 kV Line (Appendix 8A, Figure Ap.8A-27). The only impact that would occur anywhere near these observations is temporary use of developed land in the PSA for pull sites. Therefore, no significant impact to the species would occur.

Cooper's Hawk. The Cooper's hawk was observed in the Anza-Borrego, Central, and Inland Valley Links. In the Anza-Borrego Link, the Cooper's hawk was observed north of MP 75.5, and it could breed in desert woodland in the immediate vicinity (Appendix 8A, Figure Ap.8A-13). In the Central Link at the Central East Substation site, the Cooper's hawk was observed just southeast of the substation site, and it could breed in the adjacent southern coast live oak riparian forest (Appendix 8A, Figure Ap.8A-16). North of MP 98 in the Central Link, there would be no direct impact to the location where the Cooper's hawk was observed, and there is no breeding habitat for the species present (Appendix 8A, Figure Ap.8A-17). Also, southeast of MP 100, the Cooper's hawk was observed outside the PSA; it could breed

in nearby southern coast live oak riparian forest, that would not be directly affected, in the PSA (Appendix 8A, Figure Ap.8A-17). Finally, in the Inland Valley Link, the Cooper's hawk was observed near MP 116.5. There would be no direct impacts to this location, and there is no breeding habitat nearby (Appendix 8A, Figure Ap.8A-20). Construction would cause significant indirect noise impacts that would affect Cooper's hawk breeding if construction were to occur adjacent to its breeding habitat during the general avian breeding season (see Impact B-8). Also, the Cooper's hawk would be affected by the removal of vegetation and habitat modification in the area.

Ferruginous Hawk. The ferruginous hawk was observed in the Central Link near MPs 104 and 106.5 outside the PSA (Appendix 8A, Figure Ap.8A-18). These locations would not be directly impacted, and it is not likely to significantly affect this species since it is an uncommon winter visitor that does not nest in San Diego County (Unitt, 2004).

Grasshopper Sparrow. Two grasshopper sparrows were observed in the Inland Valley Link at the locations of proposed access roads north of MP 114 (Appendix 8A, Figure Ap.8A-20). This species would be affected by the removal of vegetation and habitat modification, and construction would cause significant indirect noise impacts that would affect grasshopper sparrow breeding if construction were to occur adjacent to its habitat during the general avian breeding season (see Impact B-8).

Northern Harrier. The northern harrier was observed west of MP 149 in the Coastal Link, and there would be no direct impact to this location (Appendix 8A, Figure Ap.8A-18). The northern harrier could possibly breed, however, in the area where it was observed. Construction would significantly impact this species if it occurred at or near a nest location (this species nests on the ground; see Impact B-8).

Prairie Falcon. The prairie falcon was observed near MP 104 outside of the PSA in the Central Link (Appendix 8A, Figure Ap.8A-18). It is San Diego County's scarcest breeding bird. It nests on cliffs or ledges and forages in open desert or grassland. It is most numerous in winter, especially in valleys such as Warner and Santa Ysabel. No breeding of this species has been reported in the vicinity of this observation (Unitt, 2004). Therefore, no significant impacts to the species would occur.

Southern California Rufous-Crowned Sparrow. The southern California rufous-crowned sparrow was observed in the Inland Valley Link and along the Reconductor Sycamore Canyon to Elliott 69 kV Line. In the Inland Valley Link one sparrow was observed near MP 129 within the PSA (Appendix 8A, Figure Ap.8A-22). Along the Reconductor, two sparrows were observed between MPs 0.5 and 1 outside the PSA (Appendix 8A, Figure Ap.8A-27); one sparrow was observed north of MP 5 outside the PSA (Appendix 8A, Figure Ap.8A-29); and one sparrow was observed northeast of MP 7 outside the PSA (Appendix 8A, Figure Ap.8A-30). The southern California rufous-crowned sparrow location in the Inland Valley Link would be directly affected by habitat loss from vegetation clearing and habitat modification from access road and tower construction. The southern California rufous-crowned sparrow would not be significantly affected by the Reconductor because the species was observed outside the PSA, and only minor temporary impacts to vegetation from a pull site near MP 5 would occur within the PSA near one of the observations. However, construction would cause significant indirect noise impacts that would affect rufous-crowned sparrow breeding if construction were to occur adjacent to the sparrow's habitat during the general avian breeding season (see Impact B-8).

White-Tailed Kite. The white-tailed kite was observed in the Central Link and along the Reconductor Sycamore Canyon to Elliott 69 kV Line. In the Central Link, the white-tailed kite was observed north of the Central East Substation near MP 90 outside the PSA (Appendix 8A, Figure Ap.8A-16). Along the Reconductor, the white-tailed kite was observed near the Sycamore Substation outside the PSA (Appendix 8A, Figure Ap.8A-27). Neither of these locations would be directly affected; however, some of the

species' foraging habitat would be removed, and some of its potential breeding habitat would be removed near the Central East Substation. Furthermore, construction near the Central East Substation and for the Reconductor (near riparian woodland habitat) would cause significant indirect noise impacts that would affect white-tailed kite breeding if construction were to occur adjacent to its breeding habitat (woodlands) during the general avian breeding season (see Impact B-8).

Yellow Warbler. Eight yellow warblers were observed from approximately MP 100 through MP 101 outside the PSA in the Central Link (Appendix 8A, Figure Ap.8A-17). All of the yellow warblers would be significantly affected by indirect noise impacts that would affect yellow warbler breeding if construction of the nearby access roads and towers were to occur during the general avian breeding season (see Impact B-8). Yellow warbler habitat would not be directly affected.

San Diego Black-Tailed Jackrabbit. The San Diego black-tailed jackrabbit was observed in the Inland Valley Link (at MP 122.5; Appendix 8A, Figure Ap.8A-21) and along the Reconductor Sycamore Canyon to Elliott 69 kV Line (just outside the PSA; Appendix 8A, Figure Ap.8A-29). The black-tailed jackrabbit would be affected by the removal of vegetation and habitat modification from the construction of access roads and towers where it was observed in the Inland Valley Link. The black-tailed jackrabbit would not be adversely affected by the Reconductor because the species was observed outside the PSA, and only minor temporary impacts to vegetation from a pull site would occur within the PSA near the observation.

The following APMs would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the Proposed Project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies). The impacts would be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Most of the non-listed sensitive species' habitats are sensitive vegetation communities (Table D.2-7); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats. These measures include providing mitigation for impacts to sensitive vegetation communities and jurisdictional areas, conducting biological monitoring, and covering steep-walled trenches or excavations to prevent wildlife entrapment. The full text of the mitigation measures appears in Appendix 12.

Impacts to the listed and highly sensitive species and their habitats and the significance of these impacts are described in Impacts B-7A through Impact B-7O.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-7a Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals). BIO-APM-14 shall be modified to ensure that all steep-walled trenches or excavations used during construction shall be covered at all times except when being actively utilized. If the trenches or excavations cannot be covered, exclusion fencing (i.e., silt fencing) shall be installed around the trench or excavation, or it shall be covered to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife shall be inspected by the qualified biologist (see Mitigation Measure B-1c) a minimum of three times per day and immediately before backfilling. Furthermore, employees and contractors shall look under vehicles and equipment for the presence of wildlife before movement. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the qualified biologist. Should a dead or injured listed species be found in a trench or excavation or anywhere in the construction zone or along an access road, the qualified biologist shall contact the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies within 48 hours of the finding. The qualified biologist shall report the species found, the location of the finding, the cause of death (if known), and shall submit a photograph and any other pertinent information.

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

The FTHL has the most limited distribution of any horned lizard species in the U.S. It is found in the extreme southwestern corner of Arizona, the southeastern corner of California, and adjoining portions of Sonora and Baja California, Mexico. FTHLs occur entirely within the largest and most arid subdivision of the Sonoran Desert. Most records of this lizard come from the creosote-white bursage series of Sonoran Desert Scrub, although in California the species has been recorded in a wide range of habitats including sandy flats and hills, badlands, salt flats, and gravelly soils. Ants constitute approximately 97 percent of the FTHL's diet; harvester ants (genera *Messor* and *Pogonomyrmex*) are far more important to this diet than smaller ant species. Water is obtained primarily from food; free-standing water is usually not available (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

The FTHL is most active throughout mid-day in the spring and fall and in the morning and evening in the summer. Winter dormancy has been reported with all individuals found in burrows within 10 centimeters of the surface. Juveniles have been found to be active in winter, however (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

Unlike other iguanid lizards that often flee when approached, the FTHL remains still or may bury itself in loose sand. This reluctance to move, along with its cryptic coloration and body-flattening habit, makes the FTHL very susceptible to mortality, especially from vehicles (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

Although this species is no longer listed as federally proposed threatened, MAs (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) for the FTHL have been designated and occur along the Proposed Project route. These MAs are believed to be the core areas for maintaining self-sustaining populations of FTHLs in perpetuity. It is assumed that all of these MAs, as well as potential habitat for the FTHL outside of MAs (determined by the current distribution of the species [Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003]) are occupied by the FTHL, so focused surveys for the FTHL were not conducted. FTHL MA or distribution area occurs from approximately MP 36 through approximately MP 68.5. Harm and harassment of FTHLs as well as direct disturbance or mortality may result from installation and maintenance of utilities such as transmission lines. Habitat disturbance from transmission lines results primarily from installation of towers, construction and use of access routes to the tower sites, use of line-pulling sites, and maintenance activities.

Proposed Project construction would impact 232.7 acres of FTHL MA (163.1 acres of temporary disturbance and 69.6 acres of permanent impact through habitat removal) and would cause harm or harassment, and direct disturbance to FTHLs (mortality and loss of habitat). Additionally, Proposed Project construction would impact 299.2 acres of FTHL habitat outside MA (264.8 acres of temporary disturbance and 34.4 acres of permanent impact through habitat removal) and would cause harm or harassment, and direct disturbance to FTHLs (mortality and loss of habitat). These impacts are significant according to Significance Criteria 1.c. and 1.f. Significance Criterion 1.c. states that the Proposed Project would have a substantial adverse effect on FTHL MAs. Significance Criterion 1.f. states that the Proposed Project would directly or indirectly cause the mortality of a special status wildlife species. These impacts are significant and not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), (B-7a (Cover steep-walled trenches or excavations), and B-7b (avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangeland Management Strategy) are required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of the Proposed Project include increased predation of FTHLs by round-tailed ground squirrels (*Spermophilus tereticaudus*), that are attracted to roads, and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. which states that the Proposed Project would directly or indirectly cause the mortality of a special status wildlife species. Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b per the compensation requirements of the Flat-Tailed Horned Lizard Rangeland Management Strategy that accounts for "indirect deleterious impacts" (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact is significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

B-7b Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy. Mitigation for impacts to the FTHL shall follow all applicable measures in the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). This mitigation includes, but is not limited to, locating impacts outside of MAs, delineating work limits, using existing roads, biological monitoring, and worker education.

According to the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003), compensation for FTHL habitat impacts could involve purchase of FTHL habitat and/or monetary compensation as determined by the Flat-Tailed Horned Lizard Interagency Coordinating Committee. Impacts shall be mitigated at a 1:1 ratio for habitat outside a MA, although the ratios required for impacts to many of the desert vegetation communities for this project are actually higher due to their sensitivity. Furthermore, mitigation inside a MA shall be at a 3.5:1 ratio for temporary impacts and a 5.5:1 ratio for permanent impacts (some ratios for disturbed habitat, developed land, or agriculture, for example, are slightly lower). For the Proposed Project, the required mitigation for FTHL impacts (if off-site acquisition is the method of compensation) is 1,673 acres. Any FTHL habitat acquired shall be approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP).

A Habitat Management Plan shall be prepared by a biologist approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) for all acquired FTHL habitat. The Habitat Management Plan must be approved in writing by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the FTHL or its habitat. The applicant shall work with the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired FTHL habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired FTHL habitat approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP)
- Baseline biological data for all acquired FTHL habitat
- Designation of a land management entity approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline exotic, non-native species control fence/sign replacement or repair, public education trash removal and annual reports to Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).

Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat (Class I)

The Peninsular bighorn sheep (PBS) is a federal listed endangered and State listed threatened species that lives on open slopes in hot, dry desert regions where the land is rough, rocky, sparsely vegetated, and characterized by steep slopes, canyons, alluvial fans, and washes. The distribution and movements of PBS occur along a narrow band of habitat generally below 3,600 feet in the northern part of its range and below 4,000 to 5,000 feet in the southern part of its range where average annual precipitation is less than four inches and daily high summer temperatures average 104 degrees Fahrenheit (USFWS, 1999a).

The PBS occupies the eastern escarpment of the Peninsular Ranges from the San Jacinto Mountains in Riverside County, south approximately 100 miles to the United States–Mexico border (USFWS, 1999a). Eight known ewe groups, distributed in the following areas, comprise the population of PBS: San Jacinto Mountains, northern Santa Rosa Mountains (north of Highway 74), southern Santa Rosa Mountains (south of Highway 74), Coyote Canyon, northern San Ysidro Mountains (north of S22), southern San Ysidro Mountains (south of S22), Vallecito Mountains (south and north), and Carrizo Canyon (USFWS, 1999a). The Proposed Project would affect both the south San Ysidro Mountains and north Vallecito Mountains ewe groups. These two ewe groups are essentially separated by SR78.

The distribution of PBS is defined in large part on the basis of available water and PBS use of two general habitat categories: mountain slope and canyon bottom (i.e., washes and alluvial fans). Mountain slopes provide three types of necessary cover: escape, thermal, and lambing. Escape cover consists of extremely variable and precipitous terrain, typically in close proximity to canyon bottom habitat that provides seasonal forage and water. Ewes usually exhibit a greater dependence on escape cover than rams and usually select more rugged areas for lambing. During August through October breeding activities and the summer heat, PBS require shade to avoid heat and to conserve water. Mountain slopes provide caves and rock overhangs that are used for escape and thermal cover. PBS have, however, been observed in canyon bottoms as well as valley floor areas year-round in Anza-Borrego Desert State Park as much as 0.5 miles from mountainous escape terrain (USFWS, 1999a). Much of the PBS habitat along the Proposed Project route has been designated as critical habitat. All critical habitat for the PBS is considered occupied by the species, so focused surveys for PBS were not conducted for the Proposed Project.

From a CDFG helicopter survey, it was estimated in 2004 that there were approximately 700 PBS occurring rangewide with an estimate of 400 to 450 PBS in Anza-Borrego Desert State Park. Approximately 40 to 50 of those sheep occurred in the Pinyon Ridge and Yaqui Ridge areas of the south San Ysidro Mountains (in the south San Ysidro ewe group area) (State Parks, 2007) where the Proposed Project would construct an aboveground 500 kV line through the canyon. That same 500 kV line would extend east along SR78 between the south San Ysidro Mountains and north Vallecito Mountains ewe groups.

The causes of decline of the PBS include habitat loss, degradation, and fragmentation; disease from domestic cattle; insufficient lamb recruitment; and predation coinciding with low population numbers (Center for Biological Diversity, 2003a). Numerous researchers have also expressed concern over the impact of human activity on PBS. PBS are considered a wilderness animal (USFWS, 2000) because they fail to thrive in contact with urban development. A variety of human activities such as hiking, mountain biking, hang gliding, horseback riding, camping, hunting, livestock grazing, dog walking, and use of aircraft and off-road vehicles have the potential to disrupt normal PBS social behaviors and use of essential resources, or cause PBS to abandon traditional habitat. Attempts to ascribe relative importance, distinguish among, or generalize the effects of different human activities on PBS behavior are not supportable, given the range of potential reactions reported in the literature and the different variables impinging on given situations.

Although cases have been cited in which PBS populations did not appear to be affected by human activity, numerous researchers have documented altered PBS behavior in response to anthropogenic disturbance. Even when PBS appear to be tolerant of a particular activity, continued and frequent use can cause them to avoid an area, eventually interfering with use of resources, such as water, mineral licks, lambing or feeding areas, or use of traditional movement routes. In addition, disturbance can result in physiological responses such as elevated heart rate, even when no behavioral response is discernible.

A high level of human activity occurs in the habitat of PBS. For example, during a 10-hour period in spring, 49 hikers, two mountain bikers, and 13 dogs (nine unleashed) were counted in Carrizo Canyon in the northern Santa Rosa Mountains. This trail bisects a lambing area that has experienced reduced levels of sheep use in recent years. A ewe and her lamb were observed waiting for more than five hours to go to water because of continuous off-road vehicle traffic. It was reported that PBS use of important waterholes was 50 percent lower on days with off-road vehicle traffic (USFWS, 2000). In Carrizo Canyon, a group of PBS was observed to flee from a spring area when a U.S. Navy helicopter passed overhead (USFWS, 2000). It was also noted that PBS did not use waterholes when motorcycles were heard nearby (USFWS, 2000), and it was speculated that the use of springs by humans (recreationists and persons entering California across the U.S.-Mexico border) reduced use of this resource by PBS (USFWS, 2000).

PBS responses to human activity are difficult to predict and depend on the type of activity, season of the activity, elevation of the activity relative to resources, and distance of the activity from resources critical to PBS, among other variables. For instance, ewes with lambs typically are more sensitive to disturbance, as are PBS that are approached from higher elevations. PBS were found to be more sensitive to disturbance during spring and fall, corresponding with the lambing and rutting seasons, and abandonment of lambing habitat was observed while construction activities were ongoing (USFWS, 2000).

PBS movement also appears to be restricted by the perceived barriers of roadways (such as SR78 and S22) that separate ewe groups. Ewe movement between groups is limited, and permanent emigration has not been documented (Rubin, et al., 1998). It is unknown whether Proposed Project access roads, enlarged tower structures, or other project features would be perceived by PBS as barriers as well.

Moist air and rain may cause unstable irregularities in the electrical field around conductors and insulators of transmission lines, which can generate a crackling noise. The effects of this noise on PBS are not known. PBS could avoid the area subjected to the noise. Also, the noise could prevent PBS from hearing approaching predators.

The Proposed Project would impact approximately 87.7 acres of PBS critical habitat (55.8 acres of temporary disturbance and 31.9 acres of permanent impact through habitat removal) during project construction. These impacts are significant according to Significance Criterion 1.d. that states the Proposed Project would have a substantial adverse effect on designated critical habitat for a federal listed species through temporary or permanent disturbance.

As analyzed in Section D.2.5 in the discussion of Impact B-1, the impacts to the habitat itself are significant and not mitigable to less than significant levels (Class I) because suitable PBS replacement critical habitat, or other suitable habitat as determined by the Wildlife Agencies, BLM, and ABDSP, may not be available.

Even if enough suitable land is available to mitigate habitat impacts to a less than significant level, installation of towers [approximately 23 by helicopter in critical habitat in Grapevine Canyon], stringing of lines [possibly by helicopter in critical habitat in Grapevine Canyon], presence of towers/lines, creation and use of access roads, crackling/buzzing of transmission lines, etc.) and maintenance activities (see Section D.2.16, Impact B-12) in PBS habitat could cause PBS to avoid affected areas and could

interfere with the use of resources such as escape terrain; water; mineral licks; rutting, lambing, or feeding areas; the use of traditional movement routes; and/or could cause physiological stress or increased predation. All of these potential effects would adversely affect survival and recovery of the species. These impacts are significant according to the following Significance Criteria: 1.a.) the Proposed Project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species; 1.f.) the Proposed Project would have a substantial adverse effect by any impact that directly or indirectly causes the mortality of special-status wildlife species; 4.a.) the Proposed Project would have a substantial adverse effect by preventing access to foraging habitat, breeding habitat, water sources, etc.; 4.b.) the Proposed Project would have a substantial adverse effect by interfering with connectivity between blocks of habitat or block or interfere with a wildlife corridor; and (4.c.) the Proposed Project would have a substantial adverse effect by fragmenting a species' population. Based on the high sensitivity of this species and evidence that shows that human activities significantly affect it, these impacts would be significant and not mitigable to less than significant levels (Class I).

Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7c (presented below) would minimize Proposed Project impacts on PBS, although not to less than significant levels. One aspect of this mitigation is to minimize seasonal impacts to PBS (i.e., the period during which PBS are most sensitive to disturbance). The other aspect deals with the overall impacts to the population affected by the Proposed Project. One of the goals for recovery of the PBS is to reconnect the entire range of the PBS metapopulation. A metapopulation maintains stability through unobstructed movement between geographically separated subpopulations (such as the southern San Ysidro Mountains ewe group). This interchange allows natural levels of genetic heterogeneity and demographic augmentation that compensates for temporary declines at the subpopulation level and maintains population stability over time across the entire metapopulation.

Mitigation Measure for Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-7c Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. With regard to timing of activities, construction and maintenance activities in bighorn sheep habitat shall be limited to outside the lambing season and the period of greatest water need. The lambing season is February through August. The period of greatest water need is May through September.

To help reconnect PBS subpopulations and at least partially offset impacts to the overall population of PBS caused by the project, the applicant shall:

- fund construction of an overpass or tunnel to facilitate PBS movement across SR78 at a location determined by the USFWS (in coordination with State Parks and CDFG)
- fund removal of tamarisk and fences and install and maintain water sources at locations determined by the USFWS (in coordination with State Parks and CDFG)
- fund a minimum 10-year-long program to monitor the effects of the project on PBS behavior, movements, and dispersal in the project corridor (ten years is needed to measure the influence of the project while factoring in rainfall cycles, vegetative productivity, and drought). This program would be implemented by the Wildlife Agencies and State Parks following construction.

Furthermore, the applicant shall provide compensation for direct loss of critical habitat at a 5:1 ratio for permanent impacts and at a 3:1 ratio (including a combination of on-site restoration and off-site purchase) for temporary impacts with PBS critical habitat or other habitat acceptable to the Wildlife Agencies, BLM, and State Parks. For the Proposed Project, the required mitigation for PBS impacts includes off-site purchase of 271.1 acres and on-site restoration of 55.8 acres.

A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and State Parks for all acquired PBS habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) PBS or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired PBS habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired PBS habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP)
- Baseline biological data for all acquired PBS habitat
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

The burrowing owl is a year-long resident of open, dry grassland and desert habitats. It is also found as a resident in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats as well as agricultural lands. This small owl is found the length of the State of California in appropriate habitats and has been found as high as 5,300 ft in Lassen County. They are not found in the humid northwest coastal forests. Outside California, this bird is found in southwestern Canada, the western U.S., Florida, and northern Alaska (CDFG, 2007c). The burrowing owl is migratory over much of its range even in southern California (Unitt, 2004).

The burrowing owl's numbers have been markedly reduced in California for at least the past 60 years. Conversion of grasslands, other habitat destruction, and poisoning of ground squirrels, has contributed to the reduction in numbers in recent decades, which was noted in the 1940s, and earlier. Within the past 20 years, however, and particularly within the past five years, the decline of burrowing owls in California appears to have greatly accelerated. Apparently, this has resulted because of habitat loss caused by increased residential and commercial development (CDFG, 2007c).

Although the burrowing owl is not federal or State listed, the CDFG requires surveys and mitigation for this declining species, which it considers a Species of Special Concern. Burrowing owl surveys were conducted for the Proposed Project in potential habitat (as described by the CDFG, 2007c, above) that occurs from MP 4.8 through MP 69.7 (where ROE was granted) as prescribed by the USFWS and ABDSP (see Appendix 8B). Approximately 2.3 miles (3.5 percent) of potential habitat were not surveyed for the burrowing owl and active owl burrows due to lack of ROE permission. One occupied owl burrow (with two owls) was found just southwest of MP 16 (see Appendix 8A, Figure Ap.8A-3). With approximately 96.5 percent of potential habitat surveyed, it is reasonable to assume that the likelihood of other occupied burrows or burrowing owls being found in the areas not surveyed is low. The pre-construction survey required in Mitigation Measure B-7d would determine if any occupied burrows or burrowing owls occur in the areas not surveyed. The mitigation presently outlined in Mitigation Measure B-7d would need to be revised if occupied burrows or burrowing owls are found.

Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (i.e., 6.5 acres associated with a single burrow that is considered occupied habitat) loss even when impacts to individual owls and burrows are avoided. The Proposed Project would permanently impact occupied habitat around one active burrow with two owls by construction of an access road and tower AGR48 (see Appendix 8A, Figure Ap.8A-3). The inability to avoid such impacts would be significant according to Significance Criterion 1.f. which states that the Proposed Project would have a substantial adverse effect on a special-status wildlife species through direct or indirect impacts. These impacts are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7d which would not allow disturbance to burrows and surrounding foraging habitat or would passively relocate owls (i.e., encourage owls to move from occupied burrows) to alternate burrows outside the impact zone. It would also replace impacted habitat with suitable habitat, and all mitigation would be managed for burrowing owls in perpetuity. With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls; see habitat description at the beginning of Impact B-7C above) and with the mitigation options available per the CDFG (see Mitigation Measure B-7d below), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measures for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-7d Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies. A survey shall be conducted within 30 days prior to the initiation of construction (from MP 0 through MP 68 for the Proposed Project) by a qualified biologist to determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond. In addition, the burrowing owl shall be looked for opportunistically as part of other surveys and monitoring required during project construction. If the burrowing owl is absent, then no mitigation is required.

If the burrowing owl is present, no disturbance shall occur within 50 meters (approximately 160 ft) of occupied burrows from September 1 through January 31 or within 75 meters (approximately 250 ft) of occupied burrows from February 1 through August 31 (CDFG, 1995).

Passive relocation of owls shall be implemented prior to construction only at the direction of the CDFG and only if the above-described occupied burrow disturbance absolutely cannot be avoided (e.g., due to physical or safety constraints). Relocation of owls shall only be implemented during the non-breeding season (September 1 through January 31; CDFG, 1995). Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 meters from the impact zone and that are within or contiguous to a minimum of 6.5 acres of preserved (or acquired and preserved if not already preserved) foraging habitat for each relocated owl (single owl or owl pair). Passive relocation is accomplished by first creating two artificial burrows in contiguous, preserved foraging habitat (if no natural burrows exist) for each occupied burrow that would be impacted; and second, installing one-way doors on occupied burrow entrances so owls can leave the burrow but not re-enter it. Following passive relocation, the area of impact and the preserved foraging habitat with alternate burrows are surveyed daily for one week to confirm owl use of alternate burrows before excavation of burrows in the impact zone. All passive relocation shall be conducted by a biologist approved by the CDFG. If the alternate burrows are not used by the relocated owls, then the applicant shall work with the CDFG to provide alternate mitigation for burrowing owls. If the alternate burrows are used, no other mitigation shall be required.

If it is not possible to preserve contiguous habitat on which to provide alternate burrows (e.g., on private land), and occupied owl burrows would be directly impacted, then the owls shall be passively relocated without the creation of alternate burrows prior to construction (relocation should only be implemented during the non-breeding season [September 1 through January 31]). The loss of occupied owl habitat shall be mitigated by acquiring and preserving other occupied habitat elsewhere (as explained below) per the Staff Report on Burrowing Owl Mitigation (CDFG, 1995) and the Burrowing Owl Survey Protocol and Mitigation Guidelines (The Burrowing Owl Consortium, 1993), or as otherwise determined in consultation with the CDFG.

Impacted occupied habitat shall be mitigated by 1) acquiring and preserving occupied habitat at a rate of 1.5 times 6.5 acres (or 9.75 acres) per pair or single bird impacted, or 2) acquiring and preserving unoccupied habitat contiguous with currently occupied habitat at a rate of two times 6.5 acres (or 13 acres) per pair or single bird impacted, or 3) acquiring and preserving suitable unoccupied habitat at a rate of three times 6.5 acres (or 19.5 acres) per pair or single bird impacted. All acquired habitat shall be acceptable to the CDFG and shall be protected and managed for the burrowing owl in perpetuity.

For the Proposed Project, the required mitigation for impacts to the burrowing owl based on survey results include acquiring and preserving 9.75 acres of occupied habitat; or acquiring and preserving 13 acres of unoccupied habitat contiguous with occupied habitat; or acquiring and preserving 19.5 acres of suitable, unoccupied habitat. The survey required within 30 days prior to the initiation of construction will determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond and whether or not the mitigation needs to be revised.

A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, CDFG, and State Parks (for land in ABDSP) for all acquired burrowing owl habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the burrowing owl or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all.

The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired burrowing owl habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired burrowing owl habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP)
- Baseline biological data for all acquired burrowing owl habitat
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The Least Bell's vireo is a federal and State endangered species that primarily occupies riverine riparian habitats. It is endemic to California and northern Baja California and is now a rare, local, summer resident below about 600 meters (2,000 feet) in willows and other low, dense valley foothill riparian habitat and lower portions of canyons in coastal southern California, and along the western edge of the deserts in desert riparian habitat. The least Bell's vireo arrives in California from its Mexican wintering areas by end of March to early April, and departs by end of September (Dudek and Associates, 2001).

Once common, vireo populations had decreased substantially by the late 1980s due to loss and degradation of habitat as well as brown-headed cowbird (*Molothrus ater*) parasitism. The narrow and limited nature of the habitat of the least Bell's vireo makes the subspecies more susceptible to major population reductions than the other subspecies. No other passerine (perching songbird) species in California is known to have declined as dramatically as the least Bell's vireo. Most populations of least Bell's vireo are now growing. Due to intensive habitat protection and restoration and cowbird control, the California vireo population increased from 300 estimated pairs in 1986 to 2,500 in 2004. The Anza-Borrego Desert State Park population increased steadily from 32 territorial males in 1986 to 109 in 2005 (Center for Biological Diversity, 2007). Although critical habitat for the least Bell's vireo does not occur along the Proposed Project route, the least Bell's vireo has some potential to occur and breed in mule fat scrub, southern willow scrub, southern arroyo willow riparian forest, tamarisk scrub, arrowweed scrub, and mesquite bosque identified along the Proposed Project route.

All potential habitat for the least Bell's vireo along the Proposed Project route was surveyed in 2007, except for an access road east of MP 101 (Appendix 8A, Figure Ap.8A-17) where the least Bell's vireo is assumed to be present because of survey limitations and potential habitat is present (see Appendices 8B and 8C). One migrant least Bell's vireo was observed at the Tamarisk Grove Campground, and one migrant vireo was observed at Yaqui Well in ABDSP in the Anza-Borrego Link (Appendix 8A, Figure

Ap.8A-13). The Proposed Project would temporarily disturb two acres and would permanently impact 3.8 acres of occupied least Bell's vireo habitat. The pre-construction survey required in Mitigation Measure B-7e would conclusively define all the impacts to the least Bell's vireo where it is assumed to be present from construction. The requirements in Mitigation Measure B-7e may be reduced based on the results of this survey.

Should the least Bell's vireo breed in these locations at a later date, it could also be indirectly impacted by construction noise as well as human activity associated with construction that could disrupt vireo breeding. These impacts would be significant according to Significance Criteria 1.a. and 1.g. Significance Criterion 1.a. states that the Proposed Project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species. Significance Criterion 1.g. states that the Proposed Project would have a substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs. Any direct impact to the vireo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e presented below. It is expected that adequate mitigation land would be available to satisfy the mitigation required in Mitigation Measure B-7e because of the small number of acres needed and because this type of mitigation for the least Bell's vireo is typically available and regularly provided in San Diego County.

Additionally, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. which, in part, states that the Proposed Project would adversely affect wildlife through an increase in noise. Such excessive noise would be a significant impact on vireo breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance. The mitigation for the least Bell's vireo would mitigate the impacts to less than significant levels by only removing habitat outside the breeding season (when the vireo is not present), restoring/compensating for any temporary or permanent losses of habitat, monitoring for disturbance of nesting activities (from noise) when construction takes place within 300 feet of a vireo nest (USFWS, 2007b), and taking action to stop the disturbance.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. All grading or brushing taking place within riparian habitats of the least Bell's vireo or southwestern willow flycatcher during construction shall be conducted from September 16 (October 1 in ABDSP) through March 14, which is outside the least Bell's vireo and southwestern willow flycatcher breeding seasons.

When conducting all other construction activities during the breeding season of March 15 through September 15 (September 30 in ABDSP) within 500 feet (USFWS, 2007b) of habitat in which least Bell's vireos and/or southwestern willow flycatchers are known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for least Bell's vireos and southwestern willow flycatchers within one week prior to initiating activities in an area.

If least Bell's vireos or southwestern willow flycatchers are present, a permitted biologist shall survey for nesting vireos and flycatchers approximately once per week within 500 feet of the construction area (USFWS, 2007b), for the duration of the activity in that area during the breeding season.

If/when an active nest is located, a 300-foot no-construction buffer zone (USFWS, 2007b) shall be established around each nest site. No construction shall take place within this buffer until the nest is no longer active unless there are physical or safety constraints. If construction must take place within the buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied vireo/flycatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies, State Parks (for activities in ABDSP), and USDA Forest Service (for activities on National Forest lands) to devise methods to reduce the noise and/or disturbance. 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 nesting birds and the activities, and working in other areas until the young have fledged. The permitted biologist shall monitor the nest daily until either activities are no longer within 300 feet of the nest, or the fledglings become independent of their nest.

Mitigation for the loss of least Bell's vireo- or southwestern willow flycatcher-occupied habitat (or designated critical habitat for the flycatcher) shall be implemented as follows. Permanent impacts to occupied habitat and/or designated critical habitat shall include off-site acquisition and preservation of occupied habitat or designated critical habitat at a 3:1 ratio. Temporary impacts to occupied habitat or designated critical habitat shall include 1:1 on-site restoration and 2:1 off-site acquisition and preservation of occupied habitat and/or designated critical habitat.

For the Proposed Project, the required mitigation for least Bell's vireo occupied habitat is on-site restoration of two acres and off-site acquisition and preservation of 15.4 acres of least Bell's vireo occupied habitat. For the Proposed Project, the required mitigation for southwestern willow flycatcher occupied habitat is on-site restoration of 0.4 acres and off-site acquisition and preservation of 4.4 acres of southwestern willow flycatcher occupied habitat. For the Proposed Project, the required mitigation for southwestern willow flycatcher designated critical habitat is on-site restoration of 0.88 acres and off-site acquisition of 2.3 acres of southwestern willow flycatcher designated critical habitat. If a USFWS protocol, pre-construction survey, conducted in an area where presence of the vireo or flycatcher was assumed in this analysis (see Appendix 8B) determines that the species is absent, then the mitigation shall be reduced accordingly. Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the least Bell's vireo or

southwestern willow flycatcher or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired vireo or flycatcher habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired least Bell's vireo or southwestern willow flycatcher habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all least Bell's vireo or southwestern willow flycatcher habitat
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

The southwestern willow flycatcher is a federal and State listed endangered species that is restricted to riparian woodlands along streams and rivers with mature, dense stands of willows, cottonwoods, or smaller spring fed or boggy areas with willows or alders (*Alnus* spp.). In California, breeding persists in the following river systems: Colorado, Owens, Kern, Mojave, Santa Ana, Pilgrim Creek, Santa Margarita, San Luis Rey, San Diego, San Mateo Creek, San Timoteo Creek, Santa Clara, Santa Ynez, Sweetwater, San Dieguito, and Temecula Creek (USFWS, 2002a) and at other scattered localities such as Agua Tibia Creek, San Felipe Valley near Paroli Spring, downstream of Scissors Crossing, Agua Caliente Creek near Warner Springs, Cedar Creek near William Heise County Park, Alder Canyon on the desert slope, and Middle Fork Borrego Palm Canyon near San Ignacio (Unitt, 2004).

Once considered widespread and common breeders in southern California, the southwestern willow flycatcher has declined throughout its range during the last 50 years. The major threats to the species are the destruction, modification, or curtailment of its habitat and nest parasitism by the brown-headed cowbird (Dudek and Associates, 2001).

The southwestern willow flycatcher has potential to occur and breed in riparian woodland, southern arroyo willow riparian forest, southern coast live oak riparian forest, southern willow scrub, tamarisk scrub, and arrowweed scrub identified along the Proposed Project route. Critical habitat for the southwestern willow flycatcher occurs in the Central Link of the Proposed Project at the Central East Substation (see Appen-

dix 8A, Figure Ap.8A-16). Focused surveys for the southwestern willow flycatcher were conducted in all potential habitat along the Proposed Project route except (1) in the southwestern willow flycatcher designated critical habitat at the Central East Substation because the habitat at this location (southern coast live oak riparian forest) is not suitable for the flycatcher (see Table D.2-4 and Appendices 8B and 8C) and (2) along an access road east of MP 101 (Appendix 8A, Figure Ap.8A-17) where the flycatcher is assumed to be present because of survey limitations and potential habitat is present (see Appendices 8B and 8C).

The Proposed Project would temporarily disturb 0.4 acres and permanently impact 1.2 acres of habitat assumed to be occupied by the flycatcher (Appendix 8A, Figure Ap.8A-17). Additionally, the Proposed Project would temporarily disturb 0.88 acres and permanently impact 0.48 acres of southwestern willow flycatcher designated critical habitat during construction of a pull site, access road, and Tower C119 (see Appendix 8A, Figure Ap.8A-16). The pre-construction survey required in Mitigation Measure B-7e would conclusively define all the impacts to the flycatcher where it is assumed to be present from construction. The requirements in Mitigation Measure B-7e may be reduced based on the results of this survey.

Impacts to the southwestern willow flycatcher or its occupied or designated critical habitat would be significant according to Significance Criteria 1.a. and 1.g. Significance Criterion 1.a. states that the Proposed Project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species. Significance Criterion 1.g. states that the Proposed Project would have a substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs. Direct impacts to the southwestern willow flycatcher or its occupied or critical habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. It is expected that adequate mitigation land would be available to satisfy the mitigation required in Mitigation Measure B-7e because of the small number of acres needed and because this type of mitigation for the southwestern willow flycatcher is typically available and regularly provided in San Diego County.

Additionally, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. which, in part, states that the Proposed Project would adversely affect wildlife through an increase in noise. Such excessive noise would be a significant impact on southwestern willow flycatcher breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance. The mitigation for the southwestern willow flycatcher would mitigate the impacts to less than significant levels by only removing habitat outside the breeding season (when the flycatcher is not present), restoring/compensating for any temporary or permanent losses of habitat, monitoring for disturbance of nesting activities (from noise) when construction takes place within 300 feet of a southwestern willow flycatcher nest (USFWS, 2007b) and taking action to stop the disturbance.

Mitigation Measures for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat (Class II)

The desert pupfish is a federal and State listed endangered species. Once found in seeps, springs, and marshes of the lower Colorado River, the desert pupfish now is only found in a few isolated Mojave springs in and around Death Valley and Salt Creek and San Felipe Creek in the Sonoran Desert which flow to the Salton Sea (Center for Biological Diversity, 2003b). Threats to the species include livestock grazing, water diversions, and exotic plants and fish.

The Proposed Project route crosses critical habitat for the desert pupfish at San Felipe Creek near MP 40 of the Imperial Valley Link (see Appendix 8A). This critical habitat is assumed to be occupied by the desert pupfish; focused surveys for it were not conducted. By virtue of its design, the Proposed Project would avoid impacts to San Felipe Creek by locating towers and access roads on either side of the creek. Additionally, BIO-APM-4 and BIO-APM-6 would confine construction to predetermined areas and would ensure that applicable environmental laws and regulations are followed including, without limitation, those regulating and protecting wildlife and its habitat.

Even with implementation of the APMs, the Proposed Project would impact pupfish habitat if construction activity accidents (e.g., equipment loses traction and slides down toward the creek pushing sediment as it slides) cause sedimentation of the creek. This sedimentation impact would be significant according to Significance Criterion 1.a. (the Proposed Project would have a substantial adverse effect on a listed species) and Significance Criterion 1.d. (the Proposed Project would disturb critical habitat). This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7f wherein the biological monitoring shall ensure avoidance of San Felipe Creek or will stop work and take corrective action should sedimentation occur.

Mitigation Measures for Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat

- B-1a** **Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for affected jurisdictional areas.**
- B-7f** **Minimize potential impacts to desert pupfish habitat.** The qualified biologist (see Mitigation Measure B-1c) shall be present to monitor construction adjacent to desert pupfish critical habitat. Monitoring entails communicating with contractors, taking daily notes, and ensuring that the requirements of the APMs and mitigation measures are being met to ensure that construction and maintenance activities avoid San Felipe Creek and that activities do not result in sedimentation of the creek. If an accident occurs and the creek is impacted, the qualified biologist shall immediately notify the CPUC, BLM, and Wildlife Agencies and shall stop work in the area of impact per Mitigation Measure B-1c. Reinitiation of work following a stop work order shall only occur per Mitigation Measure B-1c. The qualified biologist shall inform all construction and maintenance crews of the sensitivity of the pupfish habitat and the necessity to avoid impacts to it.

Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat (Class II)

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 (Center for Biological Diversity, 2003c).

Although the potential for this species to occur along the Proposed Project route is low according to the USFWS and BLM, it does have some potential to occur between MP 40 and 75. No critical habitat or desert tortoise management areas occur along the Proposed Project route. Focused surveys for the tortoise were conducted from MP 40 to MP 75 in the PSA and a zone of influence (2,400 feet from the edge of the PSA) where ROE permission was granted. One-hundred percent of the PSA and approximately 60 percent of the zone of influence was surveyed from MP 40 through 75 (Appendices 8B and 8C). The desert tortoise was not found. Since it has low potential to occur between MP 40 and 75, it is unlikely that it would occur in the areas that were not surveyed, either.

Still, any direct or indirect impact to the desert tortoise or its occupied habitat (e.g., vehicle crushing a tortoise, habitat removal) from construction would be significant according to Significance Criterion 1.a. that states that the Proposed Project would have a substantial adverse effect on one or more individuals of a species that is federal or State listed by habitat modification. These impacts are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7g (conduct a clearance survey, and relocate any tortoises present) presented below.

Mitigation Measures for Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat

B-1a Provide restoration/compensation for affected sensitive vegetation communities.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas.

B-7g Implement appropriate avoidance/minimization strategies for desert tortoise. To the extent possible, construction activities shall be scheduled when tortoises are inactive (November 1 – March 15). A clearance survey for the desert tortoise shall be conducted within 24 hours before construction ground disturbance and following the guidelines established by The Desert Tortoise Council (1999) as follows.

- Burrows within 100 feet of the construction zone shall be flagged by a person authorized by the USFWS to handle desert tortoises so that the qualified biologist (see Mitigation Measure B-1c) would be able to more easily locate them during construction. The qualified biologist shall be on site to monitor all construction that occurs in the vicinity of flagged burrows and to watch for desert tortoise.
- All desert tortoise burrows or pallets in the construction area shall be excavated by the USFWS-authorized biologist.
- Desert tortoises that are found above ground during construction and need to be moved from potential harm shall be placed in the shade of a shrub by the USFWS-authorized biologist. All desert tortoises removed from burrows shall be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. Tortoises shall not be placed more than 1,000 feet from where they were found. If an existing burrow is unavailable, the authorized biologist shall construct or direct the construction of a

burrow of similar size, shape, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods would be monitored for at least two days after placement in the new burrows to ensure their safety. The authorized biologist shall be allowed some judgment and discretion to ensure that the survival of the desert tortoise is likely.

- If a tortoise is located in a construction or maintenance area and is not moving, adjacent activities would be halted until the authorized biologist is able to move it out of harm's way.
- A worker bonus program shall be implemented that would reward construction/maintenance staff who spot a tortoise within the work area and, without touching or disturbing the animal, notify the authorized biologist for action.
- Any routes of travel that require construction or modification, or any additional work areas, shall be surveyed for tortoises by the authorized biologist before modification or construction of the route or construction or use of a new work area.
- Trench segments or other excavations shall be provided with tortoise escape ramps at one-mile intervals. All excavations shall be inspected for tortoises three times daily and before backfilling.
- Any time a vehicle is parked, the ground around and under the vehicle shall be inspected for desert tortoises before the vehicle is moved. If a desert tortoise is observed, it shall be left to move on its own. If this does not occur within 15 minutes, the authorized biologist shall remove and relocate the tortoise.
- Construction pipe, culverts, or similar structures with a diameter of three inches or greater that are stored on site for one or more nights shall be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored on the construction site.
- All construction and maintenance activities in desert tortoise habitat shall be conducted between dawn and dusk.
- GPS locations of tortoises will be reported to the CPUC, BLM, State Parks (if in ABDSP), and the Wildlife Agencies.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I for nests within 4,000 feet; Class II in existing transmission corridor)

The golden eagle is a highly sensitive species in San Diego County because of its high rate of decline (Unitt, 2004). "San Diego County's eagle population has dropped from an estimated 108 pairs at the beginning of the 20th century to about 53 pairs at the century's end...." (Unitt, 2004). Currently, there are approximately 46 pairs of golden eagles in San Diego County (Bittner, 2007). Golden eagles are large birds of prey found primarily in the West and across Canada and Alaska. Most pairs nest on cliff ledges (some in trees on steep slopes) and hunt in nearby grassland, sage scrub, or open chaparral. A single pair can have several nest sites in an area and may rotate nests in different years.

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Section D.2.16, Impact B-12) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criteria 1.e., 1.f., 1.g, and 1.h. Significance Criterion 1.e. states that the Proposed Project would have a substantial adverse effect on the breeding success of the golden eagle. Significance Criterion 1.f. states that the Proposed Project would directly or indi-

rectly cause the mortality of a special status species. Significance Criterion 1.g. states that the Proposed Project would result in the abandonment of migratory bird nests and/or eggs. Significance Criterion 1.h. states that the Proposed Project would take golden eagles, eagle eggs, or any part of an eagle. Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I), especially if there is direct line-of-sight between the nest site and the human activity, or if the human activity occurs above the nest site in elevation (Bittner, 2007). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly utilized road or utility corridor with existing large structures, or if the project is underground (Bittner, 2007).

There are four golden eagle nest areas that would be affected by the Proposed Project. The specific locations of these nest areas are not disclosed in this EIR/EIS, nor are the Proposed Project MPs within 4,000 feet of the nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. Nest locations, for purposes of this document, were provided by the Wildlife Research Institute (Bittner, 2007).

One of these nest areas occurs less than 4,000 feet from the Proposed Project route in the Anza-Borrego Link, and there is direct line-of-sight between this nest area and the project. Impacts to this eagle pair would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest area and the project (less than 4,000 feet) and the direct line-of-sight that would occur. Implementation of Mitigation Measure B-7h, which states that no construction or maintenance activities shall occur during the eagle breeding season, is still required to minimize the impact, however.

In the Central Link, there are two golden eagle nest areas that would be affected by the Proposed Project. One nest is less than 2,000 feet from the Proposed Project route; therefore, impacts to it would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest area and the project. Implementation of Mitigation Measure B-7h is still required to minimize the impact, however. The second golden eagle nest area is less than 3,000 feet from the Proposed Project route, but the Proposed Project in this area follows an existing road with existing utility lines, so the impacts to this eagle pair would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7h.

The fourth golden eagle pair that would be affected by the Proposed Project is located in the Inland Valley Link. Its nest area occurs less than 4,000 feet from the Proposed Project route, and there is direct line-of-sight between the nest area and the project. Impacts to this eagle pair would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest area and the project (less than 4,000 feet) and the direct line-of-sight that would occur. Implementation of Mitigation Measure B-7h is still required to minimize the impact, however.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h **Implement appropriate avoidance/minimization strategies for eagle nests.** No construction or maintenance activities shall occur within 4,000 feet of an eagle nest during the eagle breeding season (December through June).

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (No Impact)

Until 1995, the bald eagle had been listed as endangered under the Federal Endangered Species Act in 43 of the 48 lower states, and listed as threatened in Wisconsin, Minnesota, Michigan, Washington and Oregon. In July of 1995, the USFWS upgraded the status of bald eagles in the lower 48 states to threatened, two decades after banning DDT and the passing of laws to protect both eagles and their nesting trees. The bald eagle has been federally delisted but is still State listed as endangered. Bald eagles live along the coast and on major lakes and rivers where they feed mainly on fish. About half of the world's 70,000 bald eagles live in Alaska. Combined with British Columbia's population of about 20,000, the northwest coast of North America is by far their greatest stronghold. They flourish there, in part, because of the salmon food source. The hunting area or home range patrolled by a bald eagle varies from 1,700 to 10,000 acres. Home ranges are smaller where food is present in great quantity (baldeagleinfo.com, 2007). In 1999, there were an estimated 160 breeding pairs of bald eagles in California (USFWS, 1999b).

The bald eagle is seen occasionally in winter at the Salton Sea, and no impact to the bald eagle by the Proposed Project is expected in that location because at its closest (at MP 35), the Proposed Project is approximately three miles west of the western shore of the Salton Sea. One bald eagle pair nests at Lake Henshaw west of the Central Link of the Proposed Project, although the nest area for this bald eagle pair is more than 4,000 feet from the Proposed Project (Bittner, 2007). Human activity within 4,000 feet of a nest area is considered significant; since the nest area is greater than 4,000 feet from the Proposed Project, it would have no impact on the bald eagle, so no mitigation is required.

Impacts/mitigation relating to bald eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

The quino checkerspot butterfly (QCB) is a federal listed endangered species. It was historically distributed throughout the coastal slopes of southern California and northern Baja California, Mexico. Development or disturbance of most of the coastal bluff and mesa habitats in southern California led to a petition to list the species as federal endangered in 1988. The petition suggested the QCB might be extinct since the species had disappeared by the middle of the 1980s from locations where it was known to occur. The QCB was more recently rediscovered in San Diego County, and new populations were discovered in Riverside County. Current information suggests that the QCB has been extirpated from Los Angeles, Orange, and San Bernardino Counties. Suitable QCB habitat includes grassland, forbland, juniper woodland, and open scrub and chaparral communities that support native species of plantain (*Plantago erecta* and *P. patagonica*, its primary host plants) and a variety of adult nectar resources (USFWS, 2001).

The life cycle of the QCB typically includes one generation of adults per year with a four- to six-week flight period beginning between late February and May depending on weather conditions. Adults live from 10 to 14 days; however, adult emergence from pupae is staggered resulting in a one- to two-month flight season. Females are usually mated the day they emerge from pupae and lay one or two egg clusters per day for most of their adult life. Eggs deposited on host plants hatch in 10 to 14 days; larvae spend most of their life at this stage within, or traveling between, host plant patches. Hatched larvae, if they are able to accumulate sufficient reserves of energy from food (i.e., the host plants did not dry out too soon), and reach a suitable size, they can enter diapause (a resting state that enables them to survive for months during the summer without feeding) and then re-emerge when food is again available. Larvae can live for several years by emerging from diapause, feeding, and then re-entering diapause, thereby postponing development. It is not known if larvae can store enough energy to diapause for more than one year with-

out emerging to feed. The location of diapausing larvae has not been documented (USFWS, 2001) potentially making the QCB susceptible to harm while in this state.

The results of the USFWS protocol survey conducted in 2007 for the Proposed Project for the QCB were negative (i.e., no QCB was found; Appendices 8B and 8C); however, the 2007 flight season was not preceded by adequate rainfall, so the survey results are not adequate to establish absence of this species. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

Recent QCB observations (2001 and 2005) were made east and west of Highway 67 approximately 0.3 miles and 1.25 miles south of the Proposed Project route (near MP 131), respectively (USFWS, 2006). Historic QCB observations (1969) were made near the intersection of Mira Mesa Boulevard and Camino Ruiz approximately 1.25 miles south of MP 145 of the Proposed Project route (USFWS, 2006). The area of the 1969 observations has been completely developed. No critical habitat for this species occurs along the Proposed Project route; the nearest critical habitat is approximately 12.6 miles north of the Proposed Project (Critical Habitat Unit 2, Southwest Riverside Unit) along SR79.

The Proposed Project, from MP 83 to MP 139, occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that the Proposed Project would impact much (if any) QCB-occupied habitat within Survey Area 2 given the very limited number of recent sightings, with the lack of definitive survey data, the Proposed Project must be assumed to have a significant impact on this species according to Significance Criterion 1.a. which states that the Proposed Project would impact one or more individuals of a species that is federal or State listed as endangered or threatened. Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7i are required to, at least in part, minimize impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies. A biologist permitted by the USFWS shall determine suitable habitat areas (i.e., non-excluded areas per the 2002 USFWS protocol; USFWS, 2002b) within any designated USFWS QCB survey area (e.g., Survey Area 2) that would be impacted by project construction.

A pre-construction, USFWS protocol presence/absence survey for the adult QCB shall be conducted within all suitable habitat for this species in the construction zone within any designated USFWS QCB survey area. The survey shall be conducted in a year where the QCB is readily observed at USFWS QCB-monitored reference sites to determine what areas are occupied by the QCB (i.e., any suitable habitat within 1 km of a current QCB sighting is considered occupied) and what areas are not occupied. The USFWS permitted biologist shall record the precise locations of QCB larval host plants within the construction zone (and 10 meters beyond) using GPS technology.

If the protocol pre-construction survey is conclusive for determining absence of the QCB, then areas without the butterfly would not require mitigation.

If the protocol pre-construction survey is not conclusive for determining QCB absence (due to limited detectability per the 2002 protocol, for example), or if a survey is not conducted, then all suitable habitat areas would be considered potentially occupied and would require mitigation as follows. If construction occurs outside the larvae and adult activity season (June 1 through October 15) and stays at least 10 meters away from all host plant locations, then no mitigation is required (USFWS, 2007d). If construction occurs between October 16 and May 31 or within 10 meters of host plant locations, then (1) temporary impacts to the habitat shall be mitigated through on-site restoration of temporarily disturbed areas and off-site acquisition and preservation of an equal sized area of QCB-occupied habitat (a 2:1 mitigation ratio) and (2) permanent impacts shall be mitigated through off-site acquisition and preservation of QCB-occupied habitat at a 2:1 ratio (i.e., two acres acquired for each acre lost). Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation land to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). A USFWS permitted biologist shall be present during all construction activities in potentially occupied habitat to monitor and assist the construction crews to ensure impacts occur only as allowed. This same mitigation shall apply where the protocol pre-construction survey was conclusive for determining that the QCB is present.

If host plant mapping is not possible during the pre-construction survey (e.g., drought prevents plant germination), then all suitable habitat (i.e., non-excluded habitat per the 2002 protocol) shall be considered occupied by the QCB and mitigated under the assumption that the QCB is present.

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the QCB or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired QCB habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired QCB habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all QCB habitat
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan

- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

The arroyo toad is a federal listed endangered species found in riparian environments in foothill canyons and inter-mountain valleys where the river is bordered by low hills and the stream gradient is low. The arroyo toad is restricted to the middle reaches of third order streams. Arroyo toads are known to either breed, forage, and/or aestivate (spend the summer in a state of mental and motor activity) in aquatic, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks must provide open, sandy or gravelly terraces with very little herbaceous cover for adult and juvenile foraging areas within a moderate riparian canopy of cottonwood, willow, or oak. Heavily shaded pools are unsuitable for larvae and juvenile toads due to lower water and soil temperatures and poor algal mat development. Episodic flooding is critical to keep the low terraces relatively vegetation free. Adults use terraces in the 100-year flood zone, which may extend up to 100 meters from the stream; however, recent data suggest that arroyo toads may move between 1 and 2 kilometers into adjacent upland habitats to aestivate (Dudek and Associates, 2001).

The arroyo toad has been extirpated from 75 percent of its former range (i.e., it is locally extinct in 75 percent of its former range although it still exists elsewhere). The remaining 25 percent of occupied habitat is threatened by continued dam construction, river diversion, conversion of riparian wetland habitat by agriculture and urbanization, road construction, off-highway vehicle use, campground development, grazing, and mining activities (Dudek and Associates, 2001). Arroyo toads are diurnal for the first four to five weeks as juveniles and stay close to breeding pools; they become nocturnal when they reach 17 to 23 millimeters in length and spend the day in burrows. Nocturnal activity is normal for both adults and large juveniles, but they may occasionally be active and observed during the day (USFWS, 1999c).

In San Diego County, arroyo toads are found in the following basins: San Mateo Creek, San Onofre Creek, Santa Margarita River, San Luis Rey River, San Dieguito River/Santa Ysabel Creek, San Diego River, Sweetwater River, Otay River, Vallecitos Creek, and Tijuana River-Cottonwood Creek (USFWS, 1999c). In Imperial County, arroyo toads have been found in the Pinto Wash Basin near the San Diego-Imperial County line (USFWS, 1999c). No critical habitat for the arroyo toad occurs in San Diego or Imperial Counties. The arroyo toad has been reported to the CNDDDB in the vicinity of MPs 111 and 126 of the Proposed Project. Focused surveys in 2007 were conducted for the arroyo toad in all potential arroyo toad breeding habitat where ROE permission was granted (Appendices 8B and 8C). This consisted of five locations that totaled 0.8 miles and eight other point locations that were less than 0.1 miles each. The only area where permission was not granted was from MP 102.5 through MP 107 within which there are two point locations of less than 0.1 miles each where, due to the absence of survey data, the arroyo toad is assumed to be present. The arroyo toad was not found in the areas that were surveyed.

Impacts to the arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment) of the Proposed Project

where the toad is assumed to occur in the Central Link include: 0.03 acres of temporary disturbance to riparian breeding habitat and 0.05 acres of permanent impacts to riparian breeding habitat as well as 8.7 acres of temporary disturbance to upland burrowing habitat and 3.28 acres of permanent impact to upland burrowing habitat. The pre-construction survey required in Mitigation Measure B-7j would conclusively define if there would be impacts to the arroyo toad in the areas of assumed toad presence from construction of the Proposed Project (i.e., if appropriate climatic conditions are present to encounter arroyo toads). The requirements in Mitigation Measure B-7j may be reduced based on the results of this survey. It is expected that adequate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the arroyo toad is typically available and regularly provided in San Diego County. These impacts would be significant according to Significance Criterion 1.a. which states that the Proposed Project would have a substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species. These impacts would be significant but mitigable to less than significant levels (Class II) through implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7j that restricts the removal of breeding habitat, relocates arroyo toads from the impact zone, protects arroyo toads by excluding them from impact areas with fencing, and mitigates for the temporary loss of toad habitat through on-site restoration and the permanent loss of toad habitat through off-site purchase and preservation of occupied toad habitat.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7j** Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies. A pre-construction, USFWS protocol survey shall be conducted for the toad in the construction zone (by a biologist permitted by the USFWS to handle the toad) where absence of the species has not been proven to conclusively define the impacts to occupied habitat. In the absence of this survey data, the mitigation acreages required below shall stand. Where the pre-construction survey determines the species is absent, the mitigation shall be reduced accordingly.

The removal of toad riparian breeding habitat shall occur from October through December to minimize potential impacts to breeding adults (including potential sedimentation impacts to toad eggs) and dispersing juveniles.

Where the toad is present (or assumed to be present if no pre-construction survey is conducted), the construction zone shall be fenced with exclusion fencing to prevent toad access to it. The fencing shall be a silt-screen type barrier comprised of a minimum 24-inch high fence with the remainder (minimum 12 inches) anchored firmly against the ground. The fence may be buried if necessary to exclude toad access. The fence locations shall be identified by a USFWS permitted biologist and adjusted as necessary. Exclusion fencing shall be monitored daily by a qualified biologist (see Mitigation Measure B-1c) and maintained in its original condition by construction personnel for the entire length of the construction period in toad habitat.

Pre- and post-exclusion fencing surveys within the construction zone shall be conducted for arroyo toads by a biologist permitted by the USFWS to handle the toad. Prior to construction commencement, a minimum of three surveys shall be conducted by this biologist following

installation of the fencing and prior to construction activities. One of these clearance surveys must take place no more than 24 hours prior to activity commencement. These surveys shall be conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering arroyo toads. If conditions are not appropriate for arroyo toad movement during surveys, the biologist may attempt to elicit a response from the toads during nights (i.e., at least one hour after sunset), provided that temperatures are above 50°F, by spraying the project area with water to simulate a rain event. After the three clearance surveys outlined above have been completed, daily surveys shall be conducted each morning prior to the continuation of construction or maintenance activity. Any toads found shall be relocated to appropriate similar habitat outside project impact areas.

Mitigation for the loss of arroyo toad-occupied habitat shall be implemented as follows. Permanent impacts to occupied, arroyo toad breeding habitat shall include off-site acquisition and preservation of occupied arroyo toad breeding habitat at a 3:1 ratio. Permanent impacts to occupied, upland burrowing habitat shall include off-site acquisition and preservation of occupied, upland burrowing habitat at a 2:1 ratio. Temporary impacts to occupied breeding habitat shall include 1:1 on-site restoration and 2:1 off-site acquisition and preservation of occupied breeding habitat. Temporary impacts to occupied, upland burrowing habitat shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied, upland burrowing habitat. For the Proposed Project, the required mitigation for arroyo toad occupied habitat includes 8.7 acres of on-site restoration and 15.5 acres of off-site acquisition and preservation of occupied toad habitat consisting of 0.2 acres of breeding habitat and 15.3 acres of upland burrowing habitat. Any acquired arroyo toad habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the arroyo toad or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired arroyo toad habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired arroyo toad habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all arroyo toad habitat
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)

- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

The Stephens' kangaroo rat (SKR) is a federal listed endangered and State listed threatened species that is known to inhabit annual grassland with sparse perennial vegetation in the San Jacinto Valley and adjacent areas of western Riverside and northwestern San Diego Counties. A previously unknown population of the kangaroo rat was discovered in the Ramona Valley, San Diego County, in October 1997. It is not known if this species still inhabits extreme southwestern San Bernardino County. No critical habitat has been designated for the SKR.

The SKR is threatened by destruction, fragmentation, and degradation of its habitat through human activities. Adverse impacts to kangaroo rat habitat result from clearing of land for urban and suburban development and for agriculture, water projects, military activities, wildland or prescribed fires, OHVs, livestock use, and invasion of non-native plant species.

Surveys were conducted for the SKR in all potential habitat along the Proposed Project route except at the staging area located at the Warner Substation site on San Felipe Road (see Appendix 8A, Figures Ap. 8A-17) and from approximately MP 102 through 103.5 (see Appendix 8A, Figure Ap.8A-18). The SKR is, therefore, assumed to be present in these locations. The SKR was found from MP 92.7-MP 93.5, MP 95.2-MP 96.8, MP 97.5-MP 98.2, and at MP 106 in the Central Link (see Appendix 8A, Figures Ap. 8A-16, Ap. 8A-17, and Ap. 8A-18).

Direct and indirect impacts to the SKR and its occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of the Proposed Project would be significant according to Significance Criterion 1.a. which states that the Proposed Project would have a substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species. Impacts to SKR habitat include 38.6 acres of temporary disturbance and 15.5 acres of permanent impacts. The pre-construction survey required in Mitigation Measure B-7k would conclusively define all the impacts to the SKR in the areas of assumed SKR presence from construction of the Proposed Project. The requirements in Mitigation Measure B-7k may be reduced based on the results of this survey.

These impacts are significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR. Mitigation Measure B-7a requires covering trenches to prevent the entrapment of wildlife. Mitigation Measure B-7k requires relocation of SKR from the impact zone, protects SKR by excluding them from impact areas with fencing, and mitigates for the temporary loss of habitat through on-site restoration and the permanent loss of habitat through off-site purchase and preservation of occupied SKR-occupied habitat.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7k** Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. A pre-construction, USFWS protocol survey shall be conducted for the SKR by a USFWS permitted biologist in the construction zone where absence of the species has not been proven to conclusively define the impacts to occupied habitat. In the absence of this survey data, the mitigation acreages required below shall stand. Where the pre-construction survey determines the species is absent, the mitigation shall be reduced accordingly.

Where the SKR is present (or if no pre-construction survey is conducted, and the SKR is assumed to be present), prior to vegetation clearing or other ground-disturbing activities, the construction zone shall be fenced to provide a barrier that excludes the SKR from the construction zone and delineates the work area. A USFWS permitted SKR biologist shall be present when the fence is installed to minimize habitat disturbance.

The fence shall be constructed of ¼-inch gauge hardware cloth backed by silt fencing or other material if approved by the USFWS. No gaps greater than 0.5 inches shall be allowed within the exclusion fencing. The qualified biologist (see Mitigation Measure B-1c) or other designated personnel shall check the fencing at the end of each work day. If gaps greater than 0.5-inch are detected, they shall be repaired immediately. The exclusion fencing shall remain in place and be maintained without gaps until project construction is completed.

Immediately preceding vegetation clearing or other ground-disturbing activities within the fenced areas, live-trapping of the SKR shall be conducted by the USFWS permitted biologist for a minimum of five nights. Trapping locations shall be selected at the discretion of the biologist in coordination with the USFWS. Trapped animals shall be released outside the fenced area in appropriate habitat. Results of the trapping effort shall be provided to the CPUC, BLM, and Wildlife Agencies within 24 hours of trapping completion.

Any pipes stored during construction shall be capped prior to the end of each work day to prevent SKR from entering the pipes.

Mitigation for the loss of occupied SKR habitat shall be implemented as follows. Permanent impacts to occupied habitat shall include off-site acquisition and preservation of occupied habitat at a 2:1 ratio. Temporary impacts to occupied habitat shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied habitat. For the Proposed Project, the required mitigation for SKR occupied habitat includes on-site restoration of 38.6 acres and off-site acquisition and preservation of 69.6 acres. Any acquired SKR habitat shall be approved by the CPUC, BLM, and Wildlife Agencies.

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, and Wildlife Agencies. The Habitat Management Plan must be approved in writing by the CPUC, BLM, and Wildlife Agencies prior to the initiation of any activities which may impact (directly or indirectly) the SKR or its habitat.

The applicant shall work with the CPUC, BLM, and Wildlife Agencies until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired SKR habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired SKR habitat approved by the CPUC, BLM, and Wildlife Agencies
- Baseline biological data for all SKR habitat
- Designation of a land management entity approved by the CPUC, BLM, and Wildlife Agencies to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, and Wildlife Agencies.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

The coastal California gnatcatcher is a federal listed threatened species that was considered locally common in the mid 1940s, but by the 1960s had declined substantially in the U.S. due to widespread destruction of its coastal sage scrub habitat. The initial application of the NCCP Act was to protect coastal sage scrub habitat to which the coastal California gnatcatcher is strongly associated. Currently, the subspecies occurs on coastal slopes of southern California, ranging from southern Ventura southward through Palos Verdes Peninsula in Los Angeles County through Orange, Riverside, San Bernardino, and San Diego Counties into Baja California to El Rosario, Mexico, at about 30 degrees north latitude. In 1993, the USFWS estimated that approximately 2,562 pairs of gnatcatchers remained in the U.S. Of these, 30 pairs occurred in Los Angeles County, 757 pairs occurred in Orange County, 261 pairs occurred in Riverside County, and 1,514 pairs occurred in San Diego County (Dudek and Associates, 2001). Critical habitat for the gnatcatcher occurs along the Proposed Project route in the vicinity of MPs 122, 118 to 116, and 114 in the Inland Valley Link (Appendix 8A, Figures Ap. 8A-20 and Ap. 8A-21).

Focused surveys for the gnatcatcher were conducted in all potential gnatcatcher habitat along the Proposed Project route (Appendices 8B and 8C). The designated critical habitat for the gnatcatcher from approximately MP 115.5 through MP 117 was not surveyed because the habitat had not recovered enough from the 2003 Cedar Fire to support the gnatcatcher. The coastal California gnatcatcher was found between MP 141 and MP 144 (two pairs) and between MP 146 and MP 149.5 (nine pairs and one individual) of the Coastal Link as well as two pairs near MP 8 of the Reconductor Sycamore Canyon to Elliot 69 kV Line (Appendix 8A, Figures Ap. 8A-24, Ap. 8A-25, and Ap. 8A-31). The gnatcatcher was not found within its designated critical habitat.

All of the gnatcatchers (i.e., 11 pairs and one individual), with the exception of the two pairs along the Reconductor, would be affected by habitat loss associated with construction of the project. Impacts to occupied gnatcatcher habitat include temporary disturbance to 4.9 acres and permanent impacts to 1.1 acres. Approximately 3.4 acres of unoccupied gnatcatcher designated critical habitat, excluding developed

land and intensive agriculture, would also be impacted (1.9 acres of temporary disturbance and 1.5 acres of permanent impact).

Direct and indirect impacts to the gnatcatcher and its occupied or designated critical habitat from habitat removal and construction activity would be significant according to the following Significance Criteria: 1.a.) the Proposed Project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species; and 1.g.) the Proposed Project would have a substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs. Any direct impact to the gnatcatcher and its occupied or critical habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c (Conduct biological monitoring) and B-7l which requires removing habitat outside the breeding season, restoring/compensating for any temporary or permanent losses of habitat, and monitoring for disturbance of nesting activities and taking action to stop the disturbance. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the coastal California gnatcatcher is typically available and regularly provided in San Diego County.

Additionally, gnatcatcher breeding would be affected by the excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [American Institute of Physics, 2005]). This impact would affect all of the gnatcatchers observed, including those along the Reconductor. This impact would be significant according to Significance Criterion 4.d. which, in part, states that the Proposed Project would adversely affect wildlife through an increase in noise. Such excessive noise would be a significant impact on gnatcatcher breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), B-2a (Restoration/compensation for jurisdictional areas), and B-7l which requires monitoring for disturbance of nesting activities and taking action to stop the disturbance.

Mitigation Measures for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas.
- B-7l** Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. All brushing or grading taking place within occupied habitat of the coastal California gnatcatcher (defined as within 500 feet of any gnatcatcher sightings [USFWS, 2007b]) during construction shall be conducted from September 1 through February 14, which is outside the coastal California gnatcatcher breeding season.

When conducting all other construction activities during the coastal California gnatcatcher breeding season of February 15 through August 30, within habitat in which coastal California gnatcatchers are known to occur or have potential to occur, the following avoidance measures shall apply.

A USFWS permitted biologist shall survey for coastal California gnatcatchers within one week prior to initiating activities in an area. If coastal California gnatcatchers are present, but not nesting, a USFWS permitted biologist shall survey for nesting coastal California gnatcatchers approximately once per week within 500 feet of the construction area for the duration of the activity in that area during the breeding season.

If/when an active nest is located, a 300-foot no-construction buffer (USFWS, 2007b) shall be established around each nest site. To the extent feasible, no construction shall take place within this buffer until the nest is no longer active. However, if construction must take place within the 300-foot buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied gnatcatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies to 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 nesting coastal California gnatcatchers and the activities, and working in other areas until the young have fledged.

Mitigation for the loss of coastal California gnatcatcher-occupied habitat shall be implemented as follows. Permanent impacts to occupied habitat shall include off-site acquisition and preservation of occupied habitat at a 2:1 ratio. Temporary impacts to occupied habitat shall be mitigated at a 2:1 ratio and shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied habitat.

Mitigation for the loss of unoccupied designated critical habitat for the gnatcatcher shall be implemented as follows. Permanent impacts to unoccupied designated critical habitat shall include off-site acquisition and preservation of designated critical habitat at a 2:1 ratio. Temporary impacts to unoccupied designated critical habitat shall include 1:1 on-site restoration.

For the Proposed Project, the required mitigation for the loss of occupied gnatcatcher habitat includes 4.9 acres of on-site restoration and 7.0 acres of off-site acquisition and preservation of occupied gnatcatcher habitat. Furthermore, the required mitigation for the loss of unoccupied designated critical habitat includes 1.9 acres of on-site restoration and off-site acquisition and preservation of 3.0 acres of designated critical habitat for the gnatcatcher. Any acquired coastal California gnatcatcher habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the coastal California gnatcatcher or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired coastal California gnatcatcher. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired coastal California gnatcatcher habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands)
- Baseline biological data for all coastal California gnatcatcher habitat

- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity)
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).

Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat (Class II)

The San Diego fairy shrimp and Riverside fairy shrimp are federal listed endangered species. The San Diego fairy shrimp is found in small, shallow vernal pools that range in depth from 5 to 30 centimeters and in water temperatures from 10 to 20 degrees Celsius. It is often found in vernal pools on chaparral-covered mesas. The species also occasionally occurs in ditches and road ruts that support suitable conditions (USFWS, 2002c). The Riverside fairy shrimp is restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds. Riverside fairy shrimp prefer warm water pools that have low to moderate dissolved solids, and remain filled for extended periods of time. All known Riverside fairy shrimp habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation (Dudek and Associates, 2001). Threats to fairy shrimp include urban and agricultural development, modified hydrology due to adjacent road construction, OHVs, and trash dumping.

Focused surveys for fairy shrimp were not conducted, although San Diego fairy shrimp were observed during other biological surveys for the Proposed Project. San Diego fairy shrimp were observed in water-holding basins (aka road pools) at five locations and in a vernal pool at one location, all along existing dirt roads that may be used to access the project area (Appendix 8A, Figure Ap.8A-25A). There were at least 70 water-holding basins mapped in the area that were not surveyed that could support fairy shrimp (Appendix 8A, Figures Ap. 8A-25A, and Ap. 8A-25B), and in the absence of survey data, fairy shrimp are assumed to be present in all of them. Riverside fairy shrimp may also be present. No critical habitat for either fairy shrimp species occurs along the Proposed Project route. The nearest critical habitat is for the San Diego fairy shrimp, and it is approximately 0.3 miles away, separated from the Proposed Project route by Los Peñasquitos Canyon.

Impacts that would occur to occupied fairy shrimp habitat include direct construction impacts from grading and vegetation removal for temporary and permanent tower construction, a pull site, and trenching for the underground portion of the project in Los Penasquitos Canyon (Appendix 8A, Figures Ap. 8A-25A and Ap. 8A-25B). Use of existing access roads with road pools would also indirectly affect fairy shrimp by altering the watersheds of occupied pool/basins—even if just slight topographic changes occur. For example driving on a dirt road when it is wet can displace soil as tire ruts are created; this could prevent water from flowing into an existing pool, and the displaced soil could fill in a portion of an existing pool. Permanent impacts to occupied fairy shrimp habitat total approximately 0.02 acres. Temporary impacts to occupied fairy shrimp habitat total approximately 0.04 acres.

Direct and indirect impacts to fairy shrimp and its occupied habitat would be significant according to Significance Criterion 1.a. which states that the Proposed Project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species. These impacts are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b (which requires staking and flagging of vernal pools and potential water-holding basins, biological monitoring at all times during construction near them to avoid impacts, restrictions on access road use, creation/restoration of vernal pool habitat, salvage and reuse of vernal pool soils, five years maintenance and monitoring, and preparation of a habitat management plan), B-1c (Conduct biological monitoring), and B-2a (Restoration/compensation for jurisdictional areas).

Mitigation Measures for Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat

- B-1b** **Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.**
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for affected jurisdictional areas.**

Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat (Class I)

In California, the State-listed threatened barefoot banded gecko inhabits the eastern edge of the Peninsular Ranges from Palms to Pines Highway (SR74) to the Baja California border. It occupies arid, rocky areas on flatlands and in canyons and thornscrub, especially where there are large boulders and rock outcrops and the vegetation is sparse (CaliforniaHerps.com, 2007). This species is known only from five localities in eastern San Diego County and western Imperial County. ABDSP affords protection for some gecko habitat (CDFG, 2006b). The natural history of this gecko is not well known; it is secretive and nocturnal and hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

No surveys were conducted for this species. If surveys were conducted, and the species was not found, the survey result would have to be considered false negative because of the species' highly elusive nature. The barefoot banded gecko is, therefore, assumed to be present along the Proposed Project route in ABDSP. Any impact to the barefoot banded gecko or its habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species through habitat modification) and not mitigable to less than significant levels (Class I) since the extent of the impacts that would occur is unknown. Implementation of Mitigation Measures B-1a (Restoration/compensation for sensitive vegetation), B-1c (Conduct biological monitoring), and B-2a (Restoration/compensation for jurisdictional areas), would provide some protection for this species but is not adequate to mitigate impacts to less than significant levels.

Mitigation Measures for Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat

- B-1a** **Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for affected jurisdictional areas.**

D.2.12 Nesting Birds

The Proposed Project area contains a variety of vegetation communities as well as transmission towers that provide sites for bird nests. Construction activities would disturb vegetation and existing transmission towers and have the potential to impact nesting birds. Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. These impacts, including noise in excess of 60 dB(A) Leq at a nest site during the breeding season (American Institute of Physics, 2005), could result in the displacement of breeding birds, abandonment of active nests, or accidental nest destruction. With the exception of a few non-native bird species, all active bird nests are fully protected pursuant to the federal Migratory Bird Treaty Act. It is unlawful to take, possess, or destroy the nest or eggs of any such bird.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful.

The following APMs would be implemented as part of the Proposed Project to minimize or prevent potential loss of nesting birds: BIO-APM-2 through 6, BIO-APM-9, BIO-APM-16, BIO-APM-18, and BIO-APM-27. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, complying with wildlife/habitat protection regulations, surveying for nests prior to clearing brush, trimming trees outside the nesting season, designing structures and access roads to avoid or minimize impacts, and removing existing raptor nests from structures outside the raptor breeding season. However, these APMs either do not define the breeding season dates or do not include dates that cover the entire breeding season.

Even with the APMs, the Proposed Project would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-8a. Wherever the mitigation measure set forth is more specific or restrictive than the APMs, the mitigation measure takes precedence.

Mitigation Measure for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

B-8a **Conduct pre-construction surveys and monitoring for breeding birds.** All vegetation clearing, except tree trimming or removal, shall take place between September 16 and February 14 (i.e., outside of the general avian breeding season of February 15 through September 15). Tree removal or trimming shall take place between September 16 and December 31 (i.e., outside the raptor breeding season of January 1 through September 15).

If project construction (not vegetation clearing or tree trimming/removal) cannot occur completely outside the general avian breeding season, then pre-construction surveys for bird species' nests shall be conducted by a qualified biologist within 300 feet of the construction zone no more than seven days prior to the initiation of construction that would occur between February 15 and September 15.

If project construction (not vegetation clearing or tree trimming/removal) cannot occur completely outside the raptor breeding season, then pre-construction surveys for active raptor nests shall be conducted by a qualified biologist within 500 feet of the construction zone no more than seven days prior to the initiation of construction that would occur between January 1 and September 15.

If no active nests are observed, construction may proceed. If active nests are found, work may proceed provided that construction activity is 1) located at least 500 feet from raptor nests (USFWS, 2007b), 2) located at least 160 to 250 feet from occupied burrowing owl burrows (CDFG, 1995; see Mitigation Measure B-7d), 3) located at least 300 feet from all other bird nests, and 4) noise levels do not exceed 60 dB(A) hourly Leq at the edge of nesting territories (American Institute of Physics, 2005) as determined by a qualified biologist in coordination with a qualified acoustician. In the case of raptors (except the burrowing owl), the noise level restriction stated above does not apply (USFWS, 2007b). Otherwise, 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. The qualified biologist shall be responsible for documenting the results of the surveys and the ongoing monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for construction in ABDSP), and USDA Forest Service (for alternatives with construction on National Forest lands).

D.2.13 Wildlife Corridors, Movement of Fish, and/or Nursery Sites

Proposed Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with Proposed Project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

Construction activity and human presence (including the use of access roads after construction) in bighorn sheep critical habitat, however, could cause bighorn to avoid certain areas that could interfere with the use of traditional movement routes. Bighorn sheep critical habitat occurs in the Imperial Valley and Anza-Borrego Links of the Proposed Project. Impacts associated with Peninsular bighorn sheep movement are explained in Section D.2.10, Impact B-7B.

Native wildlife nursery sites, primarily bat nursery colonies, would be disturbed if humans approach a colony, if entrances to colony locations become blocked (perhaps by falling rock caused by construction), or if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding a colony.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

The following APMs, as set forth in Table D.2-5, would be implemented as part of the Proposed Project to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish (including desert pupfish), and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier. Furthermore, surface water resources along the Proposed Project include desert washes and other streams, the majority of which are dry at most times and unlikely to support fish populations. The majority of these watercourses (including the desert pupfish at San Felipe Creek near MP 40 of the Imperial Valley Link) would be spanned by the transmission lines, and impacts would occur in accordance with BIO-APM-5 that limits impacts to watercourses through project design. Therefore, the Proposed Project is not expected to affect the movement of fish (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the Proposed Project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the Proposed Project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a which includes surveying for bat colonies; prohibiting approach of, or entrance to, an active nursery colony site; and implementation of methods to minimize potential indirect impacts to a colony site from falling rock or substantial vibration.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a **Survey for bat nursery colonies.** A CDFG-approved biologist shall conduct a habitat assessment for bat nursery colonies prior to any construction activity. Then, the approved biologist shall conduct a survey for bat nursery colonies or signs of such colonies prior to construction. Direct impacts to a nursery colony site shall not be allowed, and approach of, or entrance to, an active nursery colony site shall be prohibited. Before any blasting or drilling in the vicinity of a nursery colony site, the CDFG-approved biologist shall work with the construction crew

to devise and implement methods to minimize potential indirect impacts to the nursery colony site from falling rock or substantial vibration (while a nursery colony is active). The methods shall include an option to halt any construction activity that would cause falling rock, substantial vibration impacts, or any other construction-related impact to a nursery colony as determined by the approved biologist, until the colony is inactive. Should falling rock block the entrance to a nursery colony site, the contractor shall work with the approved biologist to reopen an entrance to the site.

D.2.14 Bird Electrocution and/or Collision

The Proposed Project would construct high voltage (500 kV) transmission lines in the Imperial Valley and Anza-Borrego Links. In the Central Link, the Proposed Project would relocate an existing 69 kV distribution line and locate it parallel to the proposed 230 kV transmission line. Impacts from the moved 69 kV distribution line to birds from electrocution and/or collision would be no different from the current condition. Impacts from these proposed 500 kV and 230 kV transmission lines are explained below.

In the Inland Valley Link, the Proposed Project would construct a double-circuit 230 kV transmission line with aboveground and underground segments. In the Coastal Link, the Proposed Project would construct a single-circuit 230 kV transmission line aboveground and underground. Impacts from these proposed 230 kV transmission lines are also explained below.

Electrocution. Large, aerial perching birds, such as hawks and eagles, are most susceptible to electrocution because of their large size, distribution, and behavior (APLIC, 2006). Because raptors and other large aerial perching birds often perch on tall structures that offer views of potential prey, the design of transmission poles or towers appears to be a major factor in raptor electrocution (APLIC, 2006). Electrocution occurs when a perching bird simultaneously contacts two energized phase conductors or an energized conductor and grounded hardware. 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 (APLIC, 2006). Electrocution can also occur when birds perched side-by-side span the distance between these elements (APLIC, 2006). Golden eagles wintering in Idaho have been observed to roost communally on power line structures (APLIC, 2006); turkey vultures have been observed doing the same (HELIX, 2006). Recent extrapolations from various databases indicate that tens to hundreds of thousands of birds die each year in North America from power line electrocutions (Manville, II², 2005). The majority of raptor electrocutions are caused by lines that are energized at voltage levels less than 69 kV (APLIC, 2006; Manville II², 2005). The Proposed Project's voltage levels are 230 kV and 500 kV. BIO-APM-21 requires that structures be constructed to conform to "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc., 1981). Because of its voltage and conformance with BIO-APM-21 the Proposed Project would not present an electrocution risk to birds.

Collision. The primary issue with respect to birds and the Proposed Project is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. Most of this migration takes place at night. Only the birds of prey (i.e., raptors such as the Swainson's hawk and eagles), swallows, and kingbirds migrate primarily by day (Unitt, 2007). According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. Almost all other migrating birds (in California, at least) migrate at night, unless they are transoceanic migrants like shorebirds or transcontinental migrants like jaegers that fly day and night at high altitudes

(Unitt, 2007). Recent extrapolations from various databases indicate that hundreds of thousands to perhaps 175 million birds die each year in North America from power line impacts (Manville, II², 2005).

Because of the comparatively low elevation of San Diego County's mountains (lower than the San Bernardino and San Jacinto mountains to the north), many birds migrating from a winter range in western mainland Mexico to a breeding range in northern California, the Pacific Northwest, or Alaska use San Diego County as a corridor for crossing from the desert to the coastal slope. This migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley. San Felipe Valley is the most heavily used corridor (Unitt, 2007).

These migration corridors are used by both land birds (e.g., large concentrations of black-headed grosbeaks [*Pheucticus melanocephalus*] and orange-crowned warblers [*Vermivora celata*] have been seen in San Felipe Valley) and water birds. The water birds appear more likely than the land birds to follow narrow corridors. Water birds using the San Felipe Valley corridor regularly include the black brant (*Branta bernicla*), surf scoter (*Melanitta perspicillata*), common loon (*Gavia immer*), and Bonaparte's gull (*Larus philadelphia*). Basically, the line of travel is the same as Highway S2 that was built along the route of least resistance between the desert and the coastal slope. It has never been studied systematically, however, so the corridor's use by birds has been pieced together from anecdotes. Under normal conditions, birds may pass overhead unnoticed. It is when storms or strong winds force the birds to fly at lower altitudes that they can be observed. Lake Henshaw is the first substantial body of water visible from the air after water birds migrating up San Felipe Valley clear the divide onto the coastal slope; many fly to Lake Henshaw, especially in stormy weather (Unitt, 2007).

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

Electrocution. The Proposed Project includes new 500 kV and 230 kV lines that include energized phase conductors at minimum distances apart of 17.3 feet vertically and 18 feet horizontally. The largest birds that could come in contact with these transmission lines are the California condor with a wingspan of up to 9 feet and height (head to foot) of 46 to 55 inches (Palmer, 1988) 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 great blue heron has a six-foot wingspan, and can be 3.8 feet tall, but these herons generally do not perch on transmission towers or lines. The red-tailed hawk is the most common large bird that would come in contact with the transmission lines; the red-tailed hawk's 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. If the birds were to roost communally, however, there is some potential, although very low, that multiple birds would bridge the gap between two energized conductors, especially with the minimum distance between any such structures being 17 feet. As a result, with the conformance of the Proposed Project with BIO-APM-21, it is anticipated that the Proposed Project would not present an electrocution risk to birds (No Impact).

Collision. Mortality as a result of collision with Proposed Project features would be greatest where the movements of migrating birds are the most concentrated. For the Proposed Project this area is the south-

east to northwest Grapevine Canyon corridor to Lake Henshaw (for land and water birds) and the route through Borrego Valley and up Coyote Canyon (for the State listed Swainson's hawk). These areas are generally between MP 50 and MP 88 of the Proposed Project. The Swainson's hawk is currently a rare migrant in San Diego County, but the Borrego Valley is an important staging site in spring. During migration, this species passes through southern California, specifically through the Anza-Borrego Desert (Unitt, 2004). It relies on thermals to save energy, so it avoids crossing waterbodies. As many as 6,200 Swainson's hawks have recently been observed over a two-month period during migration in Borrego Valley (State Parks, 2006) where the birds stop to roost and feed on flying ants, dragonflies, or moth caterpillars (Unitt, 2004). "...the numbers seen in the Anza-Borrego Desert suggest that most or all of California's Swainson's hawks migrate across San Diego County" (Unitt, 2004). Observations of Swainson's hawks in the Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the eastern portion of the Proposed Project (i.e., through the Imperial Valley and Anza-Borrego Links), the migration is probably scattered until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

Since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has been pieced together from anecdotes), there is no way to know how many birds and what species of birds would actually be impacted by collision with Proposed Project transmission lines, towers, poles, or static wires. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to the following Significance Criteria. Significance Criterion 1.a. states that the Proposed Project would impact one or more individuals of a species that is federal or State listed as endangered or threatened. Significance Criterion 1.f. states that the Proposed Project would directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species, and Significance Criterion 1.g. states that the Proposed Project would result in the killing of migratory birds.

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a, which requires the utilization of collision-reducing techniques such as site-sensitive tower/line placement and installation of bird flight diversion devices, requires a study to determine the effectiveness of such devices, and requires implementation of a reporting system to document bird mortality.

There are several types of bird flight diversion devices that are currently available; however, there are few to no statistically valid results on their effectiveness. One large study is being conducted by Western Area Power Administration (WAPA), California Energy Commission (CEC), Avian Power Line Interaction Committee (APLIC), USFWS, and a number of utilities, non-governmental organizations, and consulting firms on a triple-circuit transmission line where the testing of diverters just began this year. However, anecdotal accounts of a WAPA biologist (WAPA, 2007) report that birds tend to fly up and over the lines marked with the Firefly Flapper/Diverter (P and R Technologies, 2007). The Firefly Flapper/Diverter is a 3" X 5" plastic card that is orange on one side and yellow on the other with a patch at the bottom on both sides that is designed to glow for 10 hours after dusk. The fixed mount version is preferred over the swivel mount (that spins in the wind) because the swivel mount breaks down and has to be replaced (CEC, 2007) within one year (WAPA, 2007). The fixed mount has lasted, so far, two years on some WAPA transmission lines (WAPA, 2007). The Firefly Flapper/Diverter is not rated to be attached to

energized wires and must be attached to the overhead groundwires. WAPA also anecdotally reports that swan flight diverter coils (also not rated for energized wires) are up to 80 percent effective for daytime migration but not nearly as effective for nighttime migration. The largest diameter coil should be used and spaced so that birds do not try to fly between them (WAPA, 2007). Finally, biologists with both WAPA (2007) and CEC (2007) have stated that aerial marker spheres are not very effective but are better than nothing, and no marker is effective under low visibility conditions such as fog.

Mitigation Measures for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a Utilize collision-reducing techniques in installation of transmission lines. The applicant shall install the transmission lines utilizing Avian Power Line Interaction Committee standards for collision-reducing techniques as outlined in “Mitigating Bird Collisions with Power Lines: The State of the Art in 1994” (APLIC, 1994).

- Placement of towers and lines shall not be located above existing towers and lines, topographic features, or tree lines to the maximum extent practicable. Power lines should be clustered in the vertical and horizontal planes to the maximum degree feasible, aligned with existing geographic features or tree lines, and located parallel (rather than perpendicular) to prevailing wind patterns.
- Overhead lines that are located in highly utilized avian flight paths (from MP 50 through MP 88 for the SRPL Proposed Project) shall be marked utilizing fixed mount Firefly Flapper/Diverter coils, swan flight diverter coils, or other diversion devices, if proven more effective, as to be visible to birds and to reduce avian collision with power lines.
- Where such markers are installed, the applicant shall fund a study to determine the effectiveness of the markers as a collision prevention measure since there are few, if any, studies that show if such markers work, especially on transmission lines (CEC, 2007). The applicant shall develop a draft study protocol and submit it to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review. The applicant shall continue to work with these agencies until approval of a final study protocol is obtained. If the study shows the markers to be ineffective, the applicant shall coordinate with the Wildlife Agencies to develop alternate collision protection measures.
- The applicant shall implement an avian reporting system for documenting bird mortalities to help identify problem areas. The reporting system shall follow the format in Appendix C of “Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006” (APLIC, 2006) or a similar format. The applicant shall submit a draft reporting protocol and reporting system to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review and approval. The applicant shall continue to work with these agencies until approval of a final reporting protocol and reporting system is obtained. The applicant shall develop and implement methods to reduce mortalities in identified problem areas. The methods shall be approved by the Wildlife Agencies, State Parks (for problem areas in ABDSP), CPUC, and BLM prior to implementation. Bird mortality shall continue to be documented in the problem areas per the avian reporting system to determine the effectiveness of the mortality reduction methods and to determine if new methods need to be developed.

D.2.15 Increased Predation of Listed and Sensitive Wildlife Species by Ravens

Common ravens are known to nest on transmission towers, and they are also known to be opportunistic and will prey upon wildlife species in the vicinity of perching and nesting sites. Populations of common ravens in the Colorado Desert region, particularly near human development, increased almost five-fold between 1969 and 1988 (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), although the predation may still occur. The new towers from the Proposed Project would result in an increase in potential nesting and perching sites for common ravens in the desert region (Imperial Valley and Anza-Borrego Links) where the desert tortoise and FTHL occur and in a potential increase in predation of these species by ravens. There is also concern about ravens and red-tailed hawks preying upon wildlife in ABDSP, which was established to conserve wildlife. Red-tailed hawks also breed in the desert region and are known to nest on transmission towers; however, the number of breeding pairs is limited by the availability of prey. In the Anza-Borrego Desert, the red-tailed hawk distribution is much sparser than on the coastal slope where more prey is available. In wet years, the Anza-Borrego Desert supports approximately 25 to 30 pairs of red-tailed hawks; in dry years it supports fewer pairs (Unitt, 2004).

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II for ravens and Class III for red-tailed hawks)

An increase in common ravens as a result of providing additional towers for nesting would impact the desert tortoise and FTHL (see Impact B-7A) by increased predation of these species. Additionally, predation of any special status species that occurs in ABDSP would be significant. All of these impacts are significant according to the following Significance Criteria. Significance Criterion 1.a. states that the Proposed Project would have a substantial adverse effect on one or more individuals of a species that is federal or State listed. Significance Criterion 1.c. states that the Proposed Project would have a substantial adverse effect on FTHL MAs by permanent disturbance. Significance Criterion 1.f. states that the Proposed Project would indirectly cause the mortality of special-status wildlife species.

With respect to predation of FTHL, desert tortoise, and any special status species in ABDSP by ravens, these impacts are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a or Mitigation Measure B-11b that require preparation and implementation of a Raven Control Plan. Although the Proposed Project would provide additional potential sites for red-tailed hawk nesting, the overall number of red-tailed hawks would still be limited by the availability of prey, so any increase in the number of hawks and hawk predation of special status wildlife, should it occur in ABDSP, would be adverse but less than significant (Class III). No mitigation is required.

Mitigation Measures for Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a Prepare and implement a Raven Control Plan. The applicant shall prepare and implement a Raven Control Plan where it occurs in FTHL habitat inside and outside FTHL MAs. The Raven Control Plan shall also cover where the desert tortoise has potential to occur outside of ABDSP. The raven control plan shall include the use of raven perching/nesting deterrents (such as those manufactured by Prommel Enterprises, Inc. [www.ZENAdesign.com]), Mission

Environmental [www.missionenviro.co.za], or Kaddas Enterprises, Inc. [www.kaddas.com] and/or shall describe the procedure for obtaining a permit from the USFWS Law Enforcement Division to legally remove ravens. The plan shall identify the purpose of conducting raven control; provide training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species; describe the seasonal limitations on disturbing nesting raptors; and describe procedures for documenting the activities on an annual basis. The applicant shall obtain approval of this plan from the USFWS prior to the start of construction. The applicant shall work with the USFWS until approval of a plan is obtained.

B-11b Prepare and implement a Raven Control Plan for ABDSP. The applicant shall work with ABDSP to prepare and implement a Raven Control Plan to deter ravens from perching and nesting on new transmission towers in ABDSP. These deterrents could include the placement of perching and nesting prevention devices that would not cause harm to birds, such as those manufactured by Prommel Enterprises, Inc. (ZENAdesign.com), Mission Environmental (www.missionenviro.co.za), or Kaddas Enterprises, Inc. (www.kaddas.com). The applicant shall obtain approval of this plan from the USFWS and State Parks prior to the start of construction. The applicant shall work with the USFWS and State Parks until approval of a plan is obtained.

D.2.16 Maintenance Activities: Disturbance to Wildlife and Wildlife Mortality

Maintenance activities that would occur include:

1. Annual inspection of the entire overhead transmission system (both via helicopter and climbing each tower).
2. Inspection of the underground portions of the system every three years.
3. Minor inspection of substation sites once per week (1-2 personnel), and major inspections once per year (for one week, with 20 personnel).
4. Equipment repair or replacement as needed (with boom or line truck, aerial truck, and assist truck).
5. Insulator washing at each tower up to two times per year (spray 300 gallons of pressurized water from base of each tower; 30 minutes per tower, 10 towers per day).
6. ROW repair including grading/repair of access road and work areas and spot repair of areas subject to flooding or scouring. Usually conducted after the rainy season has caused erosion damage. Equipment could include use of motor grader, backhoe, 4WD pickup truck, and Cat loader.
7. Vegetation management to maintain 10 feet of clearance around all structures and work areas. Vegetation removal could occur with chainsaws, weed trimmers, rakes, shovels, mowers, and/or brush hooks. Duration of activities, equipment used, and crew size depends on how much vegetation and what kind of vegetation needs to be cleared. Herbicides (approved by the USFWS) could be used.

All maintenance activities would occur within the ROW, and the only vegetation clearing that would occur would be to maintain 10 feet of clearance around structures and work areas and for grading/repair of access roads. This maintenance is expected to occur at least once every two years, so the value of any habitat that may begin to establish between maintenance visits would be low. Still, maintenance activities

would temporarily displace animals and disrupt their breeding and/or foraging activities and would also result in direct wildlife mortality (e.g., lizard crushed by truck tire).

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep; Class II for other special-status wildlife and nesting birds; Class III for barefoot banded gecko, desert pupfish, and non-sensitive wildlife)

The following APMs would be implemented as part of the Proposed Project to minimize or prevent disturbance to wildlife and wildlife mortality during Proposed Project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per-hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around Proposed Project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant impacts according to Significance Criteria 1.a., 1.c. through 1.h., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance to FTHL MAs (1.c.); disturbance of critical habitat (1.d.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); violation of the Bald Eagle Protection Act (1.h.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence. These types of impacts would occur from maintenance: impacts to nesting birds if vegetation is cleared during the breeding season; impacts to eagles if maintenance activities occur within 4,000 feet of an active eagle nest; mortality of special status species from grading, vegetation clearing, or use of access roads; and/or adverse effects to Peninsular bighorn sheep from maintenance activities that cause sheep to avoid affected areas.

Maintenance activities (i.e., all but Nos. 2 and 3 above), would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a presented below.

Maintenance activities (i.e., all but Nos. 2 and 3 above), would impact the coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. Furthermore, maintenance activities (i.e., all but Nos. 2 and 3 above) would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h and B-12a presented below.

Maintenance activities (i.e., all but Nos. 2 and 3 above) would cause disturbance to, and possible mortality of, San Diego and Riverside fairy shrimp, FTHL, desert tortoise, arroyo toad, and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b, B-7b, B-7g, B-12b, and B-12c presented below.

Impacts to Peninsular bighorn sheep and its critical habitat (see Section D.2.11, Impact B-7B) from maintenance activities could cause Peninsular bighorn sheep to avoid affected areas and could interfere with the use of resources such as escape terrain; water; mineral licks; rutting, lambing, or feeding areas; the use of traditional movement routes, and/or could cause physiological stress or increased predation. All of these potential effects could adversely affect survival and recovery of the species and are significant and not mitigable to less than significant levels (Class I), although Mitigation Measure B-7c is required to minimize the impacts.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Impacts to barefoot banded gecko and desert pupfish from maintenance activities would be adverse but less than significant (Class III) because the species are not known to be impacted by noise, and they are unlikely to occur on a maintained access road, tower pad, or other work area. No mitigation is required.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1b** **Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.**
- B-3a** **Prepare and implement a Weed Control Plan.**
- B-7b** **Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangeland Management Strategy.**
- B-7c** **Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat.**
- B-7g** **Implement appropriate avoidance/minimization strategies for desert tortoise.**
- B-7h** **Implement appropriate avoidance/minimization strategies for eagle nests.**
- B-12a** **Conduct maintenance activities outside the general avian breeding season. The applicant shall educate all maintenance workers about the sensitivity of biological resources associated with the project and the necessity to avoid unauthorized impacts to them.**

In areas not cleared of vegetation in the prior two years, all vegetation clearing, except tree trimming or removal, shall take place between September 16 and February 14 (i.e., outside of the general avian breeding season of February 15 through September 15). Tree trimming or removal shall only take place between September 16 and December 31 (i.e., outside the raptor breeding season of January 1 through September 15).

Other maintenance activities shall occur outside the general avian breeding season where feasible. For other maintenance activities that cannot occur outside the above-listed breeding seasons, a qualified biologist shall work with a qualified acoustician to determine if a maintenance activity would meet or exceed the 60 dB(A) Leq hourly noise threshold where nesting territories of the coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl occur. If the noise threshold would not be met or exceeded at the

edge of their nesting territories, then maintenance may proceed. If the noise threshold would be met or exceeded at the edge of their nesting territories, pre-maintenance surveys for nests of these species shall be conducted by a qualified biologist (USFWS permitted biologist for gnatcatcher, vireo, and flycatcher) within 300 feet of the maintenance area no more than seven days prior to initiation of maintenance that would occur between February 15 and August 30 for the gnatcatcher, March 15 and September 15 for the vireo, April 15 and September 15 for the flycatcher, and February 1 and August 31 for the burrowing owl. If active nests are found, work may proceed provided that methods, determined by the qualified acoustician to be effective, are implemented to reduce noise below the threshold. These methods include, but are not limited to, turning off vehicle engines and other equipment whenever possible and/or installing a protective noise barrier between a nesting territory and maintenance activities. If the qualified acoustician determines that no methods would reduce noise to below the threshold, maintenance shall be deferred until the nestlings have fledged as determined the qualified biologist. Where noise-reducing methods are employed, active nests shall be monitored by the qualified biologist on a weekly basis until maintenance is complete or until the nestlings fledge, whichever comes first. The qualified biologist shall be responsible for documenting the results of the pre-maintenance nest surveys and the nest monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for maintenance in ABDSP), and USDA Forest Service (for alternatives with maintenance on National Forest lands).

Animal Burrows/Dens. If any animal burrows or dens are identified during the pre-maintenance surveys for active bird nests, soil in a brush-clearing area shall be sufficiently dry before brush clearing to prevent damage to burrows or dens. At any time of year where maintenance would occur in occupied SKR habitat, all equipment and vehicles shall remain on existing access roads/staging areas (e.g., they shall not pull off the shoulder) to prevent the crushing of SKR burrows.

- B-12b** **Conduct maintenance when arroyo toads are least active.** To avoid impacts to arroyo toads during project maintenance (specifically the use and maintenance of access roads within 2 kilometers of occupied toad habitat), use and maintenance of these access roads shall only occur between two hours after sunrise until two hours before sunset.
- B-12c** **Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.** If access roads in QCB-occupied or potentially occupied habitat (see Impact B-7J and Mitigation Measure B-7i) are maintained (i.e., regraded) and vegetation around structures is cleared at least once every two years, then no additional mitigation shall be required for this ongoing maintenance. If more than two years pass without regrading or clearing, then the maintenance shall be considered a new impact to QCB habitat and shall be mitigated as prescribed in Mitigation Measure B-7i (i.e., protocol pre-maintenance survey, biological monitoring, and avoidance or mitigation).

D.2.17 Other System Upgrades

Additional system upgrades are proposed under the SRPL Project and would be required to accommodate the operation of the transmission line in accordance with State and federal electric system criteria. The system upgrades would be performed at the existing San Luis Rey and South Bay Substations, as described below and in Section B.4.3. The locations of the proposed system upgrades are shown in Figure B-10.

D.2.17.1 Substation Modifications

San Luis Rey Substation

All modifications or upgrades to the San Luis Rey Substation would be conducted within the existing fenced facility. Therefore, no potential impacts to biological resources were identified. See Section B.4.3.1 for a description of the proposed modifications to the San Luis Rey Substation.

South Bay Substation

All modifications or upgrades to the South Bay Substation would be conducted within the existing fenced facility. Therefore, no potential impacts to biological resources were identified. See Section B.4.3.2 for a description of the proposed modifications to the South Bay Substation.

D.2.18 Future Transmission System Expansion

The Proposed Project would facilitate the possible future construction of additional 230 kV and 500 kV transmission lines. These lines are not proposed at this time, but because the construction of the Proposed Project would include a substation and create new transmission corridors that could be used by these additional circuits, impact analysis is presented in this EIR/EIS.

D.2.18.1 Environmental Setting – 230 kV Future Transmission System Expansion

As described in Section B.2.7, the Central East Substation that would be built as a part of the Proposed Project would accommodate up to six 230 kV circuits. Only two circuits are proposed by SDG&E at this time, but construction of additional 230 kV circuits out of the Central East Substation may be required within the next 10 years. This section considers the impacts of construction and operation of these potential future transmission lines. Based on information provided by SDG&E, there are four substation endpoints and five routes that would be most likely for these future lines; each is addressed below. Figure B-12a illustrates the potential routes of each of the 230 kV transmission lines.

Central East Substation to Sycamore Canyon or Peñasquitos Substation

The future 230 kV transmission line from Central East Substation to Sycamore Canyon or Peñasquitos Substation would most likely follow the Proposed Project ROW. Therefore, the environmental setting would be the same for the future 230 kV transmission line as for the proposed SRPL project. See Biological Resources, Section D.2, for more detailed information. This transmission line would pass through the Central, Inland Valley, and Coastal Links.

Central Link

The Central Link is also in the Colorado Desert bioregion (CERES, 2003). According to vegetation mapping for the Proposed Project, the predominant vegetation community along the portion of the Central Link where this expansion route would occur is chaparral. Other types of natural communities are also found along this route: grasslands, oak riparian forest, oak woodlands, freshwater seep, and riparian scrubs. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following types of plant communities that occur along the route may be jurisdictional: oak riparian forest, freshwater seep, and riparian scrubs.

Overview of Special Habitat Management Areas. The Central Link of the future 230 kV line along the proposed SRPL project corridor travels between the east and west portions of the Santa Ysabel Open Space Preserve. It also travels along the northeastern edge of the San Felipe Hills Wilderness Study Area. For more information about the Santa Ysabel Open Space Preserve, see Section D.2.1.2.1 (Overview of Special Habitat Management Areas).

Designated Critical Habitat. No designated critical habitat for threatened or endangered species is located within the Central Link of the SRPL project corridor.

Special Status Plant Species. Section D.2.2.3 for the Proposed Project lists the special status plant species that were observed or have a moderate to high potential to occur along the Central Link.

Special Status Wildlife Species. Section D.2.2.3 for the Proposed Project lists the special status wildlife species that were observed or have a moderate to high potential to occur along the Central Link.

Inland Valley Link

The Inland Valley Link is in the South Coast bioregion (CERES, 2003). According to vegetation mapping for the Proposed Project, the predominant vegetation communities along this route are coastal sage-chaparral scrub and chaparral. Other types of natural communities are also found along this route: coastal sage scrub, grassland, oak riparian forest, mule fat scrub, and oak woodlands. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following plant communities that occur along the route may be jurisdictional: oak riparian forest and mule fat scrub.

Overview of Special Habitat Management Areas. The Inland Valley Link of the future 230 kV line crosses the northern point of the Sycamore Canyon Preserve, passes through the Mount Gower Open Space Preserve, and passes through the northern section Barnett Ranch Open Space Preserve. For more information about the Sycamore Canyon Preserve, Mount Gower Open Space Preserve, and the Barnett Ranch Open Space Preserve, see Section D.2.1.2.1 (Overview of Special Habitat Management Areas).

Designated Critical Habitat. The Inland Valley Link travels through approximately seven miles of coastal California gnatcatcher designated critical habitat.

Special Status Plant Species. Section D.2.2.4 for the Proposed Project lists the special status plant species that were observed or have a moderate to high potential to occur along the Inland Valley Link.

Special Status Wildlife Species. Section D.2.2.4 for the Proposed Project lists the special status wildlife species that were observed or have a moderate to high potential to occur along the Inland Valley Link.

Coastal Link

Bioregion. The Coastal Link is also in the South Coast bioregion (CERES, 2003). The Coastal Link of the future 230 kV line along the proposed SRPL project corridor is an approximately 14-mile route that extends from the Sycamore Canyon Substation to the Peñasquitos Substation. The predominant vegetation communities along this route are coastal sage scrub and chaparral. Other types of natural communities are also found along this route: coastal sage-chaparral scrub, grassland, vernal pool, riparian forests, riparian scrubs, and oak woodland. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following types of plant communities that occur along the route may be jurisdictional: vernal pool, riparian forests and riparian scrubs.

Overview of Special Habitat Management Areas. The Coastal Link of the future 230 kV line along the proposed SRPL project route travels primarily along the northern edge of the Los Peñasquitos Canyon Preserve. For more information about the Los Peñasquitos Canyon Preserve, see Section D.2.1.2.1 (Overview of Special Habitat Management Areas).

Designated Critical Habitat. No designated critical habitat for threatened or endangered species is located within the Coastal Link of the SRPL project corridor.

Special Status Plant Species. Section D.2.2.5 for the Proposed Project lists the special status plant species that were observed or have a moderate to high potential to occur along the Coastal Link.

Special Status Wildlife Species. Section D.2.2.5 for the Proposed Project lists the special status wildlife species that were observed or have a moderate to high potential to occur along the Coastal Link.

Central East Substation to Mission Substation

The future 230 kV transmission line from the Central East Substation to the Mission Substation would most likely follow the proposed SRPL project ROW from the Central East Substation to the Sycamore Canyon Substation. The environmental setting for the future 230 kV transmission line would therefore be the same as for the proposed SRPL project from these locations. From the Sycamore Canyon Substation, the route would turn south and would follow the existing 69 kV Sycamore Canyon–Elliot Substation corridor that is proposed for reconductoring under the proposed SRPL project. This route would travel south-southwest from Sycamore Canyon Substation through Marine Corps Air Station Miramar and the City of San Diego for 8.2 miles to Elliot Substation. The environmental setting for a future 230 kV transmission line would therefore be the same as for the proposed SRPL project reconductoring of the existing 69 kV Sycamore Canyon–Elliot Substation corridor. From Elliot Substation, the route would continue southwest for an additional 4.0 miles within the existing 69 kV corridor and crossing I-15 to terminate at the existing Mission Substation, located at 9060 Friars Road, which is 0.9 miles north of I-8 and 0.25 miles west of I-805.

The future 230 kV line would pass through the Central Link, Inland Valley Link, and Coastal Link areas (see sections above for information). The plant communities along the future 230 kV line would be the same as for the proposed SRPL project corridor until the Sycamore Canyon Substation. According to generalized MSCP vegetation mapping of San Diego County, the predominant vegetation community from the Sycamore Canyon Substation to the Mission Substation is chaparral. Other types of natural communities found along this portion of the route include sage scrub, grasslands, oak woodlands, oak riparian forest, freshwater marsh, riparian scrub, riparian forest, and agriculture.

Overview of Special Habitat Management Areas. The future 230 kV line along the proposed SRPL project route would have the same special habitat management areas as the Central Link and the Inland Valley Link. From the Sycamore Canyon Substation to the Mission Substation, the line travels through Marine Corps Air Station (MCAS) Miramar and the Mission Trails Regional Park. For more information about the Marine Corps Air Station (MCAS) Miramar and the Mission Trails Regional Park, see Section D.2.1.2.1 (Overview of Special Habitat Management Areas).

Designated Critical Habitat. Designated critical habitat for the following threatened or endangered species is located within the ROW of this future 230 kV line: coastal California gnatcatcher, southwestern willow flycatcher, and San Diego fairy shrimp.

Special Status Plant Species. A total of 39 special status plant species have a moderate or high potential to occur along this portion of the future 230 kV line: chaparral sand-verbena, San Diego thorn-mint, California adolphia, San Diego ambrosia, Del Mar manzanita, San Diego milk-vetch, ayenia, Orcutt's brodiaea, Lakeside ceanothus, wart-stemmed ceanothus, long-spined spineflower, delicate clarkia, summer holly, variegated dudleya, San Diego button-celery, San Diego barrel cactus, San Diego gumplant, Ramona horkelia, heart-leaved pitcher sage, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, felt-leaved monardella, San Felipe monardella, willowy monardella, San Diego goldenstar, little mousetail, Gander's ragwort, San Diego mesa mint, Otay Mesa mint, Nuttall's scrub oak, San Miguel savory, southern skullcap, rayless ragwort, purple stemodia, oil neststraw, San Bernardino aster, Parry's tetracoccus, woven-spored lichen, and velvety false lupine.

Special Status Wildlife Species. A total of 39 special status wildlife species have a moderate or high potential to occur along this portion of the future 230 kV line: San Diego fairy shrimp, quino checkerspot butterfly, Hermes copper butterfly, silvery legless lizard, Coronado skink, Coast (San Diego) horned lizard, orange-throated whiptail, western spadefoot, coastal rosy boa, arroyo toad, northern red-diamond rattlesnake, two-striped garter snake, yellow warbler, coastal cactus wren, coastal California gnatcatcher, Cooper's hawk, white-tailed kite, least bittern, California horned lark, southern California rufous-crowned sparrow, burrowing owl, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, pallid bat, western mastiff bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens' kangaroo rat, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, San Diego black-tailed jackrabbit, and American badger.

Central East Substation to Los Coches Substation

The future 230 kV transmission line from the Central East Substation to Los Coches Substation would likely follow the proposed SRPL project corridor for 31.2 miles from the Central East Substation (MP 91) to approximately one mile south of Creelman Substation (MP 122.2) in the Town of Ramona. Therefore, the environmental setting for the future 230 kV transmission line would be the same as for the proposed SRPL project from these locations. At MP 122.2, the future expansion 230 kV line could turn south following the existing Creelman-Lakeside 69 kV corridor through unincorporated San Diego County and then 1.6 miles through largely hilly open space on the Barona Reservation east of the San Vicente Reservoir and west of the Barona Creek Golf Club, the Barona Valley Resort and Casino, and Oak Oasis Open Space Preserve. The route would then pass through or adjacent to Louis A. Stelzer County Park, cross the San Diego River and terminate at the existing Los Coches Substation 0.3 miles northwest of Lake Jennings near Lake Jennings County Park and the community of Lakeside. The future 230 kV line would likely have to cross the following creeks: San Vicente Creek, Klondike Creek, Long's Gulch, and Padre Barona Creek.

The future 230 kV line would pass through the Central Link and Inland Valley Link areas (see sections above for information). The plant communities along the future 230 kV line would be the same as for the proposed SRPL project corridor until 1.0 mile south of the Creelman Substation. According to generalized MSCP vegetation mapping of San Diego County, the predominant vegetation community from the Sycamore Canyon Substation to the Los Coches Substation is chaparral. Other types of natural communities found along this portion of the route include sage scrub, grasslands, oak woodlands, oak riparian forest, freshwater marsh, riparian scrub, riparian forest, and agriculture.

Overview of Special Habitat Management Areas. The future 230 kV line along the proposed SRPL project route would have the same special habitat management areas as the Central Link and the Inland Valley Link. From the 1.0 mile south of the Creelman Substation to the Los Coches Substation, the line travels adjacent to Oak Oasis Open Space Preserve, and passes through the following areas:

- **San Vicente Reservoir.** San Vicente Reservoir is located approximately 25 miles northeast of the City of San Diego and is a deep, steep-sided reservoir on San Vicente Creek. When full the reservoir has 1,069 surface acres, a maximum water depth of 190 feet, and 14 miles of shoreline.
- **Oak Oasis Open Space Preserve.** Oak Oasis Open Space Preserve is located approximately 3.75 miles northeast of the community of Lakeside and consists of 397 acres of oak woodland, boulder-dotted hillsides, and mature stands of chaparral. The future 110-mile Trans-County Trail is planned to traverse Oak Oasis Open Space Preserve from east to west.
- **Louis A. Stelzer County Park.** Louis A. Stelzer County Park is located just north of the San Diego River and the community of Lakeside and includes 340 acres of oak woodland and coastal sage scrub. There is a natural year-round spring that provides water for riparian habitat. There are oak trees that are a hundred years old.
- **Lake Jennings.** Lake Jennings is located on the east side of the community of Lakeside and is a drinking water reservoir under the jurisdiction of the Helix Irrigation District. The lake is used for recreational activities including fishing, hiking, and bird watching. It is surrounded by rolling hills, coastal sage scrub and riparian habitats. Many bird species utilize the lake area as well as wildlife including deer, bobcats, skunks, coyotes, and raccoons.
- **Lake Jennings County Park.** Lake Jennings County Park is located on the northwest side of Lake Jennings, which is on the east side of the community of Lakeside. Lake Jennings is the main attraction at the park. Activities at the park include camping, fishing, hiking, and bird watching.

Designated Critical Habitat. Designated critical habitat for the following threatened or endangered species is located within the ROW of this future 230 kV line: coastal California gnatcatcher and southwestern willow flycatcher.

Special Status Plant Species. A total of 37 special status plant species have a moderate or high potential to occur along this portion of the future 230 kV line: chaparral sand-verbena, San Diego thorn-mint, California adolphia, San Diego milk-vetch, ayenia, Orcutt's brodiaea, Dunn's mariposa lily, Lakeside ceanothus, wart-stemmed ceanothus, long-spined spineflower, delicate clarkia, summer holly, variegated dudleya, San Diego button-celery, San Diego gumplant, Ramona horkelia, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, Mission Canyon bluecup, Palmer's goldenbush, felt-leaved monardella, San Felipe monardella, willowy monardella, little mousetail, San Diego mesa mint, Otay Mesa mint, Nuttall's scrub oak, San Miguel savory, southern skullcap, rayless ragwort, purple stemodia, oil neststraw, San Bernardino aster, Parry's tetracoccus, woven-spored lichen, and velvety false lupine.

Special Status Wildlife Species. A total of 33 special status wildlife species have a moderate or high potential to occur along this portion of the future 230 kV line: San Diego fairy shrimp, quino checkerspot butterfly, silvery legless lizard, Coronado skink, Coast (San Diego) horned lizard, orange-throated whiptail, western spadefoot, coastal rosy boa, arroyo toad, northern red-diamond rattlesnake, two-striped garter snake, yellow warbler, coastal cactus wren, coastal California gnatcatcher, Cooper's hawk, white-tailed kite, least bittern, southern California rufous-crowned sparrow, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, pallid bat, western mastiff bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens' kangaroo rat, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, San Diego black-tailed jackrabbit, and American badger.

Central East Substation to Escondido Substation

Northern Route

From the proposed Central East Substation, the future 230 kV transmission line route would travel west through Vista Irrigation District land paralleling the proposed SRPL route for approximately 6.6 miles to its intersection with SR79. At SR79 the line would diverge from the proposed SRPL route and would head north parallel to SR79 for approximately 1.2 miles to the intersection of Highway S2 with SR79 at the existing Warner Substation. From there the route would parallel the existing 69 kV corridor west across open space owned by Vista Irrigation District north of Lake Henshaw and then it would turn southwest, following the northwest edge of the lake to SR76.

At SR76 the route would turn west-northwest paralleling SR76 for 13.3 miles following the existing Warners-Rincon 69 kV transmission corridor across and/or bordering parcels of the Cleveland National Forest for approximately 4 miles and across La Jolla Reservation for 6 miles, crossing Cedar Creek, Plaisted Creek and Potrero Creek, and then into Rincon Substation, which is just north of the Rincon Reservation at the Highway S6 intersection with SR76. The hilly route along SR76 is primarily agricultural/open space with scattered rural residences.

At Rincon Substation the route would diverge from SR76 and would follow the existing Rincon-Escondido 69 kV corridor, generally parallel to Highway S6 south, crossing Potrero Creek, San Luis Rey River and a tributary to Paradise Creek, through the Rincon Reservation for 3 miles passing through some medium density single family residential and commercial land uses. South of the Rincon Reservation, the route would turn west in the Valley Center Substation area generally paralleling Highway S6, passing on the west side of Hellhole Canyon County Open Space Preserve (approximately 0.30 miles from the ROW), and then would turn south on the east side of Highway S6 for 1.6 miles before turning southwest, crossing Highway S6, and entering the City of Escondido after approximately 0.75 miles. The new line could run adjacent to or cross Daley Ranch near Escondido. In the City of Escondido, the route would turn south and then southwest for approximately 8 miles following the existing 69 kV corridor into Escondido Substation.

According to generalized MSCP vegetation mapping of San Diego County, the predominant vegetation community from the Central East Substation to the Escondido Substation is chaparral. Other types of natural communities found along this portion of the route include sage scrub, grasslands, oak woodlands, oak riparian forest, freshwater marsh, riparian scrub, riparian forest, and agriculture.

Overview of Special Habitat Management Areas. The future 230 kV line route would pass near Lake Henshaw, through the Cleveland National Forest, near Hellhole Canyon County Open Space Preserve, and near or through Daley Ranch.

- **Lake Henshaw.** Lake Henshaw is located just north of where SR76 and SR79 split. The southwest side of the lake is bordered by SR76 and the northwest side is bordered by the Cleveland National Forest. On the east side of the lake is the Rancho San Jose Del Valle. The water is used for drinking water and is under the jurisdiction of the Vista Irrigation District, which joined the San Diego County Water Authority in 1954. Lake Henshaw receives about 30 inches of rain per year.
- **Cleveland National Forest.**
- **Hellhole Canyon County Open Space Preserve.** Hellhole Canyon Preserve is located approximately 3.75 miles east of the community of Valley Center and is currently 1,712 acres and consists of dense mixed chaparral, characterized by scrub oak, manzanita, redberry, and ceanothus. Hellhole Canyon is

used as a wildlife corridor from south and east of Guejito Ranch to the east and north through Pauma Valley and Rincon Indian Reservation to Palomar Mountain, northwest toward Pala and Temecula and to the east to Lake Henshaw. Within Hellhole Canyon and on the Brown property (a prospective acquisition) at least 18 sensitive resident animal species have been noted, including coastal California gnatcatcher, Cooper's hawk, western bluebird, and mountain lion.

- **Daley Ranch.** Daley Ranch is located in the northeastern portion of the City of Escondido north of Dixon Lake and west of Valley Center Road and is a 3,058-acre conservation area. The area contains a number of vegetation communities including oak woodlands, coastal sage scrub and chaparral, grasslands, and riparian habitat. There are trails for hiking, mountain biking, and equestrian use.

Designated Critical Habitat. Designated critical habitat for the following threatened or endangered species is located within the ROW of this future 230 kV line: coastal California gnatcatcher and southwestern willow flycatcher.

Special Status Plant Species. A total of 47 special status plant species have a moderate or high potential to occur along this portion of the future 230 kV line: chaparral sand-verbena, San Diego thorn-mint, California adolphia, San Diego ambrosia, Del Mar manzanita, San Diego milk-vetch, ayenia, Encinitas baccharis, Orcutt's brodiaea, thread-leaved brodiaea, Lakeside ceanothus, wart-stemmed ceanothus, Orcutt's linanthus, long-spined spineflower, Orcutt's spineflower, southern tarplant, delicate clarkia, summer holly, variegated dudleya, San Diego button-celery, San Diego barrel cactus, San Diego gumplant, Ramona horkelia, heart-leaved pitcher sage, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, felt-leaved monardella, San Felipe monardella, Nevin's barberry, willowy monardella, San Diego goldenstar, little mousetail, Gander's ragwort, San Diego marsh elder, San Diego mesa mint, Otay Mesa mint, Nuttall's scrub oak, San Miguel savory, southern skullcap, rayless ragwort, purple stemodia, oil neststraw, San Bernardino aster, Parry's tetracoccus, woven-spored lichen, and velvety false lupine.

Special Status Wildlife Species. A total of 40 special status wildlife species have a moderate or high potential to occur along this portion of the future 230 kV line: San Diego fairy shrimp, quino checkerspot butterfly, Hermes copper butterfly, silvery legless lizard, Coronado skink, Coast (San Diego) horned lizard, orange-throated whiptail, western spadefoot, coastal rosy boa, arroyo toad, northern red-diamond rattlesnake, two-striped garter snake, yellow warbler, coastal cactus wren, coastal California gnatcatcher, Cooper's hawk, white-tailed kite, least bittern, California horned lark, southern California rufous-crowned sparrow, burrowing owl, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, white-faced ibis, pallid bat, western mastiff bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens' kangaroo rat, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, San Diego black-tailed jackrabbit, and American badger.

Southern Route

From Central East Substation, the future Southern 230 kV route would most likely follow the proposed SRPL project route for approximately 51.3 miles to Chicarita Substation (see discussions of the Central, Inland Valley, and Coastal Links above for more information about this portion of the route). From Chicarita Substation, the Southern Route would diverge from the Proposed Project and extend north, following existing 230 kV and 69 kV transmission lines for approximately 6.2 miles. Along this segment, the route would span Ted Williams Freeway (SR 56) and pass adjacent to residential subdivisions before entering undeveloped lands north of Sundevil Way. From here, the route would pass through approximately 4.5 miles of broad open areas of level to rolling rural landscapes characterized by

undeveloped lands and agricultural fields. Upon entering the San Dieguito River Planning Area, the route would turn west-northwest for one mile to follow the existing lines. The route would then turn east and north along the west bank of Lake Hodges, following an existing 69 kV line and spanning the Del Dios Highway. From here it would travel 7.2 miles to the north crossing hill slopes and hilltops and skirting residential areas to terminate at Escondido Substation in the urban landscape bordering the SR78 corridor in the City of Escondido. According to generalized MSCP vegetation mapping of San Diego County, the predominant vegetation community from the Central East Substation to the Escondido Substation is chaparral (including chamise chaparral, northern mixed chaparral, southern mixed chaparral, scrub oak chaparral, red shank chaparral, and southern maritime chaparral). Other types of natural communities found along this portion of the route include sage scrub, coastal sage-chaparral scrub, native and non-native grasslands, oak woodlands, oak riparian forest, freshwater marsh, meadow, disturbed wetland, riparian scrub, riparian woodland, riparian forest, and agriculture.

Overview of Special Habitat Management Areas. The future 230 kV line route would pass near Black Mountain Park Open Space, through the San Dieguito River Park (including Derbas Open Space), near Lake Hodges, and near Elfin Forest Recreational Reserve. In addition this 230 kV line route would pass near or through the Santa Ysabel Open Space Preserve, Sycamore Canyon Preserve, Mount Gower Open Space Preserve, Barnett Ranch Open Space Preserve, and Los Peñasquitos Canyon Preserve, as described in Section D.2.1.2.1 for the Proposed Project (Central, Inland Valley, and Coastal Links).

Designated Critical Habitat. Designated critical habitat for the following threatened or endangered species is located within the ROW of this future 230 kV line: coastal California gnatcatcher and southwestern willow flycatcher.

Special Status Plant Species. A total of 41 special status plant species have a moderate or high potential to occur along this portion of the future 230 kV line: chaparral sand-verbena, San Diego thorn-mint, California adolphia, San Diego ambrosia, Del Mar manzanita, San Diego milk-vetch, ayenia, Encinitas baccharis, Orcutt's brodiaea, thread-leaved brodiaea, Lakeside ceanothus, wart-stemmed ceanothus, long-spined spineflower, Orcutt's spineflower, delicate clarkia, summer holly, variegated dudleya, San Diego button-celery, San Diego barrel cactus, San Diego gumplant, Ramona horkelia, San Diego sunflower, San Diego marsh elder, heart-leaved pitcher sage, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, felt-leaved monardella, San Felipe monardella, Nevin's barberry, willow monardella, San Diego goldenstar, Gander's ragwort, San Diego mesa mint, Nuttall's scrub oak, San Miguel savory, southern skullcap, purple stemodia, San Bernardino aster, Parry's tetracoccus, and velvety false lupine.

Special Status Wildlife Species. A total of 40 special status wildlife species have a moderate or high potential to occur along this portion of the future 230 kV line: San Diego fairy shrimp, quino checkerspot butterfly, Hermes copper butterfly, silvery legless lizard, Coronado skink, Coast (San Diego) horned lizard, orange-throated whiptail, western spadefoot, coastal rosy boa, arroyo toad, northern red-diamond rattlesnake, San Diego ringneck snake, two-striped garter snake, yellow warbler, coastal cactus wren, coastal California gnatcatcher, Cooper's hawk, ferruginous hawk (wintering), sharp-shinned hawk (wintering), white-tailed kite, least bittern, California horned lark, southern California rufous-crowned sparrow, least Bell's vireo, southwestern willow flycatcher, yellow-breasted chat, white-faced ibis, pallid bat, western mastiff bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Stephens' kangaroo rat, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, San Diego black-tailed jackrabbit, and American badger.

D.2.18.2 Environmental Impacts – 230 kV Future Transmission System Expansion

The analysis below identifies all reasonable foreseeable impacts that would occur as a result of the anticipated 230 kV future transmission system expansion (230 kV FTSE). Where the analysis identifies a significant impact that could be mitigated through implementation of specific mitigation measures, such measures have been set forth and would be adopted as conditions of the CPUC/BLM's approval of the SRPL project.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class II for vernal pools; Class III for non-sensitive vegetation)

Construction of the 230 kV FTSE would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with new project features such as access roads) impacts to vegetation communities. Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction would be impaired. Furthermore, construction activities would create disturbed conditions that may be favorable for the invasion of non-native plant species that inhibits the establishment of native vegetation and may adversely affect wildlife.

Depending on topography, these impacts may extend beyond the future project footprint. Erosion caused by construction could cause deposition of soil downslope, and non-native plant species established in the construction zone could spread into adjacent, undisturbed vegetation.

Sensitive Vegetation Communities. Sensitive vegetation communities occur throughout the future project footprint, including chaparral, coastal sage scrub, grasslands, oak woodlands, riparian scrubs, riparian forest, freshwater marsh, and vernal pools. Impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j are required to, at least in part, compensate for impacts to sensitive vegetation communities.

Impacts to non-sensitive vegetation communities would be adverse but less than significant (Class III) because the communities are not sensitive, and no mitigation would be required unless they occur within designated critical habitat for a federal listed species (i.e., only critical habitat with the primary constituent elements of the species' habitat). Impacts to species-specific habitats are discussed individually in Impact B-7 below.

Vernal Pools. Vernal pools and road pools (i.e., water-holding basins) with potential to support fairy shrimp were mapped along the Proposed Project in the spring of 2007 (MPs 146-148, see Sheet 23 in Appendix 8A). Vernal pools and road pools also have a high potential to occur in the Coastal Link of the 230 kV FTSE. Impacts to vernal pools or road pools that support fairy shrimp species would be considered significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b(FT), B-1c(FT), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j presented below.

Vegetation Management (Loss of Trees). No estimates were made as to how many trees would be removed or trimmed as part of vegetation management for the 230 kV FTSE. However, there are several native woodland communities present along the route (oak woodland, oak riparian forest, and riparian forest) that support trees that would likely require either removal or trimming. Although the loss of non-native trees would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species, removal of a non-native tree that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I; see paragraph below list for explanation) for the following reasons.

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this many native trees would be considered significant impacts that would not be mitigable to less than significant levels (Class I) because it is unknown if the mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition is available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. Fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. See Section D.2.5 for further discussion. If the 230 kV FTSE were to cause a fire, or fires, that led to type conversion of sensitive vegetation communities, the impact would be significant according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community). It is possible that future fires would not cause type conversion, or at least not in all instances. Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although it is possible that future fires would not cause type conversion (or at least not in all instances), the impact must be considered significant and not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk, although not to a less than significant level. The full text of the mitigation measures appears in Appendix 12.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.** Mitigation Measure B-1a(FT) is identical to Mitigation Measure B-1a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-1b(FT) Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.** Mitigation Measure B-1b(FT) is identical to Mitigation Measure B-1b for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-1c(FT) Conduct biological monitoring.** Mitigation Measure B-1c(FT) is identical to Mitigation Measure B-1c for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-1d Perform protocol surveys.** [BIO-APM-1]
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-1j Protect and restore vegetation.** [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the 230 kV FTSE since their locations are speculative. However, the corridors would cross the San Diego River and San Luis Rey River, as well as numerous named and unnamed creeks and drainages. Furthermore, the following vegetation communities that occur in the Future Expansion corridors (based on mapping done for the SRPL Proposed Project and generalized MSCP mapping for the County of San Diego) are often jurisdictional: oak woodland, oak riparian forest, freshwater, freshwater seep, riparian scrubs, riparian forest, and vernal pools. Impacts to jurisdictional areas can not be clearly defined until project-specific features and final engineering of the 230 kV FTSE lines is complete. At that time, a formal delineation would be conducted to determine those impacts so that SDG&E can apply for permits from the ACOE, Regional Water Quality Control Board (RWQCB), and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). These impacts are considered significant but mitigable to less than significant levels (Class II) with mitigation such as that in Mitigation Measures B-1c(FT), B-1e, B-1f, B-1g, B-2a(FT), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c(FT) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas. Mitigation Measure B-2a(FT) is identical to Mitigation Measure B-2a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-2c Avoid sensitive features. [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

Non-native, invasive, or noxious plant species can be introduced to areas through the spread of seeds or soil containing seeds. The introduction of non-native or noxious weeds associated with the 230 kV FTSE corridors would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds or non-native plant seeds. The ground disturbance that is expected with the construction of the 230 kV FTSE would also favor the establishment of non-native species. The introduction of non-native plant species is a special concern, especially those areas that support sensitive vegetation communities and communities that support special-status plant species. Non-native plants pose a threat to the natural processes of plant community succession, fire frequency, affect the biological diversity and species composition of native communities, and can affect a community's value as wildlife habitat.

Construction of the 230 kV FTSE would have a significant impact on sensitive vegetation communities according to Significance Criterion 2.b. (introduction of exotic species that substantially adversely affect native vegetation communities). The impacts are considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1j, B-2a(FT), and B-3a(FT) that include habitat restoration/compensation, a pre-construction weed inventory, and a Weed Control Plan.

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-3a(FT) Prepare and implement a Weed Control Plan. Mitigation Measure B-3a(FT) is identical to Mitigation Measure B-3a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class II)

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community.

Construction of the 230 kV FTSE would create dust that would have a significant impact on sensitive vegetation communities according to Significance Criterion 2.c. (Project-related construction, grading, clearing, or other activities that would substantially adversely affect native vegetation communities through the spread of fugitive dust). The impacts are considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(FT) and B-1i that include biological monitoring, regular watering to control fugitive dust, and a maximum speed limit of 15 miles-per-hour on dirt access roads.

Mitigation Measures for Impact B-4: Construction activities would create dust that would result in degradation of vegetation

B-1c(FT) Conduct biological monitoring.

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals, or direct loss of habitat. Known locations of individuals are where a species was observed during on-the-ground surveys. Direct loss of known locations of individuals or habitat occurs from temporary or permanent grading or vegetation clearing. Indirect loss of individuals occurs in instances such as sediments transported (e.g., from cleared areas during rain events) that cover adjacent plants or changes in a plant's environment that cause its loss (e.g., adjacent shrubs that provided necessary shade are removed).

Listed or sensitive plant (special status) species are known to occur within and adjacent to the 230 kV FTSE. Eleven special status plant species were observed within the 230 kV FTSE corridors in 2007 during focused plant surveys for the Sunrise Powerlink Project, including along the Sycamore Reconductor route. Three of these species are listed: San Diego thorn-mint, Del Mar manzanita, and San Diego button-celery.

- San Diego button-celery (FE, SE)
- San Diego thorn-mint (FT, SE)
- Del Mar manzanita (FE)
- Nuttall's scrub oak (L1B)
- San Diego gumplant (L1B)
- Delicate clarkia (L1B)
- San Diego sand aster (L1B)
- San Diego sunflower (L1B)
- Summer-holly (L1B)
- California adolphia (L2)
- San Diego barrel cactus (L2)

Status: FT=federally threatened, FE=federally endangered, SE=State endangered, SR=State rare, L1B or L2=CNPS List 1B or CNPS List 2

Based on literature review (e.g., CNDDDB records, USFWS records, USDA Forest Service records), 42 special status plant species have moderate to high potential to occur along the 230 kV FTSE: chaparral sand-verbena, San Diego ambrosia, San Diego milk-vetch, ayenia, Encinitas baccharis, Nevin's barberry,

Orcutt's brodiaea, thread-leaved brodiaea, Dunn's mariposa lily, Lakeside ceanothus, wart-stemmed ceanothus, Orcutt's linanthus, long-spined spineflower, Orcutt's spineflower, southern tarplant, variegated dudleya, Ramona horkelia, heart-leaved pitcher sage, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, Mission Canyon bluecup, Palmer's goldenbush, felt-leaved monardella, willowy monardella, San Felipe monardella, willowy monardella, San Diego goldenstar, little mousetail, San Diego marsh elder, Gander's ragwort, Otay Mesa mint, and San Diego mesa mint, San Miguel savory, southern skullcap, rayless ragwort, purple stemodia, oil neststraw, San Bernardino aster, Parry's tetra-coccus, woven-spored lichen, and velvety false lupine. (see Environmental Setting above). Ten of these are federal and/or State listed: San Diego ambrosia (FE), Encinitas baccharis (FT, SE), Nevin's barberry (FE, SE), Orcutt's brodiaea (SR), thread-leaved brodiaea (FT, SE), Orcutt's spineflower (FE, SE), willowy monardella (FE, SE), Gander's ragwort (SR), Otay Mesa mint (FE, SE), and San Diego mesa mint (FE, SE).

The overall impacts to special status plant species are considered significant and not mitigable to less than significant levels (Class I) because of the following: (1) three listed and eight non-listed sensitive plant species are known to occur in the 230 kV FTSE based on 2007 survey results for the Proposed Project; (2) 42 other special status plant species have a moderate to high potential to occur in the 230 kV FTSE, including 10 listed plant species; and (3) as noted in Section D.2.9 for the Proposed Project, it is not possible to completely assess the impacts to all special status plant species (since the 2007 survey results were inconclusive) and because the possibility exists that the results of complete conclusive surveys would result in a significant impact. Impacts to special status plant species are significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2c, B-5a(FT), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT) Conduct biological monitoring.**
- B-1d Perform protocol surveys.** [BIO-APM-1]
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2c Avoid sensitive features.** [BIO-APM-18]
- B-5a(FT) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.** Mitigation Measure B-5a(FT) is identical to Mitigation Measure B-5a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".
- B-5b Delineate sensitive plant populations.** Prior to construction, plant population boundaries designated as sensitive by USFWS or CDFG and other resources designated sensitive by the appli-

- cant and resource agencies would be clearly delineated with clearly visible flagging or fencing, which shall remain in place for the duration of construction. Flagged areas would be avoided to the extent practicable during construction activities in that area. Where these areas cannot be avoided, focused surveys for covered plant species shall be performed in conformance with Mitigation Measure B-1d, and the responsible resource agency(s) would be consulted for appropriate mitigation and/or revegetation measures prior to disturbance. Notification of presence of any covered plant species to be removed in the work area would occur within ten (10) working days prior to Project activity, during which time the USFWS or CDFG may remove such plant(s) or recommend measures to minimize or reduce the take. If neither USFWS nor CDFG has removed such plant(s) within ten (10) working days following written notice, SDG&E may proceed with work and cause a take of such plant(s), if minimization measures are not implemented. [BIO-APM-8]
- B-5c** **No collection of plants or wildlife.** Plant or wildlife species may not be collected for pets or any other reason. [BIO-APM-13]
- B-5d** **Salvage sensitive species for replanting or transplanting.** Species identified as sensitive by the land managing agency shall be salvaged where avoidance is not feasible in accordance with State law. Generally, salvage may include removal and stockpiling for replanting on site, removal and transplanting out of surface disturbance area, removal and salvage by private individuals, and removal and salvage by commercial dealers, or any combination. [BIO-APM-22]

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class II)

Direct mortality of small mammals; reptiles; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8 below); and other less mobile species would occur during construction of the 230 kV FTSE. This action would result primarily during habitat clearing, earth removal, grading, digging, and equipment movement. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Noise, dust, and visual disturbances from increased human activity, and exhaust fumes from heavy equipment used during construction would result in habitats adjacent to the construction zone being temporarily unattractive to wildlife. Construction would affect wildlife in adjacent habitats by interfering with breeding or foraging activities, altering movement patterns, or causing animals to temporarily avoid areas adjacent to the construction zone. Nocturnally active (i.e., active at night) wildlife would be affected less by construction than diurnally active (i.e., active during the day) species since construction would occur primarily during daylight hours (there may be some exceptions if construction occurs in the desert during the summer months).

Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances would result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding season.

The use of access roads by construction/maintenance vehicles would result in accidental road-killed wildlife if these species were to be on the roads when they are used. Diurnally active (i.e., active during the day) reptiles and small mammals are the most likely to be subject to vehicle-caused mortality.

All of these impacts to general wildlife would be significant according to Significance Criterion 4.a. (prevent access to foraging habitat, breeding habitat, water sources, or other areas necessary for survival and reproduction) and Significance Criterion 4.d. (adversely affect animal behavior through increased noise or

nighttime lighting). Impacts to general wildlife from construction would be reduced to less than significant with the implementation of Mitigation Measures B-1c(FT), B-1f, B-2b, B-6a, B-6b, B-6c, and B-6d (Class II). The mitigation measures include biological monitoring, personnel training, restricting work to within predetermined limits of construction, prohibiting litter, clearing brush and trimming trees outside the breeding season, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. Impacts to listed or sensitive wildlife species are addressed in Impact B-7 below.

Mitigation Measures for Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality

B-1c(FT) Conduct biological monitoring.

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-6a Littering is not allowed. [BIO-APM-7]

B-6b Survey areas for brush clearing. [BIO-APM-9]

B-6c Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]

B-6d Reduce construction night lighting on sensitive habitats. [BIO-APM-29]

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife, or a direct loss of habitat for listed or sensitive wildlife (Class I)

The least Bell's vireo, southwestern willow flycatcher, golden eagle, arroyo toad, Stephens' kangaroo rat, coastal California gnatcatcher, and San Diego fairy shrimp are expected to occur in the 230 kV FTSE and are discussed in Impacts B-7D, B-7E, B-7H, B-7K, B-7L, B-7M, and B-7N, respectively. The bald eagle and quino checkerspot butterfly have moderate potential to occur in the 230 kV FTSE and are discussed in Impacts B-7I and B-7J, respectively. The Swainson's hawk has potential to migrate across the project area and is discussed in Impact B-10.

Thirteen non-listed sensitive wildlife species were observed within the 230 kV FTSE in 2007 during surveys completed for the Sunrise Powerlink Project, including along the Sycamore Reconductor route.

- Northern red-diamond rattlesnake
- Two-striped garter snake
- Western spadefoot
- California horned lark
- Cooper's hawk
- Ferruginous hawk
- Grasshopper sparrow
- Northern harrier
- Prairie falcon
- Southern California rufous-crowned sparrow
- White-tailed kite
- Yellow warbler
- San Diego black-tailed jackrabbit

The 230 kV FTSE has the potential to significantly impact 23 other non-listed, sensitive animal species: Hermes copper butterfly, silvery legless lizard, Coronado skink, Coast (San Diego) horned lizard, orange-throated whiptail, coastal rosy boa, coastal cactus wren, least bittern, loggerhead shrike, yellow-breasted chat, white-faced ibis, pallid bat, western mastiff bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, and American badger.

Impacts to special status wildlife species are significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

Most of the non-listed, sensitive species' habitats (see Table D.2-4) are sensitive vegetation communities, including those present in the 230 kV FTSE. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a(FT)) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(FT) may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1e, B-1f, B-1i, B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(FT) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats. These measures include providing mitigation for impacts to sensitive vegetation communities and jurisdictional areas, conducting biological monitoring, covering steep-walled trenches or excavations to prevent wildlife entrapment, personnel training, removing raptor nests when inactive, reducing construction night lighting, and minimizing construction traffic volume and speed.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT) Conduct biological monitoring.**
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-6a Littering is not allowed.** [BIO-APM-7]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-6c Protect mammals and reptiles in excavated areas.** [BIO-APM-24, BIO-APM-26]
- B-6d Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-7a(FT) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).** Mitigation Measure B-7a(FT) is identical to Mitigation Measure B-7a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the least Bell's vireo has been documented near MP CEE-19, CEM-51, and CEP-56.8. The species was not found in 2007 within the portion of the Proposed Project and Sycamore Reconductor that overlaps with the 230 kV FTSE. The 230 kV FTSE has the potential to cross least Bell's vireo critical habitat, which occurs near MP CEM-50 and CEM-51.

Construction of the 230 kV FTSE has the potential to directly impact least Bell's vireo through removal of occupied habitat. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to vireo critical habitat would be significant according to Significance Criterion 1.d. (temporary or permanent disturbance of designated critical habitat for federal listed species). Any direct impact to the vireo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7e(FT).

Additionally, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Such excessive noise would be a significant impact on vireo breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e(FT) that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7e(FT) Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7e(FT) is identical to Mitigation Measure B-7e for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

Southwestern willow flycatcher was not found in 2007 within the portion of the Proposed Project or the Sycamore Reconductor that overlaps with the 230 kV FTSE. Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the species is known to occur near the Central East Substation and between MP CEE-15 and CEE-20. The 230 kV FTSE has the potential to cross southwestern willow flycatcher critical habitat, which occurs near the Central East Substation and between MP CEE-15 and CEE-20.

Construction of the 230 kV FTSE has the potential to directly impact southwestern willow flycatcher through removal of occupied habitat. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to flycatcher critical habitat would be significant according to Significance Criterion 1.d. (temporary or permanent disturbance of designated critical habitat for federal listed species). Any direct impact to the southwestern willow flycatcher or its occupied habitat would be significant but mitigable to less than sig-

nificant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7e(FT).

Additionally, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Such excessive noise would be a significant impact on flycatcher breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e(FT) that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance.

Mitigation Measures for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7e(FT) Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I)

Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I), especially if there is direct line-of-sight between the nest site and the human activity, or if the human activity occurs above the nest site in elevation. An exception to this is if the activity within 4,000 feet of the nest site (without direct line-of-site and activity is below the nest site) occurs where there is already an existing disturbance such as a road or utility corridor. At least three golden eagle nest locations would be impacted by the Future Expansion, including two nest locations in the Central Link and one nest location in the Inland Valley Link. The specific locations of these nest areas are not disclosed in this EIR/EIS, nor are the Proposed Project MPs within 4,000 feet of the nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document.

Impacts to golden eagle would be significant according to Significance Criteria 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g (result in the abandonment of migratory bird nests and/or eggs), and 1.h. (take golden eagles, eagle eggs, or any part of an eagle). Although the 230 kV FTSE would result in unmitigable impacts to golden eagles, the project would implement Mitigation Measure B-7h (No construction or maintenance activities within 4,000 feet or line of site of an eagle nest during breeding season) to minimize direct impacts to the species.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (Class II)

The 230 kV FTSE has the potential to impact bald eagle. Bald eagle is known to nest west of Lake Henshaw (Bittner, 2007), approximately 3 miles south of the tentative Central East Substation to Escondido Substation corridor. The anticipated routes of the future transmission lines have the potential to

directly impact bald eagle if the routes occur within 4,000 feet of a bald eagle nest. The anticipated routes have the potential to indirectly impact bald eagle through the loss of foraging habitat. These impacts would be a significant according to Significance Criteria 1.a. (impact to one or more individuals of a species that is federal or State listed as endangered or threatened), 1.e. (substantial adverse effect on the breeding success of the bald eagle), 1.g (result in the abandonment of migratory bird nests and/or eggs), and 1.h. (take bald eagles, eagle eggs, or any part of an eagle). Any direct impact to the bald eagle would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h.

Mitigation Measure for Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

The QCB was not observed during surveys conducted in 2007 within the portion of the Proposed Project and Sycamore Reconductor that overlaps with the 230 kV FTSE. Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the QCB is known to occur near CEM-39, CEP-39, and CEM-51. Nearly the entire 230 kV FTSE occurs within USFWS protocol Survey Area 2, except for the western portion of the Central East Substation to Escondido Substation transmission line, which is not in a QCB survey area. The 230 kV FTSE would not cross critical habitat for this species.

The 230 kV FTSE has the potential to impact QCB through the direct loss of habitat and the loss of individual butterflies. Impacts to QCB would be significant according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since the magnitude of impacts to QCB are unknown, and adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable (Class I). However, Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7i(FT) are required to, at least in part, minimize impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7i(FT) Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7i(FT) is identical to Mitigation Measure B-7i for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the arroyo toad is known to occur near CEE-13, CEM-19, CEL-19, CEP-20, CEM-35, and CEP-35. The arroyo toad was not observed in the 230 kV FTSE during surveys conducted in 2007 completed for the Proposed Project, including survey areas near CEM-19, CEL-19, CEP-20 (Appendix 8c). The 230 kV FTSE would not cross designated critical habitat for this species.

The 230 kV FTSE has the potential to impact arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment). Impacts to arroyo toad would be significant according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). These impacts would be significant but mitigable to less than significant levels (Class II) through implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7j(FT). Mitigation Measure B-7j(FT) restricts the removal of breeding habitat, relocates arroyo toads from the impact zone, protects arroyo toads by excluding them from impact areas with fencing, and mitigates for the temporary loss of toad habitat through on-site restoration and the permanent loss of toad habitat through off-site purchase and preservation of occupied toad habitat.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7j(FT) Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7j(FT) is identical to Mitigation Measure B-7j for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

Based on a literature review of CNDDDB records, USFWS records, USDA Forest Service records, and surveys completed for the Sunrise Powerlink Project (see Impact B-7L in Section D.2.11), Stephens' kangaroo rat (SKR) is known to occur between Central East Substation and Santa Ysabel Valley. A large population of SKR occurs around the existing Warner Substation, including known locations north and east of Lake Henshaw. Focused surveys for SKR were completed in 2007 for the Proposed Project, including areas around the Central East Substation and Santa Ysabel Valley. The SKR was present in approximately 12 locations and was assumed to be present in approximately 8 locations between the Central East Substation and Santa Ysabel Valley (Appendix 8c).

The SKR is expected to occur in the 230 kV FTSE between CEE-0 and CEE-13, CEL-0 and CEL-15, CEM-0 and CEM-15, and CEP-0 and CEP-15. Direct and indirect impacts to the SKR and its occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), B-7a(FT), and B-7k(FT) is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7a(FT) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

B-7k(FT) Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7k(FT) is identical to Mitigation Measure B-7k for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

Focused surveys for coastal California gnatcatcher were completed in 2007 for the Proposed Project and was observed in 14 locations between MP CEP-49.0 and CEP-58.1 (Appendix 8c). Two coastal California gnatcatcher locations were also found along the Sycamore to Elliott Reconductor in 2007, near MP CEM-53 (Appendix 8c). Based on a literature review of CNDDDB records and USDA Forest Service records, the species is also known to occur in the 230 kV FTSE, including near CEL-30, CEM-30, CEP-30, CEL-40.5, and numerous populations between CEM-40 and CEM-56.8 and between CEP-40 and CEP-58.1. The 230 kV FTSE would cross designated critical habitat for this species, which occurs between CEL-25 and CEL-30, between CEM-25 and CEM-30, between CEP-25 and CEP-30, between CEL-38 and CEL-40, and at CEE-42.

Direct and indirect impact to the gnatcatcher (including noise impacts) and its occupied or critical habitat from habitat removal and construction activity would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to critical habitat would be significant according to Significance Criterion 1.d. (temporary or permanent disturbance of designated critical habitat for federal listed species). Impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7l(FT).

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7l(FT) Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7l(FT) is identical to Mitigation Measure B-7l for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat (Class II)

San Diego fairy shrimp were observed during biological surveys for the Proposed Project near MP 148 and along dirt roads that would likely be used to access the Proposed Project route from the north between MP 146 and 148. The 230 kV FTSE would also occur in this general area and more vernal pools and

water-holding basins have the potential to occur in the future expansion corridors. Additionally San Diego and/or Riverside fairy shrimp are also known to occur near the western end of the Central East Substation to Mission Substation transmission line (CDFG CNDDDB, 2007). The 230 kV FTSE has the potential to cross critical habitat for San Diego fairy shrimp near MP CEM-55.

Direct and indirect impacts to fairy shrimp and its occupied or critical habitat from habitat removal or disturbance would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). Impacts to critical habitat would be significant according to Significance Criterion 1.d. (temporary or permanent disturbance of designated critical habitat for federal listed species). Impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b(FT), B-1c(FT), and B-2a(FT). These Mitigation Measures generally requires staking and flagging of vernal pools and potential water-holding basins, biological monitoring at all times during construction near them to avoid impacts, restrictions on access road use, creation/restoration of vernal pool habitat, salvage and reuse of vernal pool soils, five years maintenance and monitoring, preparation of a habitat management plan, and biological monitoring.

Mitigation Measures for Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat

B-1b(FT) Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The FTSE would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(FT) and B-8b.

Mitigation Measure for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-2c Avoid sensitive features. [BIO-APM-3]

B-6b Survey areas for brush clearing. [BIO-APM-9]

B-8a(FT) Conduct pre-construction surveys and monitoring for breeding birds. Mitigation Measure B-8a(FT) is identical to Mitigation Measure B-8a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-8b Removal of raptor nests.

Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies, linkages, wildlife movement corridors, and fish movement)

Future Expansion activities have the potential to significantly impact or restrict general wildlife movement and movement of fish according to Significance Criteria 4.a. (prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their survival and reproduction), 4.b. (interfere with connectivity between blocks of habitat, or block or interfere with a local or regional wildlife corridor or linkage), 4.c. (result in fragmentation of a species’ population) and 4.d. (increase noise or night-time lighting in wildlife habitat or a wildlife corridor or linkage to adversely affect the behavior of the animals). Construction of the 230 kV FTSE is expected to cause wildlife to temporarily avoid habitat and movement corridors in the vicinity of construction activities. However, during project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier. Watercourses that have the potential to support fish and fish movement are expected to be spanned by project and not directly impacted.

Impacts to linkages, wildlife movement corridors, and movement of fish would be significant but mitigable (Class II) through the implementation of Mitigation Measures B-1e, B-1g, B-1i, B-2c, and B-6d. These mitigation measures would keep vehicle traffic associated with 230 kV FTSE construction activities to a minimum volume and speed to prevent mortality of wildlife species that may be moving about, would use culverts and rocks for access to cross drainages so as not to cut off water flow, and would locate structures to span high value wildlife habitats.

Native wildlife nursery sites, primarily bat nursery colonies, that may be associated with rock crevices and caves would be affected by construction and human activity if humans approach an active nursery colony, if entrances to rock crevices or caves supporting nursery colonies become blocked (while active or inactive, perhaps by falling rock caused by construction), or if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony. Impacts to bat nursery colonies would be significant according to Significance Criterion 4 (impede the use of native wildlife nursery sites). This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1g, B-1i, B-2c, B-6d, and B-9a, which include surveying for bat colonies; prohibiting approach of, or entrance to, an active nursery colony site; and implementation of methods to minimize potential indirect impacts to a colony site from falling rock or substantial vibration.

Mitigation Measure for Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-1e Train project personnel. [BIO-APM-2]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

- B-2c** **Avoid sensitive features.** [BIO-APM-18]
- B-6d** **Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-9a** **Survey for bat nursery colonies.**

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; and Class II for collision for non-sensitive species or daytime migration)

Electrocution. It is anticipated that the 230 kV FTSE would not present an electrocution risk to birds as noted for the Proposed Project.

Collision. The primary issue with respect to birds and the 230 kV FTSE is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. Most of this migration takes place at night. Only the birds of prey (i.e., raptors such as the Swainson's hawk and eagles), swallows, and kingbirds migrate primarily by day. According to the local eagle expert (Wildlife Research Institute, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. Almost all other migrating birds (in California, at least) migrate at night, unless they are trans-oceanic migrants like shorebirds or transcontinental migrants like jaegers that fly day and night at high altitudes (Unitt, 2007).

Since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has been pieced together from anecdotes), there is no way to know how many birds and what species of birds would actually be impacted by collision with Proposed Project transmission lines, towers, poles, or static wires. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to the Significance Criteria 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened), 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species), and 1.g. (result in the killing of migratory birds).

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(FT), which requires the utilization of collision-reducing techniques such as site-sensitive tower/line placement and installation of bird flight diversion devices, requires a study to determine the effectiveness of such devices, and requires implementation of a reporting system to document bird mortality.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(FT) Utilize collision-reducing techniques in installation of transmission lines. Mitigation Measure B-10a(FT) is identical to Mitigation Measure B-10a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", State Parks, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003), which do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife in the vicinity of this option (Liebezeit et al., 2002), although the predation may still occur but would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of the 230 kV FTSE, including such activities as the use of existing access roads or regular brush clearing around project features, would result in disturbance to wildlife. These disturbances would include temporarily displacing animals and disrupting their breeding and/or foraging activities. Maintenance activities could also result in direct wildlife mortality (e.g., lizard crushed by truck tire). Disturbance to wildlife and potential wildlife mortality would be significant impacts according to Significance Criteria 1.a., 1.d. through 1.h., and 4.d. that include any impacts to one or more listed species (1.a.); disturbance of critical habitat (1.d.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); violation of the Bald Eagle Protection Act (1.h.), and impacts that increase noise or nighttime lighting in wildlife habitat or a wildlife corridor or linkage (4.d.).

Maintenance activities have the potential to impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a(FT).

Maintenance activities have the potential to impact the coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. Furthermore, maintenance activities would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h and B-12a(FT).

Maintenance activities have the potential to cause disturbance to, and possible mortality of, San Diego and Riverside fairy shrimp, arroyo toad, and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b(FT), B-1f, B-1h, B-1i, B-2b, B-5c, B-6a, B-6b, B-12b, B-12c, and B-12d.

Impacts to SKR and non-sensitive wildlife from maintenance activities would be significant but mitigated to less than significant (Class II) with the implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-5c, B-6a, B-6b, and B-12d.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

B-1b(FT) Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-6a** Littering is not allowed. [BIO-APM-7]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.
- B-12a(FT)** Conduct maintenance activities outside the general avian breeding season. Mitigation Measure B-12a(FT) is identical to Mitigation Measure B-12a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-12b** Conduct maintenance when arroyo toads are least active.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.
- B-12d** Protect wildlife. No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all Project areas except for those used by security personnel.

D.2.18.3 Environmental Setting – 500 kV Future Transmission System Expansion

As described in Section B.7.2 and illustrated in Figure B-12b, the potential Future 500 kV Circuit would connect the proposed Central East Substation to the Southern California Edison (SCE) transmission system at a new substation north of Interstate 15 (I-15), about 20 miles west of SCE’s Valley Substation.

According to generalized MSCP vegetation mapping of San Diego County and the vegetation mapping completed for the portion of LEAPS that would overlap with the 500 kV FTSE, the predominant vegetation community is chaparral. Other types of natural communities along the 500 kV FTSE include grasslands, coastal sage scrub, oak woodlands, riparian scrubs, and riparian forest.

Overview of Special Habitat Management Areas. The 500 kV FTSE would pass near Lake Henshaw, through the Cleveland National Forest, through the La Jolla Reservation, near or through the Rincon Reservation, near or through the San Pasqual Reservation, through the Santa Margarita Ecological Reserve, near or through Camp Pendleton Marine Corps Base, and near the San Mateo Canyon Wilderness Area.

Designated Critical Habitat. The 500 kV FTSE would cross designated critical habitat for least Bell's vireo, coastal California gnatcatcher, southwestern willow flycatcher, quino checkerspot butterfly, and Munz's onion.

Special Status Plant Species. Four special status plant species have been documented along or near the 500 kV FTSE during six years of focused plant species surveys conducted for the LEAPS project (see Impact B-5 in Section E.7.1.2). One of these species is federal listed as endangered: Munz’s onion.

- Munz’s onion
- Heart-leaved pitcher sage
- Rainbow manzanita
- Hammitt’s clay-cress

A total of 45 special status plant species have a moderate or high potential to occur along the 500 kV FTSE: chaparral sand-verbena, Davidson's saltscale, California adolphia, San Diego milk-vetch, ayenia, Nevin's barberry, Orcutt's brodiaea, thread-leaved brodiaea, round-leaved filaree, Lakeside ceanothus, Vail Lake ceanothus, wart-stemmed ceanothus, Parry's spineflower, long-spined spineflower, Orcutt's spineflower, southern tarplant, delicate clarkia, summer holly, slender-horned spineflower, many-stemmed dudleya, sticky dudleya, San Diego button celery, San Diego gumplant, mesa horkelia, Ramona horkelia, Coulter's goldfields, Borrego Valley pepper-grass, Robinson's pepper-grass, Warner Springs lessingia, lemon lily, Orcutt's linanthus, Parish's meadowfoam, felt-leaved monardella, Hall's monardella, San Felipe monardella, chaparral nolina, California Orcutt grass, Gander's ragwort, San Miguel savory, Shevock's copper-moss, southern skullcap, rayless ragwort, purple stemodia, Parry's tetracoccus, and California screw-moss.

Special Status Wildlife Species. Although surveys have not been conducted for the 500 kV FTSE, focused wildlife species surveys have been conducted for the LEAPS project; a portion of the LEAPS survey area overlaps with the 500 kV FTSE. Using the same definition of special status for the SRPL Proposed Project in Section D.2.1.1, the following nine non-listed, sensitive wildlife species were documented along or near the route of the portion of LEAPS that overlaps the 500 kV FTSE (see Section E.7.1.2). No listed species were observed during LEAPS surveys.

- Coastal California newt
- Cooper's hawk
- Coastal rosy boa
- Southern California rufous-crowned sparrow
- Red-diamond rattlesnake
- Loggerhead shrike
- Coast (San Diego) horned lizard
- California spotted owl
- Two-striped garter snake

The following 9 listed or highly sensitive wildlife species are either expected to occur or have a moderate to high potential to occur along the 500 kV FTSE: arroyo chub, San Diego fairy shrimp, quino checker-spot butterfly, arroyo toad, coastal California gnatcatcher, golden eagle, least Bell's vireo, southwestern willow flycatcher, and Stephens' kangaroo rat.

The following 28 non-listed sensitive wildlife species have a moderate or high potential to occur along the 500 kV FTSE: silvery legless lizard, Coronado skink, orange-throated whiptail, western spadefoot, southwestern pond turtle, San Diego mountain kingsnake, San Diego ringneck snake, yellow warbler, coastal cactus wren, white-tailed kite, least bittern, California horned lark, long-eared owl, yellow-breasted chat, white-faced ibis, pallid bat, western mastiff bat, western red bat, Dulzura pocket mouse, northwestern San Diego pocket mouse, Los Angeles pocket mouse, San Diego desert woodrat, pocketed free-tailed bat, big free-tailed bat, yellow bat, southern grasshopper mouse, San Diego black-tailed jackrabbit, and American badger.

D.2.18.4 Environmental Impacts – 500 kV Future Transmission System Expansion

The analysis below identifies all reasonable foreseeable impacts that would occur as a result of the anticipated 500 kV future transmission system expansion (500 kV FTSE). Where the analysis identifies a significant impact that could be mitigated through implementation of specific mitigation measures, such measures have been set forth and would be adopted as conditions of the CPUC/BLM's approval of the SRPL project.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class II for vernal pools; Class III for non-sensitive vegetation)

Construction of the 500 kV FTSE would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with new project features such as access roads) impacts to vegetation communities. Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction would be impaired. Furthermore, construction activities would create disturbed conditions that may be favorable for the invasion of non-native plant species that inhibits the establishment of native vegetation and may adversely affect wildlife.

Depending on topography, these impacts may extend beyond the future project footprint. Erosion caused by construction could cause deposition of soil downslope, and non-native plant species established in the construction zone could spread into adjacent, undisturbed vegetation.

Sensitive Vegetation Communities. Sensitive vegetation communities occur throughout the 500 kV FTSE, including chaparral, coastal sage-chaparral scrub, sage scrubs, grasslands, emergent wetland, freshwater marsh, meadow, oak woodlands, oak riparian forest, canyon oak forest, riparian scrubs, riparian woodland, and riparian forests. Impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). These impacts are not mitigable to less than significant levels (Class I) because it is adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j are required to, at least in part, compensate for impacts to sensitive vegetation communities.

Impacts to non-sensitive vegetation communities would be adverse but less than significant (Class III) because the communities are not sensitive, and no mitigation would be required unless they occur within designated critical habitat for a federal listed species (i.e., only critical habitat with the primary constituent elements of the species' habitat). Impacts to species-specific habitats are discussed individually in Impact B-7 below.

Vegetation Management (Loss of Trees). No estimates were made as to how many trees would be removed or trimmed as part of vegetation management for 500 kV FTSE. However, there are several native woodland communities present along the route (oak woodland and riparian forest) that support trees that would likely require either removal or trimming. Although the loss of non-native trees would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species, removal of a non-native tree that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I; see paragraph below list for explanation) for the following reasons.

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)

- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this many native trees would be considered significant impacts that would not be mitigable to less than significant levels (Class I) because it is unknown if the mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition is available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. Fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. See Section D.2.5 for further discussion. If the 500 kV FTSE was to cause a fire, or fires, that led to type conversion of sensitive vegetation communities, the impact would be significant according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community). It is possible that future fires would not cause type conversion, or at least not in all instances. Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although it is possible that future fires would not cause type conversion (or at least not in all instances), the impact must be considered significant and not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the 500 kV Future Expansion corridor since its location is speculative. The following vegetation communities that occur in the Future Expansion corridor (based on mapping done for the SRPL Proposed Project and generalized MSCP mapping for the County of San Diego) are often jurisdictional: emergent wetland, freshwater marsh, meadow, oak riparian forest, canyon oak forest, riparian scrubs, riparian woodland, and riparian forests. Impacts to jurisdictional areas can not be clearly defined until project-specific features and final engineering of the 500 kV FTSE is complete. At that time, a formal delineation would be conducted to determine those impacts so that SDG&E can apply for permits from the ACOE, Regional Water Quality Control Board (RWQCB), and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). These impacts are considered significant but mitigable to less than significant levels (Class II) with mitigation such as that in Mitigation Measures B-1c(FT), B-1e, B-1f, B-1g, B-2a(FT), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c(FT) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-2c Avoid sensitive features. [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

Non-native, invasive, or noxious plant species can be introduced to areas through the spread of seeds or soil containing seeds. The introduction of non-native or noxious weeds associated with the 500 kV FTSE would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds or non-native plant seeds. The ground disturbance that is expected with the construction of the 500 kV FTSE would also favor the establishment of non-native species. The introduction of non-native plant species is a special concern, especially those areas that support sensitive vegetation communities and communities that support special-status plant species. Non-native plants pose a threat to the natural processes of plant community succession, fire frequency, affect the biological diversity and species composition of native communities, and can affect a community's value as wildlife habitat.

Construction of the 500 kV FTSE would have a significant impact on sensitive vegetation communities according to Significance Criterion 2.b. (introduction of exotic species that substantially adversely affect

native vegetation communities). The impacts are considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1j, B-2a(FT), and B-3a(FT) that include habitat restoration/compensation, a pre-construction weed inventory, and a Weed Control Plan.

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-3a(FT) Prepare and implement a Weed Control Plan.

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class II)

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community.

Construction of the 500 kV FTSE would create dust that would have a significant impact on sensitive vegetation communities according to Significance Criterion 2.c. (Project-related construction, grading, clearing, or other activities that would substantially adversely affect native vegetation communities through the spread of fugitive dust). The impacts are considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(FT) and B-1i that include biological monitoring, regular watering to control fugitive dust, and a maximum speed limit of 15 miles-per-hour on dirt access roads.

Mitigation Measures for Impact B-4: Construction activities would create dust that would result in degradation of vegetation

B-1c(FT) Conduct biological monitoring.

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive plant (special status) species are known to occur within and adjacent to the 500 kV FTSE. Based on literature review (e.g., CNDDDB records, USFWS records, USFS records), 45 special status plant species have moderate to high potential to occur along the 500 kV FTSE (see Special Status Plant Species in the Environmental Setting above). Ten of these are federal and/or State listed: Nevin's barberry (FE, SE), thread-leaved brodiaea (FT, SE), Orcutt's brodiaea (SR), Vail Lake ceanothus (FT, SE), Orcutt's spineflower (FE, SE), slender-horned spineflower (FE, SE), San Diego button celery (FE, SE), Parish's meadowfoam (SE), California Orcutt grass (FE, SE), and Gander's ragwort (SR).

Although surveys have not been conducted for the 500 kV FTSE, focused plant species surveys have been conducted for the LEAPS project; a portion of the LEAPS survey area overlaps with the 500 kV FTSE corridor (500 kV MP 41 to 91.2). Four special status plant species were documented along or near the route of the portion of LEAPS that overlaps the 500 kV FTSE line during multiple years of focused surveys (see Section E.7.1.2).

- Munz's onion
- Heart-leaved pitcher sage
- Rainbow manzanita
- Hammitt's clay-cress

The overall impacts to special status plant species are considered significant and not mitigable to less than significant levels (Class I) because of the following: (1) one listed and three non-listed sensitive plant species are known to occur in the 500 kV FTSE based on survey results for the LEAPS project; (2) 45 other special status plant species have a moderate to high potential to occur in the 500 kV FTSE, including 10 listed plant species; and (3) the possibility exists that the results of complete conclusive surveys would result in a significant impact. Impacts to special status plant species are significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2c, B-5a(FT), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2c Avoid sensitive features. [BIO-APM-18]

B-5a(FT) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

B-5b Delineate sensitive plant populations. [BIO-APM-16]

B-5c No collection of plants or wildlife. [BIO-APM-13]

B-5d Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class II)

Direct mortality of small mammals; reptiles; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8 below); and other less mobile species would occur during construction of the 500 kV Future Expansion corridor. This action would result primarily during habitat clearing, earth removal, grading, digging, and equipment movement. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Noise, dust, and visual disturbances from increased human activity, and exhaust fumes from heavy equipment used during construction would result in habitats adjacent to the construction zone being temporarily unattractive to wildlife. Construction would affect wildlife in adjacent habitats by interfering with breeding or foraging activities, altering movement patterns, or causing animals to temporarily avoid areas adjacent to the construction zone. Nocturnally active (i.e., active at night) wildlife would be affected less by construction than diurnally active (i.e., active during the day) species since construction would occur primarily during daylight hours (there may be some exceptions if construction occurs in the desert during the summer months).

Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances would result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding season.

The use of access roads by construction/maintenance vehicles would result in accidental road-killed wildlife if these species were to be on the roads when they are used. Diurnally active (i.e., active during the day) reptiles and small mammals are the most likely to be subject to vehicle-caused mortality.

All of these impacts to general wildlife would be significant according to Significance Criterion 4.a. (prevent access to foraging habitat, breeding habitat, water sources, or other areas necessary for survival and reproduction) and Significance Criterion 4.d. (adversely affect animal behavior through increased noise or nighttime lighting). Impacts to general wildlife from construction would be reduced to less than significant with the implementation of Mitigation Measures B-1c(FT), B-1f, B-2a(FT), B-2b, B-6a, B-6b, B-6c, and B-6d (Class II). The mitigation measures include biological monitoring, personnel training, restricting work to within predetermined limits of construction, prohibiting litter, clearing brush and trimming trees outside the breeding season, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. Impacts to listed or sensitive wildlife species are addressed in Impact B-7 below.

Mitigation Measures for Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality

- B-1c(FT) Conduct biological monitoring.**
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-6a Littering is not allowed.** [BIO-APM-7]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-6c Protect mammals and reptiles in excavated areas.** [BIO-APM-24, BIO-APM-26]
- B-6d Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife, or a direct loss of habitat for listed or sensitive wildlife (Class I)

The least Bell's vireo, southwestern willow flycatcher, golden eagle, arroyo toad, and Stephens' kangaroo rat, are expected to occur in the 500 kV FTSE and are discussed in Impacts B-7D, B-7E, B-7H, B-7K, and B-7L, respectively. The bald eagle, quino checkerspot butterfly, coastal California gnatcatcher, and San Diego and/or Riverside fairy shrimp have moderate to high potential to occur in the 500 kV FTSE

and are discussed in Impacts B-7I, B-7J, B-7M, and B-7N, respectively. The arroyo chub is known to occur in San Juan Creek, downstream of where the 500 kV FTSE and is discussed in Impact B-7R. The Swainson's hawk has potential to migrate across the project area and is discussed in Impact B-10.

Nine non-listed, sensitive wildlife species were documented along or near the route of the portion of LEAPS that overlaps the 500 kV FTSE (see Section E.7.1.2). No listed species were observed during LEAPS surveys.

- Coastal California newt
- Cooper's hawk
- Coastal rosy boa
- Southern California rufous-crowned sparrow
- Red-diamond rattlesnake
- Loggerhead shrike
- Coast (San Diego) horned lizard
- California spotted owl
- Two-striped garter snake

The 500 kV FTSE has the potential to significantly impact the following 28 non-listed, sensitive animal species (see Special Status Wildlife Species section above in Environmental Setting). These impacts are significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

Most of the non-listed, sensitive species' habitats (see Table D.2-4) are sensitive vegetation communities, including those present in the 500 kV FTSE. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a(FT)) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(FT) may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-1e, B-1f, B-1i, B-2a(FT), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(FT) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats. These measures include providing mitigation for impacts to sensitive vegetation communities and jurisdictional areas, conducting biological monitoring, covering steep-walled trenches or excavations to prevent wildlife entrapment, personnel training, removing raptor nests when inactive, reducing construction night lighting, and minimizing construction traffic volume and speed.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

- B-6a** **Littering is not allowed.** [BIO-APM-7]
- B-6b** **Survey areas for brush clearing.** [BIO-APM-9]
- B-6c** **Protect mammals and reptiles in excavated areas.** [BIO-APM-24, BIO-APM-26]
- B-6d** **Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-7a(FT)** **Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).**

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo is known to occur in the 500 kV FTSE. Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the species has been documented near MP 12 and MP 40.5. The 500 kV FTSE would cross designated least Bell's vireo critical habitat at MP 40.5 and MP 49. Multiple years of USFWS protocol surveys were conducted for this species between the 500 kV FTSE MP 60 and MP 91.2 (as part of the LEAPS project — see Impact B-7D in Section E.7.1.2), and none was found. Focused surveys for the vireo have not been conducted along the rest of the 500 kV FTSE.

Construction of the 500 kV FTSE has the potential to directly impact least Bell's vireo through removal of occupied habitat. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to least Bell's vireo designated critical habitat would be significant according to Significance Criterion 1.d. (substantial adverse effect through temporary or permanent disturbance of designated critical habitat for federal listed species). Any direct impact to the vireo, its designated critical habitat, or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7e(FT).

Additionally, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Such excessive noise would be a significant impact on vireo breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e(FT) that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

- B-1a(FT)** **Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT)** **Conduct biological monitoring.**
- B-2a(FT)** **Provide restoration/compensation for affected jurisdictional areas.**
- B-7e(FT)** **Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

The southwestern willow flycatcher is known to occur in the 500 kV FTSE. Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, a population of approximately 25 breeding pairs of southwestern willow flycatchers is known to occur between MP 11 and MP 12. The species has been documented near MP 40.5. The 500 kV FTSE would cross southwestern willow flycatcher designated critical habitat, which occurs near the Central-East Substation (MP 0), MP 25, MP 40.5, MP 49, and MP 58. Multiple years of USFWS protocol surveys were conducted for this species between the 500 kV FTSE MP 41 and MP 91.2 (as part of the LEAPS project — see Impact B-7D in Section E.7.1.2), and none was found. Focused surveys for the flycatcher have not been conducted along the rest of the 500 kV FTSE.

Construction of the 500 kV FTSE has the potential to directly impact southwestern willow flycatcher through removal of occupied habitat. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to southwestern willow flycatcher designated critical habitat would be significant according to Significance Criterion 1.d. (substantial adverse effect through temporary or permanent disturbance of designated critical habitat for federal listed species). Any direct impact to the southwestern willow flycatcher, its designated critical habitat, or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7e(FT).

Additionally, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). This impact would be significant according to Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Such excessive noise would be a significant impact on vireo breeding but is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e(FT) that requires monitoring for disturbance of nesting activities and taking action to stop the disturbance.

Mitigation Measures for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7e(FT) Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I)

Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I), especially if there is direct line-of-sight between the nest site and the human activity, or if the human activity occurs above the nest site in elevation. An exception to this is if the activity within 4,000 feet of the nest site (without direct line-of-site and activity is below the nest site) occurs where there is already an existing disturbance such as a road or utility corridor.

There is one golden eagle nest area that occurs less than 4,000 feet from the 500 kV FTSE. The specific location of this nest area is not disclosed in this EIR/EIS in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. Impacts to this eagle pair from construction of this project would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest area and the project (less than 4,000 feet) and the direct line-of-sight that would occur. Implementation of Mitigation Measure B-7h, is required to, at least in part, compensate for impacts to the golden eagle.

Impacts to golden eagle would be significant according to Significance Criteria 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g (result in the abandonment of migratory bird nests and/or eggs), and 1.h. (take golden eagles, eagle eggs, or any part of an eagle). Although the Future Expansion would result in unmitigable impacts to golden eagles, the project would implement Mitigation Measure B-7h (No construction or maintenance activities within 4,000 feet or line of site of an eagle nest during breeding season) to minimize direct impacts to the species.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (Class II)

The 500 kV FTSE has the potential to impact bald eagle. Bald eagle is known to nest west of Lake Henshaw (Bittner, 2007), approximately 3 miles south of the 500 kV FTSE. The species has moderate potential to fly through the 500 kV FTSE while foraging near Lake Henshaw. The species also has high potential to fly through the 500 kV FTSE to forage at Lake Elsinore. The anticipated routes have the potential to indirectly impact bald eagle through the loss of foraging habitat. These impacts would be a significant according to Significance Criteria 1.a. (impact to one or more individuals of a species that is federal or State listed as endangered or threatened),. Impacts to the bald eagle would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1i, B-1j, and B-7h.

Mitigation Measures for Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the quino checkerspot butterfly (QCB) is not known to occur within the 500 kV FTSE. The nearest known location of QCB is approximately 3 miles from MP 91.2. Nearly the entire 500 kV FTSE occurs within USFWS protocol Survey Areas 2 and 5. The 500 kV FTSE would cross approximately 2.2 miles of QCB designated critical habitat between MP 89 and MP 91.2. Six years of USFWS protocol surveys were conducted for this species between the 500 kV FTSE MP 41 and MP 91.2 (as part of the LEAPS project — see Impact B-7J in Section E.7.1.2), and no QCB was found. Focused surveys for the QCB have not

been conducted along the rest of the 500 kV FTSE. The QCB has a low to moderate potential to occur between MP 0 and MP 41.

The 500 kV FTSE has the potential to impact QCB through the direct loss of habitat, loss of critical habitat, and the loss of individual butterflies. Impacts to QCB would be significant according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.d. (substantial adverse effect through temporary or permanent disturbance of designated critical habitat for federal listed species). Impacts to QCB are significant and not mitigable to less than significant (Class I) because adequate land required by Mitigation Measure B-7i (FT) may not be available. However, Mitigation Measures B-1a(FT), B-1c(FT), B-1i, B-1j, B-2a(FT), and B-7i(FT) are required to, at least in part, minimize impacts to QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(FT) Conduct biological monitoring.

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.

B-7i(FT) Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/-minimization/compensation strategies.

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

Based on a literature review of CNDDDB records, USFWS records, and USDA Forest Service records, the arroyo toad is known to occur near the 500 kV FTSE MP 8.0, MP 40.5, MP 58, MP 66, and MP 69. However, multiple years of USFWS protocol surveys were conducted for this species between the 500 kV FTSE MP 60 and MP 91.2 (as part of the transmission only component of the LEAPS project — see Impact B-7J in Section E.7.1.2), and no arroyo toad was found. Surveys for arroyo toad were conducted between the 500 kV FTSE MP 41 and 60 (as part of the Talega-Escondido 230 kV Transmission Upgrades of the LEAPS project — see Impact B-7J in Section E.7.1.2), and the arroyo toad was found near 500 kV FTSE MP 52. Focused surveys for the arroyo toad have not been conducted along the rest of the 500 kV FTSE. The FTSE would not cross designated critical habitat for this species.

The 500 kV FTSE has the potential to impact arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment). Impacts to arroyo toad would be significant according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). These impacts would be significant but mitigable to less than significant levels (Class II) through implementation of Mitigation Measures B-1a that requires restoration/compensation for sensitive vegetation, B-1c(FT) that requires biological monitoring, B-2a that requires restoration/compensation for jurisdictional areas), and Mitigation Measure B-7j(FT) that restricts the removal of breeding habitat, relocates arroyo toads from the impact zone, protects arroyo toads by excluding them from impact areas with fencing, and mitigates for the temporary loss of toad habitat through on-site restoration and the permanent loss of toad habitat through off-site purchase and preservation of occupied toad habitat.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT) Conduct biological monitoring.**
- B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.**
- B-7j(FT) Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

Based on a literature review of CNDDB records, USFWS records, USDA Forest Service records, the LEAPS project (see Impact B-7L in Section E.7.1.2), and surveys completed for the Sunrise Powerlink Project, Stephens' kangaroo rat (SKR) is known to occur between MP 0 and MP 8, near MP 71, and between MP 89.5 and MP 91.2. A large population of SKR occurs around the existing Warner Substation, including known locations north and east of Lake Henshaw (Appendix 8c). Approximately the first 8 miles of the 500 kV FTSE would cross this large population.

The 500 kV FTSE has the potential to impact SKR and its occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction. Impacts to the SKR and its occupied habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species), but mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), B-7a(FT), and B-7k(FT) is required to, at least in part, minimize impacts to the SKR. Mitigation for impacts to SKR in portions of Riverside County can be accomplished through the SKR Fee Assessment Area associated with Western Riverside County's Multiple Species Habitat Conservation Plan.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT) Conduct biological monitoring.**
- B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.**
- B-7a(FT) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).**
- B-7k(FT) Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

No listed wildlife species were documented along or near the route of the proposed Lake-Pendleton 500 kV transmission line. The listed QCB, arroyo toad, coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher were believed to have moderate to high potential to occur based on the habitats present and the project's location in designated critical habitat (for the QCB and gnatcatcher). Therefore, multiple years of USFWS protocol surveys were conducted for these species, and none was found. Although the project occurs in special habitat management areas for the SKR, focused surveys

were not conducted for the species because the specific locations of project features were not designed until 2007; therefore, the SKR is assumed present in these areas.

Based on a literature review of CNDDDB records and USDA Forest Service records, the species is known to occur near MP 81 and MP 88.5. However, six years of USFWS protocol surveys were conducted for this species between the 500 kV FTSE MP 41 and MP 91.2 (as part of the LEAPS project — see Impact B-7J in Section E.7.1.2), and no coastal California gnatcatcher was found. Focused surveys for this species have not been conducted along the rest of the 500 kV FTSE. The 500 kV FTSE has the potential to cross designated critical habitat for this species in several locations: at MP 39, between MP 40 and MP 41, between MP 48 and MP 52, and between MP 87 and MP 91.2.

Direct and indirect impacts to the coastal California gnatcatcher (including noise impacts) and its occupied habitat from habitat removal and construction activity would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species) and Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Impacts to designated critical habitat would be significant according to Significance Criterion 1.d. (temporary or permanent disturbance of designated critical habitat for federal listed species). Impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(FT), B-1c(FT), B-2a(FT), and B-7I(FT).

Mitigation Measures for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

- B-1a(FT) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(FT) Conduct biological monitoring.**
- B-2a(FT) Provide restoration/compensation for affected jurisdictional areas.**
- B-7I(FT) Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7R: Direct or indirect loss of arroyo chub or direct loss of habitat (Class II)

The arroyo chub is considered highly sensitive because it is considered threatened in its native range, which includes San Juan Creek. It has been documented by the USDA Forest Service in the lower reaches of San Juan Creek. The 500 kV FTSE crosses San Juan Creek. Construction near the stream crossing could affect water quality in San Juan Creek and impact the arroyo chub downstream. Impacts to arroyo chub would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species). This impact would be significant but mitigable (Class II) with implementation of Mitigation Measures B-1e, B-1g, B-1i, and B-2c.

Mitigation Measures for Impact B-7R: Direct or indirect loss of arroyo chub or direct loss of habitat

- B-1e Train project personnel. [BIO-APM-2]**
- B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]**
- B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]**
- B-2c Avoid sensitive features. [BIO-APM-18]**

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The 500 kV FTSE would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(FT) and B-8b.

Mitigation Measures for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

- B-1e** **Train project personnel.** [BIO-APM-2]
- B-1f** **Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g** **Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h** **Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i** **Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2b** **Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c** **Avoid sensitive features.** [BIO-APM-18]
- B-6b** **Survey areas for brush clearing.** [BIO-APM-9]
- B-8a(FT)** **Conduct pre-construction surveys and monitoring for breeding birds.**
- B-8b** **Removal of raptor nests.** [BIO-APM-27]

Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies, linkages, wildlife movement corridors, and fish movement)

Future Expansion activities have the potential to significantly impact or restrict general wildlife movement and movement of fish according to Significance Criteria 4.a. (prevent wildlife access to foraging habitat, breeding habitat, water sources, or other areas necessary for their survival and reproduction), 4.b. (interfere with connectivity between blocks of habitat, or block or interfere with a local or regional wildlife corridor or linkage), 4.c. (result in fragmentation of a species' population) and 4.d. (increase noise or nighttime lighting in wildlife habitat or a wildlife corridor or linkage to adversely affect the behavior of the animals). Construction of the 500 kV FTSE is expected to cause wildlife to temporarily avoid habitat and movement corridors in the vicinity of construction activities. However, during project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier. Watercourses that have the potential to support fish and fish movement are expected to be spanned by project and not directly impacted.

Impacts to linkages, wildlife movement corridors, and movement of fish would be significant but mitigable (Class II) through the implementation of Mitigation Measures B-1e, B-1g, B-1i, B-2c, B-6d. These mitigation measures would keep vehicle traffic associated with 500 kV FTSE construction activities to a minimum volume and speed to prevent mortality of wildlife species that may be moving about, would use culverts and rocks for access to cross drainages so as not to cut off water flow, and would locate structures to span high value wildlife habitats.

Native wildlife nursery sites, primarily bat nursery colonies, that may be associated with rock crevices and caves would be affected by construction and human activity if humans approach an active nursery colony, if entrances to rock crevices or caves supporting nursery colonies become blocked (while active or inactive, perhaps by falling rock caused by construction), or if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony. Impacts to bat nursery colonies would be significant according to Significance Criterion 4 (impede the use of native wildlife nursery sites). This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1g, B-1i, B-2c, B-6d, and B-9a, which include surveying for bat colonies; prohibiting approach of, or entrance to, an active nursery colony site; and implementation of methods to minimize potential indirect impacts to a colony site from falling rock or substantial vibration.

Mitigation Measures for Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

- B-1e** **Train project personnel.** [BIO-APM-2]
- B-1g** **Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1i** **Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2c** **Avoid sensitive features.** [BIO-APM-18]
- B-6d** **Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-9a** **Survey for bat nursery colonies.**

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; and Class II for collision for non-sensitive species or daytime migration)

Electrocution. It is anticipated that the 500 kV FTSE would not present an electrocution risk to birds as noted for the Proposed Project.

Collision. The primary issue with respect to birds and the 500 kV FTSE is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. Most of this migration takes place at night. Only the birds of prey (i.e., raptors such as the Swainson's hawk and eagles), swallows, and kingbirds migrate primarily by day. According to the local eagle expert (Wildlife Research Institute, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. Almost all other migrating birds (in California, at least) migrate at night, unless they are transoceanic migrants like shorebirds or transcontinental migrants like jaegers that fly day and night at high altitudes (Unitt, 2007).

Since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has been pieced together from anecdotes), there is no way to know how many birds and what species of birds would actually be impacted by collision with Proposed Project transmission lines, towers, poles, or static wires. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to the Significance Criteria 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened), 1.f.

(directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species), and 1.g. (result in the killing of migratory birds).

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(FT), which requires the utilization of collision-reducing techniques such as site-sensitive tower/line placement and installation of bird flight diversion devices, requires a study to determine the effectiveness of such devices, and requires implementation of a reporting system to document bird mortality.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(FT) Utilize collision-reducing techniques in installation of transmission lines.

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003), which do not occur along near the 500 kV FTSE. The common raven has not been documented to prey on any other listed or sensitive wildlife in the vicinity of this option (Liebezeit et al., 2002), although the predation may still occur but would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of the 500 kV FTSE, including such activities as the use of existing access roads or regular brush clearing around project features, would result in disturbance to wildlife. These disturbances would include temporarily displacing animals and disrupting their breeding and/or foraging activities. Maintenance activities could also result in direct wildlife mortality (e.g., lizard crushed by truck tire). Disturbance to wildlife and potential wildlife mortality would be significant impacts according to Significance Criteria 1.a., 1.d. through 1.h., and 4.d. that include any impacts to one or more listed species (1.a.); disturbance of critical habitat (1.d.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); violation of the Bald Eagle Protection Act (1.h.), and impacts that increase noise or nighttime lighting in wildlife habitat or a wildlife corridor or linkage (4.d.).

Maintenance activities have the potential to impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a(FT).

Maintenance activities have the potential to impact the coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. Furthermore, maintenance activities would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h and B-12a(FT).

Maintenance activities have the potential to cause disturbance to, and possible mortality of, arroyo toad, and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-5c, B-6a, B-6b, B-12b, B-12c, and B-12d.

Impacts to SKR and non-sensitive wildlife from maintenance activities would be significant but mitigated to less than significant (Class II) with the implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-5c, B-6a, B-6b, and B-12d.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-6a** Littering is not allowed. [BIO-APM-7]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.
- B-12a(FT)** Conduct maintenance activities outside the general avian breeding season.
- B-12b** Conduct maintenance when arroyo toads are least active.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.
- B-12d** Protect wildlife.

D.2.19 Connected Actions and Indirect Effects

Section B.6 describes the other projects that have been found to be related to the Sunrise Powerlink Project. They fall into two categories:

- **Connected Actions.** The four projects found to be connected to the Sunrise Powerlink Project are the Stirling Energy Systems solar facility, two components of the IID 230 kV transmission system upgrades, the Esmeralda–San Felipe Geothermal Project, and the Jacumba Substation. Those projects are addressed in Sections D.2.19.1 through D.2.19.4.
- **Indirect Effects.** One project, the SCE La Rumorosa Wind Project, would create effects as a result of the construction and operation of the Sunrise Powerlink Project. That project is addressed in Section D.2.19.5.

D.2.19.1 Stirling Energy Systems Solar Two LLC Project

As agreed in a Power Purchase Agreement (PPA) approved by the CPUC, SDG&E would purchase up to 900 MW of solar power produced at a proposed 8,000-acre Concentrating Solar Power (CSP) facility in Imperial Valley (see Section B.6.1). At least 600 MW would be transmitted via the SRPL. Stirling Energy Systems Solar Two, LLC (SES) would construct, own, and operate the CSP facility and an associated 230 kV transmission line that parallels existing 500 kV SWPL. The CSP site would be leased by SES from BLM, and additional individual private parcels within the site boundaries would be acquired.

The transmission line would be constructed within a new ROW easement just north of and adjacent to the SWPL.

As described in Section B.6, the CPUC and BLM have determined that the Stirling CSP facility and associated 230 kV transmission line are so closely related to the SRPL Proposed Project as to be considered “connected actions” under NEPA. Therefore, the CSP site and transmission line are discussed in this EIR/EIS in order to fully disclose the potential for the SES project to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation measures to reduce potentially significant impacts of the CSP facility and transmission line are required in the environmental impact analysis below; however, implementation of these measures would be executed by SES at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the SES project, and it would require SES permit applications to CEC and BLM and compliance with CEQA and NEPA, followed by approvals from the CEC and BLM prior to construction on BLM lands.

Environmental Setting

The Stirling CSP site and transmission line are located in the Colorado Desert bioregion with hot, dry summers and cool, moist winters (CERES, 2003). According to generalized vegetation mapping of Imperial County, vegetation communities within the proposed CSP site and along the associated 230 kV transmission line consist of desert scrub and developed land (i.e., Plaster City and Interstate 8). Where the transmission line parallels the SRPL Proposed Project, the vegetation is Sonoran creosote bush scrub. Sonoran creosote bush scrub and other desert scrub vegetation communities are considered sensitive. Developed land is not considered a sensitive vegetation community.

Overview of Special Habitat Management Areas. The Stirling CSP site is located adjacent to the Yuha Basin ACEC, and the 230 kV transmission line would traverse seven miles of the ACEC (adjacent to the existing SWPL transmission line) as well as the Yuha Desert MA.

Designated Critical Habitat. No designated or proposed critical habitat for threatened or endangered species is located at the CSP site or along the associated 230 kV transmission line.

Special Status Plant Species. One State-listed rare plant species, Borrego bedstraw, has moderate potential to occur at the CSP site and along the transmission line. Two non-listed, special status plant species have moderate potential to occur: Peirson’s pincushion and sandfood (see Table D.2-4).

Special Status Wildlife Species. One State listed threatened species, the Swainson’s hawk, has potential to migrate through the Stirling CSP site and along the transmission line. The FTHL, although not listed, is highly sensitive and has high potential to occur at the CSP site and along the transmission line. According to the CNDDDB, FTHLs are present within the eastern half of the CSP site and along the transmission between MPs GT-0 and GT-5. The CSP site is located adjacent to the Yuha Basin ACEC, and the 230 kV transmission line would traverse seven miles of the ACEC (adjacent to the existing SWPL transmission line) as well as the Yuha Desert MA designated to protect core areas for maintaining self-sustaining populations of the FTHL in perpetuity.

The following 15 non-listed, special status animal species have moderate to high potential to occur at the Stirling CSP site and along the transmission line: coastal rosy boa, red-diamond rattlesnake, Colorado desert fringe-toad lizard, burrowing owl, ferruginous hawk, northern harrier, California horned lark,

prairie falcon, loggerhead shrike, western bluebird, crissal thrasher, Le Conte's thrasher, pallid bat, Colorado Valley woodrat, and pocketed free-tailed bat.

Environmental Impacts and Mitigation Measures

Approximately 6,500 acres of the Stirling CSP site would be developed with 36,000 CSP dishes; an estimated 525 miles of permanent, gravel access roads; approximately 16 230 kV towers; associated telecommunications facilities; and operations/maintenance buildings. However, since the entire 8,000-acre site would be surrounded by security fencing (Figure B-44c), all 8,000 acres are considered permanently impacted. A 230 kV transmission line would be built from the CSP site to the Imperial Valley Substation. The new transmission line would extend from the middle of the CSP site and would parallel the SWPL for approximately eight miles. The new tower footprints would be approximately 64 square feet with a median span of 800 to 1,100 feet between the towers. Given that the line would be approximately eight miles (42,240 feet) long, it would require approximately 39 to 53 structures depending on the span (a maximum of approximately 3,400 square feet of permanent impact from the tower footprints). No new transmission line access roads would be required as the transmission line would parallel the existing SWPL, and existing access roads would be utilized.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Stirling CSP facility and transmission line would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features) impacts to vegetation communities. Construction activities, particularly at the CSP site, would also result in the alteration of soil and surface conditions, including the loss of native seed banks, changes in topography and drainage. In addition to the permanent impact footprints of the CSP dishes, gravel access roads, telecommunications facilities, and operations/maintenance buildings, the 36,000 CSP dishes would cast a shadow over an estimated 4,000 acres within the fenced facility. In addition to the shading, an increase in water availability would occur during project operations, as the mirrored surfaces of the CSP dishes would be washed with de-mineralized water as many as 11 times annually with a total estimated water volume of 30 acre-feet per year (10 million gallons per year) for all three project phases. These project elements would substantially change the microclimate of the 8,000-acre site, which is anticipated to reduce or eliminate habitat suitability for many desert species. Therefore, all vegetation within the entire 8,000-acre fenced facility would be considered permanently impacted. Furthermore, a maximum of approximately 3,400 square feet of permanent impact would occur from the transmission line tower footprints. The quantified impacts to specific vegetation communities would be determined once final engineering for the SES project is complete and the limits of grading and any other ground-disturbance are defined.

These impacts would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. Since adequate mitigation land may not be available to compensate for the impacts to the sensitive vegetation communities that occur within the Stirling CSP site and along the transmission line, these impacts would be considered significant and not mitigable to less than significant levels (Class I). Impacts to developed land would be adverse but less than significant (Class III). No mitigation is required. Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to compensate, at least in part, for impacts to sensitive vegetation communities. The full text of the mitigation measures appears in Appendix 12.

Vegetation Management (Loss of Trees). This project would be located in a desert setting with sparse vegetation. No estimates have been made as to how many trees or shrubs would be removed or trimmed as part of vegetation management, but despite the desert habitat, it is possible that desert washes within the large CSP site support trees that would have to be removed for either CSP construction or for transmission line safety. Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a(CA) for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a(CA) is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines and the CSPs themselves could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. While fire risk is relatively low in the desert, fires do occur. Fire in the desert ecosystem also creates risk of type conversion, because desert habitat does not quickly recover from damage. While periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of southern California is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. If the project were to cause a fire or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified

as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I).

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities. Mitigation Measure B-1a(CA) is identical to Mitigation Measure B-1a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-1c(CA) Conduct biological monitoring. Mitigation Measure B-1c(CA) is identical to Mitigation Measure B-1c for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional waters (i.e., non-wetland areas regulated by the ACOE and RWQCB and/or CDFG) could occur from construction of the Stirling CSP facility and transmission line. Based on the vegetation communities present, jurisdictional wetlands are not anticipated to occur, but impacts to jurisdictional non-wetland waters could occur if drainages or washes are present. A formal jurisdictional delineation for the project would be conducted once project-specific features are sited and final engineering is complete. Then, impacts to jurisdictional areas can be clearly defined, and the project proponent can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. which states the project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1f, B-1g, B-2a(CA), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas. Mitigation Measure B-2a(CA) is identical to Mitigation Measure B-2a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-2c Avoid sensitive features. [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

In addition to construction activities that could introduce invasive, non-native, or noxious plant (weed) species (e.g., seed brought in on the soles of shoes, or on the tires and undercarriages of vehicles), the 36,000 CSP dishes will cast a shadow over an estimated 4,000 acres of the CSP facility. This shading, plus an increase in water availability from washing the CSP dishes 11 times annually with a total estimated water volume of 30 acre-feet per year (10 million gallons per year) would substantially change the microclimate of the 8,000-acre site, which is anticipated to reduce or eliminate habitat suitability for many desert species, and may increase habitat suitability for others including invasive, non-native, or noxious plant species that could spread to the surrounding desert area.

The inadvertent introduction of non-native plant species is a special concern for desert plant communities. Non-native plants pose a threat to the natural processes of plant community succession and fire frequency, and can affect the biological diversity and species composition of native plant communities. The survival of some populations of special status species could be adversely affected by the success of an introduced plant species. The introduction of non-native or noxious weeds would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds of non-native plant species. The SES project would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1j, B-2a(CA), and B-3a(CA).

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-3a(CA) Prepare and implement a Weed Control Plan. Mitigation Measure B-3a(CA) is identical to Mitigation Measure B-3a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class III)

Construction activities such as grading, tower footing excavation, and driving on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact the plants’ photosynthetic capabilities and degrade the overall vegetation community resulting in an adverse effect on riparian or other sensitive vegetation communities (Significance Criterion 2.b.) through the spread of fugitive dust (Significance Criterion 2.c.). However, desert vegetation is typically subject to windblown sand and dust, and the additional levels of dust from construction or maintenance of the project would not be expected to significantly impact the photosynthetic capabilities of plants in the surrounding areas. Therefore, this impact would be considered adverse but less than significant (Class III). No mitigation would be required.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts could be caused by direct loss of known locations of individuals, or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction.

One State-listed rare plant species, Borrego bedstraw, has moderate potential to occur at the Stirling CSP site and along the transmission line. Two non-listed, special status plant species have moderate potential to occur: Peirson’s pincushion and sandfood (see Table D.2-4).

Because a survey for special status plant surveys has not been conducted, it is not possible to assess the impacts to them, so impacts to special status plant species would be considered significant and not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2a(CA), B-2c, B-5a(CA), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2a(CA)** Provide restoration/compensation for affected jurisdictional areas.
- B-2c** Avoid sensitive features. [BIO-APM-18]
- B-5a(CA)** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-5a(CA) is identical to Mitigation Measure B-5a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, USFWS, CDFG, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-5b** Delineate sensitive plant populations. [BIO-APM-16]
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-5d** Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct mortality of small mammals, reptiles, and other less mobile species would occur during construction of the Stirling CSP facility and associated transmission line. This action would result primarily from the construction at the CSP site and the clearing of tower footprints. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Impact B-7. Deaths related to construction would be incurred primarily by burrow-dwelling animals; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8); and species with limited mobility (lizards, snakes, ground squirrels). More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during land clearing and grading. Construction activities and human presence can also alter or disrupt the breeding and foraging behaviors of wildlife. Due to the large extent of disturbance, wildlife species found at the CSP site would not be expected to recolonize post construction; they would be expected to recolonize along the transmission line, however. Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality) is discussed in greater detail in Section D.2.10.

Except where wildlife habitats are known to support sensitive, rare, threatened, or endangered species or nesting birds (addressed in Impacts B-7, B-7A, and B-8), all of the impacts on general, non-special status wildlife from construction of the CSP site and transmission line would be adverse but less than significant (Class III). No mitigation is required.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I)

One State listed threatened species, the Swainson’s hawk, has potential to migrate through the Stirling CSP site and along the transmission line. Impacts to the Swainson’s hawk are discussed in Impact B-10. The CSP site and transmission line construction and operation would impact the highly sensitive FTHL (see Impact B-7A) and has the potential to significantly impact the following 15 non-listed, sensitive animal species. These impacts would be significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

- Coastal rosy boa
- Red-diamond rattlesnake
- Colorado desert fringe-toad lizard
- Burrowing owl
- Ferruginous hawk
- Northern harrier
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Western bluebird
- Crissal thrasher
- Le Conte's thrasher
- Pallid bat
- Colorado Valley woodrat
- Pocketed free-tailed bat

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities, including desert scrubs. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a(CA)) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(CA) may not be available, the impacts to non-listed, sensitive wildlife species would be considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1e, B-1f, B-1i, B-2a(CA), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(CA) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-6a Littering is not allowed. [BIO-APM-7]

B-6b Survey areas for brush clearing. [BIO-APM-9]

B-6c Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]

B-6d Reduce construction night lighting on sensitive habitats. [BIO-APM-29]

B-7a(CA) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals). Mitigation Measure B-7a(CA) is identical to Mitigation Measure B-7a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

The FTHL has high potential to occur at the CSP site and along the transmission line. According to the CNDDDB, FTHLs are present within the eastern half of the CSP site and along the transmission line between Mileposts GT-0 and GT-5. The 230 kV transmission line would traverse seven miles of the ACEC (adjacent to the existing SWPL transmission line) as well as the Yuha Desert FTHL MA.

Project construction would impact FTHL MA through habitat removal and would cause harm or harassment and direct disturbance to FTHLs (mortality and loss of habitat). These impacts would be significant according to Significance Criteria 1.c. and 1.f. Significance Criterion 1.c. states that the project would have a substantial adverse effect on FTHL MAs. Significance Criterion 1.f. states that the project would directly or indirectly cause the mortality of a special status wildlife species. These impacts would not be mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), B-7a(CA), and B-7b(CA) are required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of the SES project include increased predation of FTHLs by round-tailed ground squirrels that are attracted to roads, and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. which states that the project would directly or indirectly cause the mortality of a special status wildlife species. Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b(CA) per the compensation requirements of the Flat-Tailed Horned Lizard Rangelwide Management Strategy that accounts for “indirect deleterious impacts” (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b(CA) may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7a(CA) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

B-7b(CA) Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangelwide Management Strategy. Mitigation Measure B-7b(CA) is identical to Mitigation Measure B-7b for the Proposed Project with the exception that CPUC shall be replaced with “Lead Agencies”, and State Parks and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The SES project area contains a variety of vegetation communities as well as transmission towers that provide sites for bird nests. Construction activities would disturb vegetation and have the potential to impact nesting birds. Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. These impacts, including noise in excess of 60 dB(A) Leq at a nest site during the breeding season (American Institute of Physics, 2005), could result in the displacement of breeding birds, abandonment of active nests, or accidental nest destruction. With the exception of a few non-native bird species, all active bird nests are fully protected against take pursuant to the federal Migratory Bird Treaty Act. It is unlawful to take, possess, or destroy the nest or eggs of any such bird.

The SES project would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(CA), and B-8b.

Mitigation Measures for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

- B-1e** **Train project personnel.** [BIO-APM-2]
- B-1f** **Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g** **Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h** **Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i** **Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2b** **Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c** **Avoid sensitive features.** [BIO-APM-18]
- B-6b** **Survey areas for brush clearing.** [BIO-APM-9]
- B-8a(CA)** **Conduct pre-construction surveys and monitoring for breeding birds.** Mitigation Measure B-8a(CA) is identical to Mitigation Measure B-8a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, and State Parks, USDA Forest Service, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.
- B-8b** **Removal of raptor nests.** [BIO-APM-27]

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class III)

The desert location of the Stirling CSP site and transmission line consists of desert washes that carry only intermittent or ephemeral flows in response to seasonal rain events. None of the washes contain perennial flows and are not expected to support fish and other species that are dependent on permanent water sources. The CSP site and transmission corridor do not contain designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat nursery colonies in the SES project area.

Due to the large extent of the CSP site that is completely fenced, wildlife would generally not be able to move through it and would have to traverse long distances to move around it, unlike the along the transmission line. However, the impacts that would occur to wildlife (i.e., species without special status) movement at the CSP site would not be expected to reduce populations within or adjacent to it below self-sustaining levels, and impacts to wildlife movement would be considered adverse but less than significant (Class III). No mitigation is required.

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact for electrocution; Class I for collision with CSP dishes and for listed species; Class II for collision for non-sensitive species with transmission line)

A detailed discussion of impacts on birds from electrocution and/or collision is presented under Impact B-10 in Section D.2.14. It is anticipated that the SES project's 230 kV transmission line would not present an electrocution risk to birds.

The Stirling CSP dishes reach a maximum height of 45 feet, and birds may be confused by the mirrored surfaces of the dishes that reflect the sky and fly into them. Avian mortality as a result of collision with CSP dishes is anticipated to be significant according to the following Significance Criteria. Significance Criterion 1.a. states that the project would impact one or more individuals of a species that is federal or State listed as endangered or threatened. Significance Criterion 1.f. states that the project would directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species, and Significance Criterion 1.g. states that the project would result in the killing of migratory birds. This impact would be significant and not mitigable to less than significant levels (Class I).

Additionally, mortality as a result of collision with transmission project features would be greatest where the movements of migrating birds are the most concentrated. However, there is no known concentrated movement of migrating birds in Imperial Valley in the vicinity of the SES project. Observations of Swainson's hawks in the Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks (Unitt, 2007).

Even though there is no known concentrated movement of migrating birds in Imperial Valley in the vicinity of the SES project, since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has had to be pieced together from anecdotes), it is not known how many birds and what species of birds could actually be impacted by collision with the transmission lines, towers, poles, or static wires. Therefore, it is assumed that some migrating species could be federally or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criteria 1.a., 1.f, and 1.g.

For non-sensitive species or species that migrate during the day, collision would be significant but mitigable to less than significant levels (Class II) for the transmission line (which would parallel the existing 500 kV SWPL) with implementation of Mitigation Measure B-10a(CA).

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(CA) Utilize collision-reducing techniques in installation of transmission lines. Mitigation Measure B-10a(CA) is identical to Mitigation Measure B-10a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", State Parks, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II)

Common ravens are known to nest on transmission towers, and they are also known to be opportunistic and will prey upon wildlife species in the vicinity of perching and nesting sites. Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The common raven has not been documented to prey

on any other listed or sensitive wildlife in the SES project area (Liebezeit et al., 2002), although the predation may still occur. The new transmission line towers would result in an increase in potential nesting and perching sites for common ravens where the FTHL occurs and in a potential increase in predation of the FTHL by ravens.

With respect to predation of FTHL by ravens, this impact would be significant according to Significance Criterion 1.c. which states that the project would have a substantial adverse effect on FTHL MAs by permanent disturbance and Significance Criterion 1.f. which states that the project would indirectly cause the mortality of special-status wildlife species. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a.

Mitigation Measure for Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a Prepare and implement a Raven Control Plan.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of the Stirling CSP facility and transmission line, including such activities as the use of existing access roads or regular brush clearing around project features, would result in disturbance to wildlife. These disturbances would include temporarily displacing animals and disrupting their breeding and/or foraging activities. Maintenance activities could also result in direct wildlife mortality (e.g., lizard crushed by truck tire). Disturbance to wildlife and wildlife mortality would be significant according to Significance Criterion 1.c. (disturbance to FTHL MAs), Significance Criterion 1.f. (impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species), Significance Criterion 1.g. (violation of the Migratory Bird Treaty Act), and Significance Criterion 2.b (substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced [this impact would degrade wildlife habitat]). Impacts to wildlife from maintenance activities would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-3a(CA), B-5c, B-6a, B-6b, B-7b, B-12a(CA), and B-12d.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]**
- B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]**
- B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]**
- B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]**
- B-3a(CA) Prepare and implement a Weed Control Plan.**
- B-5c No collection of plants or wildlife. [BIO-APM-13]**
- B-6a Littering is not allowed. [BIO-APM-7]**
- B-6b Survey areas for brush clearing. [BIO-APM-9]**
- B-7b Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.**
- B-12a(CA) Conduct maintenance activities outside the general avian breeding season. Mitigation Measure B-12a(CA) is identical to Mitigation Measure B-12a for the Proposed Project with the**

exception that CPUC and BLM shall be replaced with “Lead Agencies”, State Parks, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”.

B-12d Protect wildlife. No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all Project areas except for those used by security personnel.

D.2.19.2 IID Transmission System Upgrades

As part of Phase 2 of the Imperial Valley Study Group’s development plan (see Section A.4.3), IID would construct a new 230 kV line from the Bannister Substation to a new San Felipe 500/230 kV Substation to interconnect to the proposed Imperial Valley to San Diego 500 kV line (i.e., the SRPL line). This San Felipe Substation could potentially provide an additional interconnection between the IID and CAISO systems, and thus another point for the delivery of renewable resources to Southern California loads. IID would construct, own, and operate these upgrades. The Bannister Substation is planned to be built by IID with or without the SRPL, so impacts to biological resources from its construction are not considered in this analysis.

As described in Section B.6, the CPUC and BLM have determined that these IID Transmission System Upgrades are so closely related to the SRPL Proposed Project as to be considered “connected actions” under NEPA. Therefore, IID Transmission System Upgrades are discussed in this EIR/EIS in order to fully disclose the potential for a Bannister–San Felipe 230 kV transmission line and new San Felipe 500/230 kV Substation to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation measures to reduce potentially significant impacts of the IID Transmission System Upgrades projects are required in the environmental impact analysis below; however, implementation of those measures would be executed by IID at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the IID Transmission System Upgrades discussed below, and the projects would require applications by IID, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.

Environmental Setting

The IID Transmission Systems Upgrades (Project) area occurs in the Colorado Desert, which is the western extension of the Sonoran desert, which covers southern Arizona and northwestern Mexico. Summers are hot and dry, and winters are cool and moist (CERES, 2003). The following types of vegetation communities occur in the project area based on mapping done for the SRPL Proposed Project: desert scrub and dune habitats (the predominant communities), riparian scrub (i.e., tamarisk scrub), and disturbed habitat.

San Felipe 500/230 kV Substation. This substation would be located east of the existing San Felipe Substation. The predominant vegetation community at this substation site appears to be desert saltbush scrub based on nearby mapping done for the SRPL Proposed Project.

IID Bannister–San Felipe 230 kV Transmission Line. The predominant vegetation communities along this route are Sonoran creosote bush scrub and desert saltbush scrub based on nearby mapping done for the SRPL Proposed Project. Other types of desert vegetation communities (Sonoran desert scrub, sand dunes, desert dry wash woodland, tamarisk scrub, non-vegetated channel, and disturbed habitat) may also be found along this route based on nearby mapping done for the SRPL Proposed Project.

Overview of Special Habitat Management Areas. The transmission line travels adjacent to FTHL MA from approximately MP IID 0 through MP IID 8. From approximately MP IID 8 through MP IID 15 it travels between FTHL MA south of SR78 and Ocotillo Wells State Vehicular Recreation Area Research Area (RA) for the FTHL north of SR78. This RA was established to encourage FTHL research funded by the California Department of Parks and Recreation's Division of Off-Highway Motor Vehicle Recreation. The RA is approximately 77,000 acres in size; approximately 47,000 acres are owned by the state; 22,000 acres are owned by BLM; and the state is actively acquiring the remaining 8,000 acres of private land within the RA (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). Finally, the transmission line travels adjacent to FTHL MA from approximately MP IID 15 through 18.

Designated Critical Habitat. The transmission line would cross over a small portion of desert pupfish critical habitat at San Felipe Creek at the SR78/SR86 intersection near MP IID 8.

Special Status Plant Species. One State-listed rare plant species, Borrego bedstraw, has moderate potential to occur in the project area. Two non-listed, special status plant species have moderate potential to occur: Peirson's pincushion and sandfood (see Table D.2-4).

Special Status Wildlife Species. The federal and State listed endangered desert pupfish is known to occur in the San Felipe Creek drainage that the transmission line would cross near MP IID 8.

Although the potential for the federal and State listed threatened desert tortoise to occur in the project area is low according to the USFWS and BLM, it does have some potential to occur between MP IID 8 and MP IID 26.3 of the route and at the San Felipe Substation site. No desert tortoise critical habitat or desert tortoise management areas occur in the project area. Focused surveys for the tortoise were conducted in 2007 from SRPL MP 40 to MP 75 (includes MP IID 8 and MP IID 26.3) in the PSA and a zone of influence (2,400 feet from the edge of the PSA) where ROE permission was granted. One-hundred percent of the PSA and approximately 60 percent of the zone of influence was surveyed from SRPL MP 40 through 75. The desert tortoise was not found. Since it has low potential to occur between SRPL MP 40 and 75, it is unlikely that it would occur in the areas that were not surveyed, either.

One State listed threatened species, the Swainson's hawk, has potential to migrate across the in the project area. Observations of Swainson's hawks in the Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the eastern portion of the SRPL Proposed Project (i.e., through the project area), the migration is probably scattered until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

The FTHL, a non-listed but highly sensitive species, is expected to occur in the project area since the transmission line travels through approximately 10.5 miles of FTHL MA and along the edge of FTHL MA for approximately another 7.5 miles. FTHL MAs are designated to protect core areas for maintaining self-sustaining populations of the FTHL in perpetuity.

The burrowing owl, another non-listed but highly sensitive species, has high potential to occur in the project area. Burrowing owl surveys were conducted for the SRPL Proposed Project in potential habitat from SRPL MP 0 through MP 68 (where ROE was granted; includes MP IID 0 through MP IID 26.3). No burrowing owls were found from MP IID 0 through MP IID 26.3 but still could occur where surveys could not be conducted due to lack of ROE permission.

The following 14 non-listed, special status animal species have moderate to high potential to occur in the project area: coastal rosy boa, red-diamond rattlesnake, Colorado desert fringe-toad lizard, ferruginous

hawk, northern harrier, California horned lark, prairie falcon, loggerhead shrike, western bluebird, crissal thrasher, Le Conte's thrasher, pallid bat, Colorado Valley woodrat, and pocketed free-tailed bat.

Environmental Impacts and Mitigation Measures

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the project would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers, substation equipment, and permanent access roads) impacts to vegetation communities. Towers for a 230 kV line would result in 60 to 80 square feet of permanent disturbance per tower. Assuming towers are spaced at an average of approximately 900-foot intervals, the transmission line itself would require approximately 171 towers and would create 10,260 to 13,680 square feet (0.24 to 0.31 acres) of permanent habitat loss in addition to habitat lost from new access road construction. The San Felipe Substation would be approximately 20 acres in size. The quantified impacts to specific vegetation communities would be determined once final engineering for the project is complete and the limits of grading and any other ground-disturbance are defined.

Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all. Impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to disturbed habitat would be adverse but less than significant, and no mitigation is required (Class III--unless it is in a FTHL MA [see Impact B-7A]). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Vegetation Management (Loss of Trees). This transmission project would be located in a desert setting with sparse vegetation. No estimates have been made as to how many trees or shrubs would be removed or trimmed as part of vegetation management, but despite the desert habitat, it is possible that desert washes along the transmission line route or at the future substation support trees that would have to be removed for either substation construction or for transmission line safety. Non-native trees or shrubs may be present as well. The loss or trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal or trimming of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II).

Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of

the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a(CA) for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a(CA) is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. While fire risk is relatively low in the desert, fires do occur. Fire in the desert ecosystem also creates risk of type conversion, because desert habitat does not quickly recover from damage. While periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of southern California is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. If the project were to cause a fire or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I).

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys. [BIO-APM-1]**
- B-1e Train project personnel. [BIO-APM-2]**
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]**
- B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]**
- B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]**
- B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]**
- B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]**

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the project. Based on the hydrologic study for the SRPL Proposed Project, there are approximately 25 identified watercourses that the project's 230 kV transmission line would cross, including San Felipe Creek, Fish Creek Wash, and Tarantula Wash. Other minor watercourse crossings may be found along the route. Furthermore, the following vegetation communities that occur in Project area (based on mapping done for the SRPL Proposed Project) are often jurisdictional: desert dry wash woodland, tamarisk scrub, and non-vegetated channel. A formal jurisdictional delineation for the project would be conducted once project-specific features are sited and final engineering is complete. Then, impacts to jurisdictional areas can be clearly defined, and the project proponent can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. which states the project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1f, B-1g, B-2a(CA), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys. [BIO-APM-1]**
- B-1e Train project personnel. [BIO-APM-2]**
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]**
- B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]**
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]**

B-2c Avoid sensitive features. [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

The inadvertent introduction of non-native plant species is a special concern for desert plant communities. Non-native plants pose a threat to the natural processes of plant community succession, fire frequency, and can affect the biological diversity and species composition of native plant communities. The survival of some populations of special status species could be adversely affected by the success of an introduced plant species. The introduction of non-native or noxious weeds from construction of the project would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds of non-native plant species. The project would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1j, B-2a(CA), and B-3a(CA).

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-3a(CA) Prepare and implement a Weed Control Plan.

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class III)

Construction activities such as grading, tower footing excavation, and driving on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact the plants' photosynthetic capabilities and degrade the overall vegetation community resulting in an adverse effect on riparian or other sensitive vegetation communities (Significance Criterion 2.b.) through the spread of fugitive dust (Significance Criterion 2.c.). However, desert vegetation is typically subject to windblown sand and dust, and the additional levels of dust from construction or maintenance of the project would not be expected to significantly impact the photosynthetic capabilities of plants in the surrounding areas. Therefore, this impact would be considered adverse but less than significant (Class III). No mitigation would be required.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts could be caused by direct loss of known locations of individuals, or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction.

One State-listed rare plant species, Borrego bedstraw, has moderate potential to occur at the San Felipe Substation site and along the transmission line. Two non-listed, special status plant species have moderate potential to occur: Peirson's pincushion and sandfood (see Table D.2-4).

Because a survey for special status plant surveys has not been conducted, it is not possible to assess the impacts to them, so impacts to special status plant species would be considered significant and not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2c, B-5a(CA), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-2c Avoid sensitive features. [BIO-APM-18]

B-5a(CA) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

B-5b Delineate sensitive plant populations. [BIO-APM-16]

B-5c No collection of plants or wildlife. [BIO-APM-13]

B-5d Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct mortality of small mammals, reptiles, and other less mobile species would occur during construction of the project. This action would result primarily from the use of construction vehicles and the grading of the San Felipe Substation site, access roads, and laydown areas for tower erection. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Impact B-7. Deaths related to construction would be incurred primarily by burrow-dwelling animals; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8); and species with limited mobility (lizards, snakes, ground squirrels). More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during land clearing and grading. Construction activities and human presence can also alter or disrupt the breeding and foraging behaviors of wildlife. Due to the large extent of disturbance, wildlife species found at the San Felipe Substation site would not be expected to recolonize post construction; they would be expected to recolonize along the transmission line, however. Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality) is discussed in greater detail in Section D.2.10.

Except where wildlife habitats are known to support sensitive, rare, threatened, or endangered species or nesting birds (addressed in Impacts B-7, B-7A, B-7C, B-7F, B-7G, and B-8), all of the impacts on general, non-special status wildlife from construction of the project would be adverse but less than significant (Class III). No mitigation is required.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I)

The FTHL is expected to occur in the project area and is discussed in Impact B-7A. The burrowing owl has high potential to occur in the project area and is discussed in Impact B-7C. The desert pupfish is known to occur in the San Felipe Creek drainage near MP IID 8. It is discussed in Impact B-7F. The desert tortoise has low potential to occur in the project area and was not found there during surveys in 2007. It is discussed in Impact B-7G. The Swainson's hawk has potential to migrate across the project area and is discussed in Impact B-10.

The project has the potential to significantly impact the following 14 non-listed, sensitive animal species. These impacts would be significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

- Coastal rosy boa
- Red-diamond rattlesnake
- Colorado desert fringe-toad lizard
- Ferruginous hawk
- Northern harrier
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Western bluebird
- Crissal thrasher
- Le Conte's thrasher
- Pallid bat
- Colorado Valley woodrat
- Pocketed free-tailed bat

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities, including those present in the project area. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a(CA)) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(CA) may not be available, the impacts to non-listed, sensitive wildlife species would be considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1e, B-1f, B-1i, B-2a(CA), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(CA) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-6a Littering is not allowed. [BIO-APM-7]

- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-6c** Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]
- B-6d** Reduce construction night lighting on sensitive habitats. [BIO-APM-29]
- B-7a(CA)** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

Impact B-7A for the SRPL Proposed Project provides a detailed description of the FTHL in Section D.2.11. The FTHL is expected to occur in the project area since the transmission line travels through approximately 10.5 miles of FTHL MA (and along the edge of FTHL MA for approximately another 7.5 miles). The project would impact FTHL MA through habitat removal and would cause harm or harassment and direct disturbance to FTHLs (mortality and loss of habitat). These impacts would be significant according to Significance Criteria 1.c. and 1.f. Significance Criterion 1.c. states that the project would have a substantial adverse effect on FTHL MAs. Significance Criterion 1.f. states that the project would directly or indirectly cause the mortality of a special status wildlife species. These impacts would not be mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), B-7a(CA), and B-7b(CA) are required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of the project include increased predation of FTHLs by round-tailed ground squirrels that are attracted to roads, and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 for a specific discussion of common raven predation). Where the new transmission line occurs within or immediately adjacent to FTHL MA (i.e., from approximately MP IID 0 through MP IID 18), enhanced predation on FTHL by loggerhead shrikes and other avian predators that perch on transmission towers and line would be significant according to Significance Criterion 1.f. which states that the project would directly or indirectly cause the mortality of a special status wildlife species. Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b(CA) per the compensation requirements of the Flat-Tailed Horned Lizard Rangewide Management Strategy that accounts for “indirect deleterious impacts” (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b(CA) may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a(CA)** Provide restoration/compensation for affected sensitive vegetation communities.
- B-1c(CA)** Conduct biological monitoring.
- B-2a(CA)** Provide restoration/compensation for affected jurisdictional areas.
- B-7a(CA)** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

Impact B-7C for the SRPL Proposed Project provides a detailed description of the burrowing owl in Section D.2.11. Although no burrowing owls were found in the project area (i.e., from MP IID 0 through MP IID 26.3), they still have high potential to occur where surveys could not be conducted due to lack of ROE permission.

Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (6.5 acres associated with a single burrow) loss even when impacts to individual owls and burrows are avoided. The inability to avoid such impacts would be significant according to Significance Criterion 1.f. which states that the project would have a substantial adverse effect on a special-status wildlife species through direct or indirect impacts. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), and B-7d(CA). With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls) and with the mitigation options available per the CDFG (see Mitigation Measure B-7d), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measures for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7d(CA) Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies. Mitigation Measure B-7d(CA) is identical to Mitigation Measure B-7d for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies” and State Parks shall be replaced with “other agencies that have jurisdiction over the project”.

Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat (Class II)

Impact B-7F for the SRPL Proposed Project provides a detailed description of the desert pupfish in Section D.2.11. The 230 kV transmission line would cross critical habitat for the desert pupfish at San Felipe Creek near MP IID 8. This critical habitat is assumed occupied by the desert pupfish; focused surveys for it were not conducted for the SRPL. By virtue of its probable design, the 230 kV line would likely avoid direct impacts to San Felipe Creek by locating towers and access roads on either side of the creek.

However, there would still be the potential to impact pupfish habitat if construction activity accidents (e.g., equipment loses traction and slides down toward the creek pushing sediment as it slides) cause sedimentation of the creek. This sedimentation impact would be significant according to Significance Criterion 1.a. (the project would have a substantial adverse effect on a listed species) and Significance Criterion 1.d. (the project would disturb critical habitat). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), and B-7f(CA).

Mitigation Measures for Impact B-7F: Direct or indirect loss of desert pupfish or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7f(CA) Minimize potential impacts to desert pupfish habitat. Mitigation Measure B-7f(CA) is identical to Mitigation Measure B-7f for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies” and State Parks shall be replaced with “other agencies that have jurisdiction over the project”.

Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat (Class II)

Impact B-7G for the SRPL Proposed Project provides a detailed description of the desert tortoise in Section D.2.11. Although the potential for this species to occur along the 230 kV transmission line is low according to the USFWS and BLM, it does have potential to occur between MP IID 8 and MP IID 26.3 and at the San Felipe Substation site.

Any direct or indirect impact to the desert tortoise or its occupied habitat (e.g., vehicle crushing a tortoise, habitat removal) would be significant according to Significance Criterion 1.a. that states that the project would have a substantial adverse effect on one or more individuals of a species that is federal or State listed by habitat modification. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), and B-7g(CA).

Mitigation Measures for Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7g(CA) Implement appropriate avoidance/minimization strategies for desert tortoise. Mitigation Measure B-7g(CA) is identical to Mitigation Measure B-7g for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies” and State Parks shall be replaced with “other agencies that have jurisdiction over the project”.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The project area contains a variety of vegetation communities as well as transmission towers that provide sites for bird nests. Construction activities would disturb vegetation and have the potential to impact nesting birds. Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. These impacts, including noise in excess of 60 dB(A) Leq at a nest site during the breeding season (American Institute of Physics, 2005), could result in the displacement of breeding birds, abandonment of active nests, or accidental nest destruction. With the exception of a few non-native bird species, all active bird nests are fully protected against take pursuant to the federal Migratory Bird Treaty Act. It is unlawful to take, possess, or destroy the nest or eggs of any such bird.

The project would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(CA), and B-8b.

Mitigation Measure for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

B-8a(CA) Conduct pre-construction surveys and monitoring for breeding birds.

- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c Avoid sensitive features.** [BIO-APM-18]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-8b Removal of raptor nests.** [BIO-APM-27]

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class III)

The desert location of the project consists of desert washes that carry only intermittent or ephemeral flows in response to seasonal rain events. Subsequently, most of the washes do not contain perennial flows and are not expected to support fish and other species that are dependent on permanent water sources, other than the desert pupfish whose critical habitat occurs in San Felipe Creek near MP IID 8 (see Impact B-7F). By virtue of its probable design, the 230 kV line would likely avoid direct impacts to San Felipe Creek and the desert pupfish by locating towers and access roads on either side of the creek. The 230 kV transmission line corridor and San Felipe Substation site are not designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat colonies in the project area.

Due to the 20-acre size of San Felipe Substation that would be completely fenced, wildlife would generally not be able to move through it and would have to traverse distances to move around it, unlike the along the transmission line. For reasons of safety and security, it would not be possible to leave openings in the fence for wildlife to move through the substation site. However, the impacts that would occur to wildlife (i.e., species without special status) movement at the San Felipe Substation would not be expected to reduce populations within or adjacent to the project area below self-sustaining levels, and impacts to wildlife movement are considered adverse but less than significant (Class III). No mitigation is required.

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

Impact B-10 for the SRPL Proposed Project provides a detailed description of the impacts on birds from electrocution and/or collision in Section D.2.14. It is anticipated that the 230 kV transmission line would not present an electrocution risk to birds.

Avian mortality as a result of collision with project features would be greatest where the movements of migrating birds are the most concentrated. The 230 kV route from MP IID 18 through MP IID 26.3 is considered to be a highly utilized avian flight path (Unitt, 2007). Observations of Swainson's hawks in the Imperial Valley to the east demonstrate that the species is a regular there, but most observations are of

scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the project area, the migration is probably diffuse until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

Since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has had to be pieced together from anecdotes), there is no way to know how many birds and what species of birds could actually be impacted by collision with transmission lines, towers, poles, or static wires. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to the following Significance Criteria. Significance Criterion 1.a. states that the project would impact one or more individuals of a species that is federal or State listed as endangered or threatened. Significance Criterion 1.f. states that the project would directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species, and Significance Criterion 1.g. states that the project would result in the killing of migratory birds.

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(CA).

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(CA) Utilize collision-reducing techniques in installation of transmission lines. Mitigation Measure B-10a(CA) is identical to Mitigation Measure B-10a for the Proposed Project with the exception that CPUC and BLM shall be replaced with "Lead Agencies", State Parks, and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project". The highly utilized avian flight path in the second bullet for this Project is from MP IID 18 through MP IID 26.3.

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II)

Common ravens are known to nest on transmission towers, and they are also known to be opportunistic and will prey upon wildlife species in the vicinity of perching and nesting sites. Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The common raven has not been documented to prey on any other listed or sensitive wildlife in the project area (Liebezeit et al., 2002), although the predation may still occur.

Where the new transmission line occurs within or immediately adjacent to FTHL MA (i.e., from approximately MP IID 0 through MP IID 18), enhanced predation on FTHL by common ravens that nest on transmission towers would be significant according to Significance Criterion 1.f. which states that the project would directly or indirectly cause the mortality of a special status wildlife species. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a.

Where the new transmission line occurs within or immediately adjacent to potential desert tortoise habitat (i.e., from approximately MP IID 8 through MP IID 26.3), enhanced predation on desert tortoise by common ravens that nest on transmission towers would be significant according to Significance Criterion

1.f. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a(CA).

Mitigation Measure for Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a(CA) Prepare and implement a Raven Control Plan. Mitigation Measure B-11a(CA) is identical to Mitigation Measure B-11a for the Proposed Project with the exception that the Raven Control Plan shall be implemented from MP IID 0 through MP IID 26.3 for this Project.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of the San Felipe Substation and 230 kV transmission line, including such activities as the use of existing access roads or regular brush clearing around project features, would result in disturbance to wildlife. These disturbances would include temporarily displacing animals and disrupting their breeding and/or foraging activities. Maintenance activities could also result in direct wildlife mortality (e.g., lizard crushed by truck tire). Disturbance to wildlife and wildlife mortality would be significant according to Significance Criteria 1.a., 1.c. through 1.h., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance to FTHL MAs (1.c.); disturbance of critical habitat (1.d.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat).

Impacts to wildlife from maintenance activities would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-3a(CA), B-5c, B-6a, B-6b, B-7b, B-12a(CA), and B-12d.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-3a(CA)** Prepare and implement a Weed Control Plan.
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-6a** Littering is not allowed. [BIO-APM-7]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
- B-12a(CA)** Conduct maintenance activities outside the general avian breeding season.
- B-12d** Protect wildlife.

D.2.19.3 Esmeralda–San Felipe Geothermal Project

An EIS is currently being prepared by BLM to analyze the leasing of geothermal resources exploration, development, and utilization in the Truckhaven Geothermal Leasing Area (Truckhaven) located in western Imperial County, California (see Figure B-46). Currently, BLM has non-competitive geothermal lease applications pending for portions of this land, including lease applications from Esmeralda Energy, LLC (Esmeralda; see Figure B-46); however, the land must first be assessed under NEPA regulations before leases are granted. Under the Proposed Action analyzed in the EIS, BLM would approve the pending non-competitive leases and offer competitive leases for all other available lands at Truckhaven.

The Esmeralda–San Felipe Geothermal Project (Project) would develop 20 MW of geothermal resources within the Truckhaven; however, Esmeralda is not able to submit a project application to BLM for the project until its pending lease applications with BLM for Truckhaven are approved. In the absence of a formal project application, it is assumed that roughly half of the components identified under the Reasonably Foreseeable Development (RFD) scenario in BLM’s Truckhaven EIS would apply to the project. Additionally, the description of the environmental setting and likely impacts in this analysis are partially adapted from the Draft EIS for Truckhaven (February 2007). The RFD describes the anticipated development that would occur at Truckhaven to facilitate geothermal resources exploration, development, and utilization should the leases be approved by BLM and includes new wells, a power plant and transmission lines as described in Section B.6.3. Geothermal energy uses heat from the earth, extracted through geothermal wells in the form of steam or brine, which is then transported via pipeline and used to drive turbines, which drive electricity generation.

As described in Section B.6, the CPUC and BLM have determined that the project is so closely related to the SRPL Proposed Project as to be considered a “connected action” under NEPA. Therefore, the project is discussed in this EIR/EIS in order to fully disclose the potential for a new geothermal plant and associated linears to be constructed as a result of the presence of the SRPL (if it is approved and constructed). Mitigation measures to reduce potentially significant impacts of the project are required in the environmental impact analysis below; however, implementation of those measures would be executed by Esmeralda at the time of project permitting and approval.

Approval of the SRPL would not result in automatic approval of the project, and the project would require applications by Esmeralda, compliance with CEQA and NEPA, followed by approvals from the BLM prior to construction on BLM lands.

Environmental Setting

The Truckhaven is located in the Salton Basin of the Colorado Desert bioregion with hot, dry summers and cool, moist winters (CERES, 2003). The predominant vegetation in the Truckhaven is comprised of drought-tolerant plants, such as small, hard-leaved, or spiny shrubs, cacti, and hard grasses. The two major vegetation communities within the Truckhaven are creosote bush scrub and saltbush scrub. Creosote bush scrub is predominated by creosote bush (*Larrea tridentata*) and also contains burrobush/white bursage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), ocotillo (*Fouquieria splendens*), and saltbushes (*Atriplex* spp.). Saltbush scrub, which is a temperate, broad-leaved, evergreen shrubland that is common on basin floors typically includes species such as fourwing saltbush (*Atriplex canescens*), shadscale (*Atriplex confertifolia*), big saltbush (*Atriplex lentiformis*), and allscale (*Atriplex polycarpa*). Eastern parts of Truckhaven area and areas bordering the Salton Sea include the allscale vegetation community, which is often considered a subset of saltbush scrub. Individual plants in all these vegetation communities are widely spaced and provide little ground cover. Some portions of the Truckhaven may have no visible

plants and are made of shifting sand dunes or nearly sterile salt flats. Depending on the duration and intensity of rainfall, perennial and annual species vary.

Invasive species that occur in Truckhaven include Sahara mustard (*Brassica tournefortii*) and tamarisk (*Tamarix sp.*). There are no wetlands or riparian vegetation communities located within or immediately adjacent to Truckhaven, although there are several ephemeral streams that traverse it.

Due to the sandy, mountainous, and arid environment, surface water resources (including springs, seeps, or slow-moving streams) in the Truckhaven are negligible and are not able to support fish. The poor habitat conditions, limited foraging, high average temperatures, sparse precipitation, and limited vegetation cover limit the number of species and size of wildlife populations.

Areas of the Salton Basin, including Truckhaven, are home to a variety of resident and migrating and wintering birds. Although the Truckhaven does not include the Salton Sea (see Figure B-46), the northeast corner of it is within two miles of the western shoreline. Migratory birds may potentially transition through Truckhaven during migration; however, it is unlikely the migrating birds remain for long periods due to a lack of suitable habitat.

Mammal species found in the Truckhaven include desert pocket mouse (*Perognathus spp.*), desert kangaroo rat (*Dipodomys deserti*), rabbits, and ground squirrels. In addition, large wildlife species such as mule deer (*Odocoileus hemionus*) or coyote (*Canis latrans*) may occur.

Overview of Special Habitat Management Areas. Virtually the entire Truckhaven is within the Ocotillo Wells State Vehicular Recreation Area RA for the FTHL. This RA was established to encourage FTHL research funded by the California Department of Parks and Recreation's Division of Off-Highway Motor Vehicle Recreation. The RA is approximately 77,000 acres in size; approximately 47,000 acres are owned by the state; 22,000 acres are owned by BLM; and the state is actively acquiring the remaining 8,000 acres of private land within the RA (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003).

Designated Critical Habitat. No designated or proposed critical habitat for threatened or endangered species is located in the Truckhaven area.

Special Status Plant Species. Orcutt's woody aster, a BLM sensitive species, is the only special status plant species with recorded occurrences in Truckhaven. The following 10 special status plant species have potential to occur within or adjacent to Truckhaven: Harwood's milk-vetch, elephant tree (*Bursera microphylla*), crucifixion thorn, Pierson's pincushion, flat-seeded spurge, brown turbans, Robinson's monardella (*Monardella robinsonii*), Orocopia sage (*Salvia greatae*), Coves' cassia, and Mecca aster (*Xylorhiza cognate*).

Special Status Wildlife Species. The FTHL and Le Conte's thrasher are expected to occur at Truckhaven due to CNDDDB occurrence records in the immediate area. Due to the presence of suitable habitat, the following species have high potential to occur in the Truckhaven: Colorado Desert fringe-toed lizard and prairie falcon. Two mammals have moderate potential to occur in the Truckhaven: pallid bat and pocketed free-tailed bat.

Environmental Impacts and Mitigation Measures

As stated in BLM's Draft EIS for Truckhaven, the following BMPs and other mitigation measures would be included/considered in Plans of Operation, which are required for surface-disturbing activi-

ties, in order to minimize adverse impacts to resources and uses in the Truckhaven. Since these measures may only be considered in Plans of Operation, they are included in this analysis as separate mitigation measures for this Project or are already included in existing mitigation measures.

- Where feasible, vehicle traffic would use existing roads.
- Before new drilling pads or other land disturbance is conducted, surveys of the affected areas would be conducted to identify any special status species populations to be avoided in the area.

In addition, the following measures would be included/considered in leasing agreements by BLM before permitting a geothermal project to minimize the potential impact to the FTHL:

- Complying with the applicable mitigation and compensation measures set forth in the Flat-Tailed Horned Lizard Rangewide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003)
- Funding and implementing a FTHL protective signing program along all roads within Truckhaven
- Surfacing (with asphalt, gravel, chemical or physical stabilizers or other surfacing acceptable to the authorized officer) all new access roads within Truckhaven to reduce the amount of time that FTHLs may spend on these access roads
- Agreeing that the BLM reserves the right to require additional mitigation measures should monitoring of the FTHL populations within Truckhaven by the BLM show an appreciable decrease in relative abundance which is not correlated with decreases in neighboring, undeveloped sections, or if impacts unacceptable to the authorized officer are observed to either the FTHL population or its habitat.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I sensitive vegetation, vegetation management, and type conversion; Class III non-sensitive vegetation)

Adverse impacts to native vegetation would include impacts from surface-disturbing activities associated with construction. The development and utilization of geothermal energy could have adverse impacts to vegetation from the construction of well pads, wells, ponds, power plants, access roads, pipelines, transmission lines, other generation or transmission facilities, and any temporary extra workspace. Construction of the project would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features) impacts to vegetation. As described in Section B.6.3, it is expected that a geothermal project such as Esmeralda-San Felipe within Truckhaven would result in approximately 235 acres of permanent disturbance. The quantified impacts to specific vegetation communities would be determined during a separate environmental impact assessment that will be conducted at the time an application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to biological resources within the project area.

Construction activities may also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all. All of these impacts would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. Since adequate mitigation land may not be available to compensate for the impacts to the sensitive vegetation communities, these impacts would be considered significant and not mitigable to less than significant levels (Class I). Impacts to non-sensitive vegetation communities, if present, would be adverse but less than significant, and no mitigation would be required (Class III).

Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to compensate, at least in part, for impacts to sensitive vegetation communities.

Vegetation Management (Loss of Trees). The Truckhaven Esmeralda project would be located in a desert setting with sparse vegetation. No estimates have been made as to how many trees or shrubs would be removed or trimmed as part of vegetation management, but despite the desert habitat, it is possible that desert washes within the site support trees that would have to be removed for either project construction or for transmission line safety. Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a(CA) for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a(CA) is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines, as well as the geothermal project itself, could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. While fire risk is relatively low in the desert, fires do occur. Fire in the desert ecosystem also creates risk of type conversion, because desert habitat does not quickly recover from damage. While periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of southern California is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species,

especially those of special status. If the project were to cause a fire or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys.** [BIO-APM-1]
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-1j Protect and restore vegetation.** [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

Direct and/or indirect impacts to jurisdictional waters (i.e., non-wetland areas regulated by the ACOE and Regional Water Quality Control Board [RWQCB] and/or CDFG) could occur from construction of the project. Exploratory drilling and associated surface disturbances could cause soil to become contaminated with construction-related materials, such as oils, greases, hydraulic fluids, etc. Pollutants and contaminated soil have the potential to enter jurisdictional waters and, ultimately, the Salton Sea.

A formal jurisdictional delineation for the project would be conducted once project-specific features are sited and final engineering is complete. Then, impacts to jurisdictional areas can be clearly defined, and the project proponent can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. which states the project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1f, B-1g, B-2a(CA), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys.** [BIO-APM-1]
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c Avoid sensitive features.** [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

The inadvertent introduction of non-native plant species is a special concern for desert plant communities. Non-native plants pose a threat to the natural processes of plant community succession and fire frequency, and can affect the biological diversity and species composition of native plant communities. The survival of some populations of special status species could be adversely affected by the success of an introduced plant species. The introduction of non-native or noxious weeds would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds of non-native plant species. Therefore, the project would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1j, B-2a(CA), and B-3a(CA).

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1j Protect and restore vegetation.** [BIO-APM-20, BIO-APM-23, BIO-APM-25]
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-3a(CA) Prepare and implement a Weed Control Plan.**

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class III)

Construction activities such as grading, excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact the plants' photosynthetic capabilities and degrade the overall vegetation community resulting in a significant adverse effect on riparian or other sensitive vegetation communities (Significance Criterion 2.b.) through the spread of fugitive dust (Significance Criterion 2.c.). However, desert vegetation is typically subject to windblown sand and dust, and the additional levels of dust from construction or maintenance of the project would not be expected to significantly

impact the photosynthetic capabilities of plants in the surrounding areas. Therefore, this impact would be considered adverse but less than significant (Class III). No mitigation would be required.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts could be caused by direct loss of known locations of individuals, or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction.

Orcutt's woody aster, a BLM sensitive species, is the only special status plant species with recorded occurrences in Truckhaven. The following 10 special status plant species have potential to occur within or adjacent to Truckhaven: Harwood's milk-vetch, elephant tree, crucifixion thorn, Pierson's pincushion, flat-seeded spurge, brown turbans, Robinson's monardella, Orocopia sage, Coves' cassia, and Mecca aster. A separate environmental impact assessment will be conducted at the time an application is received by BLM. Pursuant to NEPA, this assessment will inventory and analyze impacts to biological resources within the project area.

Because a survey for special status plant surveys has not been conducted, it is not possible to assess the impacts to them, so impacts to special status plant species would be considered significant and not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2a(CA), B-2c, B-5a(CA), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys. [BIO-APM-1]**
- B-1e Train project personnel. [BIO-APM-2]**
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]**
- B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]**
- B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]**
- B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]**
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2c Avoid sensitive features. [BIO-APM-18]**
- B-5a(CA) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.**
- B-5b Delineate sensitive plant populations. [BIO-APM-16]**
- B-5c No collection of plants or wildlife. [BIO-APM-13]**
- B-5d Salvage sensitive species for replanting or transplanting. [BIO-APM-22]**

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct mortality of small mammals, reptiles, and other less mobile species would occur during construction of the project. This action would result primarily from construction of well pads, wells, ponds, power plants, access roads, pipelines, transmission lines, other generation or transmission facilities, and any temporary extra workspace. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Impact B-7 and B-7A. Deaths related to construction would be incurred primarily by burrow-dwelling animals; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8); and species with limited mobility (lizards, snakes, ground squirrels). More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during land clearing and grading. Construction activities and human presence can also alter or disrupt the breeding and foraging behaviors of wildlife. Due to the large extent of disturbance, wildlife species found at the project site would not be expected to recolonize post construction; they would be expected to recolonize along the transmission line, however. Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality) is discussed in greater detail in Section D.2.10.

Except where wildlife habitats are known to support sensitive, rare, threatened, or endangered species or nesting birds (addressed in Impacts B-7, B-7A, and B-8), all of the impacts on general, non-special status wildlife from construction of the project would be adverse but less than significant (Class III). No mitigation would be required.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I)

The project would impact the highly sensitive FTHL (see Impact B-7A) and has the potential to significantly impact the following five non-listed, sensitive animal species. These impacts are significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

- Le Conte's thrasher
- Pallid bat
- Colorado desert fringe-toad lizard
- Pocketed free-tailed bat
- Prairie falcon

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a(CA)) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(CA) may not be available, the impacts to non-listed, sensitive wildlife species would be considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1e, B-1f, B-1i, B-2a(CA), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(CA) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-6a Littering is not allowed.** [BIO-APM-7]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-6c Protect mammals and reptiles in excavated areas.** [BIO-APM-24, BIO-APM-26]
- B-6d Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-7a(CA) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).**

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

Project construction would impact FTHL RA through habitat removal and would cause harm or harassment and direct disturbance to FTHLs (mortality and loss of habitat). These impacts would be significant according to Significance Criterion 1.f. which states that the project would directly or indirectly cause the mortality of a special status wildlife species. These impacts would not be mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), B-7a(CA), B-7b(CA), and B-7m are required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of the project include increased predation of FTHLs by round-tailed ground squirrels that are attracted to roads, and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. which states that the project would directly or indirectly cause the mortality of a special status wildlife species. Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b(CA) per the compensation requirements of the Flat-Tailed Horned Lizard Rangeland Management Strategy that accounts for “indirect deleterious impacts” (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b(CA) may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**

- B-7a(CA)** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b(CA)** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.
- B-7m** Implement mitigation measures/best management practices from BLM's Draft EIS for the Truckhaven Geothermal Leasing Area. The following BMPs and other mitigation measures shall be included in the project's Plans of Operation.
- Before new drilling pads or other land disturbance is conducted, surveys of the affected areas would be conducted to identify any special status species populations to be avoided in the area.
 - Fund and implement a FTHL protective signing program along all roads within the project area.
 - Surface all new access roads (with asphalt, gravel, chemical or physical stabilizers or other surfacing acceptable to the authorized officer) within the project area to reduce the amount of time that FTHLs may spend on these access roads.
 - Agree that the BLM reserves the right to require additional mitigation measures should monitoring of the FTHL populations within the Truckhaven area by the BLM shows an appreciable decrease in relative abundance which is not correlated with decreases in neighboring, undeveloped sections, or if impacts unacceptable to the authorized officer are observed to either the FTHL population or its habitat.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The project area contains a variety of vegetation communities that provide sites for bird nests. Construction activities would disturb vegetation and have the potential to impact nesting birds. Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. These impacts, including noise in excess of 60 dB(A) Leq at a nest site during the breeding season (American Institute of Physics, 2005), could result in the displacement of breeding birds, abandonment of active nests, or accidental nest destruction. With the exception of a few non-native bird species, all active bird nests are fully protected against take pursuant to the federal Migratory Bird Treaty Act. It is unlawful to take, possess, or destroy the nest or eggs of any such bird.

The project would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(CA), and B-8b.

Mitigation Measure for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

- B-1e** Train project personnel. [BIO-APM-2]
- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1g** Build access roads at right angles to streambeds and washes. [BIO-APM-5]

- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-2c** Avoid sensitive features. [BIO-APM-18]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-8a(CA)** Conduct pre-construction surveys and monitoring for breeding birds.
- B-8b** Removal of raptor nests. [BIO-APM-27]

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class III)

The desert location of the project site consists of desert washes that carry only intermittent or ephemeral flows in response to seasonal rain events. None of the washes contain perennial flows and are not expected to support fish and other species that are dependent on permanent water sources. The Truckhaven area does not contain designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat nursery colonies in the project area.

Since it is anticipated that the project sites would be fenced, wildlife would generally not be able to move through them and would have to traverse distances to move around them, unlike the along the transmission line. However, the impacts that would occur to wildlife (i.e., species without special status) movement would not be expected to reduce populations within or adjacent to the project area below self-sustaining levels, and impacts to wildlife movement would be considered adverse but less than significant (Class III). No mitigation would be required.

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact for Electrocution; Class I for Collision for listed species; Class II for Collision for non-sensitive species or daytime migration)

A detailed discussion of impacts on birds from electrocution and/or collision is presented under Impact B-10 in Section D.2.14. Although the design specifications of the transmission line for the project have not been determined, most transmission lines carry at least 110 kV. Therefore, it is anticipated that the transmission line would not present an electrocution risk to birds.

Avian mortality as a result of collision with transmission project features are greatest where the movements of migrating birds are the most concentrated. However, there is no known concentrated movement of migrating birds in Imperial Valley, although the northeastern corner of Truckhaven is within two miles of the Salton Sea which is a major resting stop along the Pacific Flyway. Since most birds migrate at night, and migration corridors have never been studied systematically (their use by birds has had to be pieced together from anecdotes), there is no way to know how many birds and what species of birds could actually be impacted by collision with transmission lines, towers, poles, or static wires. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to the following Significance Criteria. Significance Criterion 1.a. states that the project would impact one or more individuals of a species that is federal or State listed as endangered or threatened. Significance Criterion 1.f. states that the project would directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife species, and Significance Criterion 1.g. states that the project would result in the killing of migratory birds. Still, Mitigation Measure B-10a(CA).

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(CA).

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(CA) Utilize collision-reducing techniques in installation of transmission lines. Mitigation Measure B-10a(CA) is identical to Mitigation Measure B-10a for the Proposed Project with the exception that CPUC and BLM shall be replaced with “Lead Agencies”, State Parks, and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”. Since the project is near the Pacific Flyway, all overhead transmission lines associated with the project shall be marked (see second bullet of Mitigation Measure B-10a).

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II)

Common ravens are known to nest on transmission towers, and they are also known to be opportunistic and will prey upon wildlife species in the vicinity of perching and nesting sites. Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The common raven has not been documented to prey on any other listed or sensitive wildlife in the project area (Liebezeit et al., 2002), although the predation may still occur. The new transmission line towers would result in an increase in potential nesting and perching sites for common ravens where the FTHL occurs and in a potential increase in predation of the FTHL by ravens.

With respect to predation of FTHL by ravens, this impact would be significant according to Significance 1.f. which states that the project would indirectly cause the mortality of special-status wildlife species. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a(CA).

Mitigation Measure for Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a(CA) Prepare and implement a Raven Control Plan. Mitigation Measure B-11a(CA) is identical to Mitigation Measure B-11a for the Proposed Project with the exception that the Raven Control Plan shall be prepared and implemented where the project occurs in FTHL RA.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of Project facilities, including such activities as the use of existing access roads or regular brush clearing around project features, would result in disturbance to wildlife. These disturbances would include temporarily displacing animals and disrupting their breeding and/or foraging activities. Maintenance activities could also result in direct wildlife mortality (e.g., lizard crushed by truck tire). Disturbance to wildlife and wildlife mortality would be significant according to Significance Criterion 1.f. (impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species), Significance Criterion 1.g. (violation of the Migratory Bird Treaty Act), and Significance Criterion 2.b. (substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced [this impact would degrade wildlife habitat]). Impacts to wildlife from maintenance activities would be

significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-3a(CA), B-5c, B-6a, B-6b, B-7b, B-12a(CA), and B-12d.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-3a(CA)** Prepare and implement a Weed Control Plan.
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-6a** Littering is not allowed. [BIO-APM-7]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangeland Management Strategy.
- B-7m** Implement mitigation measures/best management practices from BLM's Draft EIS for the Truckhaven Geothermal Leasing Area.
- B-12a(CA)** Conduct maintenance activities outside the general avian breeding season.
- B-12d** Protect wildlife. No wildlife, including rattlesnakes, may be harmed except to protect life and limb. Firearms shall be prohibited in all Project areas except for those used by security personnel.

D.2.19.4 Jacumba Substation

In its testimony during the CPUC's Phase 1 hearings on the need and economics of the Proposed Project, SDG&E staff stated that a new 230/500 kV substation would be required to allow future wind generation projects to transmit generated power via the existing 500 kV Southwest Powerlink (SWPL) transmission line. The SWPL currently has limited available capacity, but if the Sunrise Powerlink Project is approved and constructed, some electricity currently carried by the SWPL will be transmitted via Sunrise, making more capacity available on the SWPL. There are a number of possible new wind generation projects near the Jacumba area (about 5 miles west of the San Diego/Imperial County line), some in San Diego County (Crestwood wind area) and some in Mexico (La Rumorosa wind area). Therefore, the impacts of this substation are evaluated as part of the Proposed Project.

This 230/500 kV substation would allow incoming transmission lines at 230 kV from wind farms in either the Crestwood or La Rumorosa areas. The power would be transformed to 500 kV in order to allow it to be transmitted via the SWPL to the Miguel Substation in San Diego. The substation is assumed to occupy about 20 acres, and while its location has not been defined by SDG&E, for the purposes of this EIR/EIS it is assumed to be located approximately 0.5 miles northwest of the town of Jacumba, adjacent to the existing SWPL transmission line. Figure B-47 illustrates the approximate location and size of the substation area. Approval of the SRPL would not result in automatic approval of the Jacumba Substation discussed below, and the project would require applications by SDG&E, and compliance with CEQA and NEPA.

Environmental Setting

The Jacumba Substation site is located in the Colorado Desert bioregion (CERES, 2003). The substation would occur along the Interstate 8 Alternative, at about MP I8-35 on private land. The substation site (based on review of aerial photography) consists of a grassland community that is sensitive. Grassland communities are described in Section D.2.1.2.2.

Overview of Special Habitat Management Areas. The Jacumba Substation does not occur within a special habitat management area.

Designated Critical Habitat. The Jacumba Substation occurs within designated critical habitat for the QCB, and the substation site may support a USFWS reference population of the QCB.

Special Status Plant Species. A list of special status plant species with potential to occur at the Jacumba Substation site is based on published literature, sources readily available on the Internet, California Natural Diversity Database (CNDDB) records searches, United States Department of Agriculture (USDA) Forest Service records searches (USDA, 2007), State and federal species lists, and habitat field surveys for the SWPL Alternatives (see Section E.1.2.1; the I-8 Alternative occurs nearby). No listed plant species have potential to occur at the Jacumba Substation site. The following non-listed, sensitive plant species have moderate to high potential to occur. For more specific information about the special status plant species and their sensitivity status, see Table E.1.2-1.

- Jacumba milk-vetch
- Tecate tarplant

Special Status Wildlife Species. The listed QCB is expected to be found on the Jacumba Substation site because the site is located at/near a USFWS QCB reference population for the species. The highly sensitive golden eagle is not known to nest in the vicinity of this site (Bittner, 2007).

A list of special status wildlife species with potential to occur at the Jacumba Substation site is based on published literature, sources readily available on the Internet, California Natural Diversity Database (CNDDB) records searches, United States Department of Agriculture (USDA) Forest Service records searches (USDA, 2007), State and federal species lists, and habitat field surveys for the SWPL Alternatives (see Section E.1.2.1; the I-8 Alternative occurs nearby). The following non-listed, sensitive wildlife species have moderate to high potential to. For more specific information about the special status wildlife species and their sensitivity status, see Table E.1.2-2.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Northern harrier
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Northwestern San Diego pocket mouse
- Pallid San Diego pocket mouse
- Jacumba little pocket mouse
- Pallid bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- American badger

Environmental Impacts and Mitigation Measures

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation; No Impact vegetation management and type conversion)

Construction of the Jacumba Substation would cause permanent displacement of an estimated 20 to 25 acres of sensitive grassland vegetation with a substation facility. Impacts to sensitive vegetation would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. This impact is not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impact. Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to, at least in part, compensate for impacts to sensitive vegetation. The full text of the mitigation measures appears in Appendix 12.

Vegetation Management (Loss of Trees). The Jacumba Substation (considered here without transmission lines) would be constructed in a grassland, and no vegetation would need to be removed or trimmed to maintain proper clearance between vegetation and transmission lines (No Impact).

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines, as well as the geothermal project itself, could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. The Jacumba Substation is located at the western edge of the desert ecosystem, in an area where some fires have historically occurred. Fire in the desert ecosystem also creates risk of type conversion, because desert habitat does not quickly recover from damage. While periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. If the project were to cause a fire or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community). Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-1j** Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

It is expected that direct and/or indirect impacts to jurisdictional waters (i.e., non-wetland areas regulated by the ACOE and RWQCB and/or CDFG) could occur from construction of the Jacumba Substation. Based on the vegetation community present, jurisdictional wetlands are not anticipated to occur, but impacts to jurisdictional non-wetland waters could occur if drainages are present. A formal jurisdictional delineation for the project would be conducted once project-specific features are sited and final engineering is complete. Then, impacts to jurisdictional areas can be clearly defined, and the project proponent can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. which states the project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-2a(CA), B-2b, and B-2c.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

- B-1c(CA)** Conduct biological monitoring.
- B-1d** Perform protocol surveys. [BIO-APM-1]
- B-1e** Train project personnel. [BIO-APM-2]
- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1g** Build access roads at right angles to streambeds and washes. [BIO-APM-5]
- B-2a(CA)** Provide restoration/compensation for affected jurisdictional areas.
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-2c** Avoid sensitive features. [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

Construction activities could introduce invasive, non-native, or noxious plant (weed) species (e.g., seed brought in on the soles of shoes, or on the tires and undercarriages of vehicles) to the surrounding areas. The inadvertent introduction of non-native plant species is a special concern for sensitive vegetation communities. Non-native plants pose a threat to the natural processes of plant community succession and fire frequency, and can affect the biological diversity and species composition of native plant communities. The survival of some populations of special status species could be adversely affected by the success of an introduced plant species. The introduction of non-native or noxious weeds would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of

straw bales or wattles that contain seeds of non-native plant species. Construction of the Jacumba Substation would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1j, B-2a(CA), and B-3a(CA).

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-3a(CA) Prepare and implement a Weed Control Plan.

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class II)

Construction activities such as grading, excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community. This would be a significant impact according to Significance Criterion 2.b. (substantial adverse effect on riparian or other sensitive vegetation communities) and Significance Criterion 2.c. (substantial adverse effect on riparian or other sensitive vegetation communities through the spread of fugitive dust) but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-1i that includes regular watering to control fugitive dust and a 15 mile-per-hour speed limit on dirt access roads to reduce dust.

Mitigation Measure for Impact B-4: Construction activities would create dust that would result in degradation of vegetation

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts could be caused by direct loss of individuals, or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction. Two non-listed, special status plant species have moderate to high potential to occur: Jacumba milk-vetch and Tecate tarplant (see Table E.1.2-1).

Because a survey for special status plant surveys has not been conducted, it is not possible to assess the impacts to them, so impacts to special status plant species would be considered significant and not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2c, B-5a(CA), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys. [BIO-APM-1]**
- B-1e Train project personnel. [BIO-APM-2]**
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]**
- B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]**
- B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]**
- B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]**
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2c Avoid sensitive features. [BIO-APM-18]**
- B-5a(CA) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.**
- B-5b Delineate sensitive plant populations. [BIO-APM-16]**
- B-5c No collection of plants or wildlife. [BIO-APM-13]**
- B-5d Salvage sensitive species for replanting or transplanting. [BIO-APM-22]**

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct loss of small mammals, reptiles, and other less mobile species would occur during construction of the Jacumba Substation. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Impact B-7. Deaths related to construction would be incurred primarily by burrow-dwelling animals; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8); and species with limited mobility (lizards, snakes, ground squirrels). More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during land clearing and grading. Construction activities and human presence can also alter or disrupt the breeding and foraging behaviors of wildlife. Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality) is discussed in greater detail in Section D.2.10.

Except where wildlife habitats are known to support sensitive, rare, threatened, or endangered species or nesting birds (addressed in Impacts B-7, B-7J, and B-8), all of the impacts on general, non-special status wildlife from construction of the Jacumba Substation would be adverse but less than significant (Class III). No mitigation is required.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I)

Construction of the Jacumba Substation would directly affect a population of the QCB (see Impact B-7J below) and has the potential to significantly impact the non-listed, sensitive animal species listed at the beginning of Section D.2.19.4. These impacts would be significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species

identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

Most of the non-listed, sensitive species' habitats include grasslands. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a[CA]) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(CA) may not be available, the impacts to non-listed, sensitive wildlife species would be considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1e, B-1f, B-1i, B-2a(CA), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(CA) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-2b Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]

B-6a Littering is not allowed. [BIO-APM-7]

B-6b Survey areas for brush clearing. [BIO-APM-9]

B-6c Protect mammals and reptiles in excavated areas. [BIO-APM-24, BIO-APM-26]

B-6d Reduce construction night lighting on sensitive habitats. [BIO-APM-29]

B-7a(CA) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Recent QCB observations (1998 and 2000) were made near Jacumba within and directly adjacent to the Jacumba Substation (USFWS, 2006); the Jacumba Substation occurs USFWS Survey Area 1 for the species; and the site supports suitable habitat for the QCB.

Since no protocol surveys for QCB were completed for this site, all of the habitat is assumed to be occupied by QCB. With the lack of definitive survey data, the substation construction must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i (CA) may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), and B-7i(CA) are required to, at least in part, minimize impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1c(CA) Conduct biological monitoring.**
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-7i(CA) Conduct quino checkerspot butterfly surveys and implement appropriate avoidance/minimization/compensation strategies.** Mitigation Measure B-7i(CA) is identical to B-7i for the SRPL Proposed Project except that CPUC shall be replaced with “Lead Agencies”, and State Parks and/or Wildlife Agencies shall be replaced with “other agencies with jurisdiction over the project”. Additionally, for the Jacumba Substation, impacts to QCB designated critical habitat shall be mitigated with QCB designated critical habitat.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

Construction of the Jacumba Substation would violate the Migratory Bird Treaty act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation containing bird nests and/or through vehicle and foot traffic or excessive noise associated with construction that cause nest destruction or abandonment of a nest. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(CA), and B-8b.

Mitigation Measures for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1h Comply with all applicable environmental laws and regulations.** [BIO-APM-6]
- B-1i Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c Avoid sensitive features.** [BIO-APM-18]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-8a(CA) Conduct pre-construction surveys and monitoring for breeding birds.**
- B-8b Removal of raptor nests.** [BIO-APM-27]

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class III linkages and wildlife movement corridors; No Impact fish movement and bat colonies)

The Jacumba Substation site would carry only intermittent flows in response to seasonal rain events that would not support fish and other species that are dependent on permanent water sources. Furthermore, based on the vegetation and topography, it is unlikely that there are rock crevices, caves, or other potential features present to support bat nursery colonies (No Impact).

Because the substation facility would be completely fenced, wildlife would generally not be able to move through it and would have to traverse around it, but there would be no restrictions to that movement, and the presence of the substation would not be expected to reduce populations within or adjacent to it below self-sustaining levels. Therefore, impacts to wildlife movement would be considered adverse but less than significant (Class III). No mitigation is required.

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact)

The risk of electrocution, is the same for this option as for the SRPL Proposed Project in Section D.2.14: No Impact. Impacts to raptors and other avian species from collisions with substation facilities have not been historical issues at SDG&E substations throughout San Diego County (Pandion Systems, Inc. 2006). Therefore, no impacts avian species from collision are expected for this substation (No Impact).

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

The Jacumba Substation would not introduce new towers, and is unlikely to provide nesting sites for ravens, so increase in predation of these species by ravens that nest on transmission towers is expected to occur (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class II)

Maintenance of the Jacumba Substation site is anticipated to include minor inspection of the site once per week (1-2 personnel) and major inspections once per year (for one week, with 20 personnel) as described for substation maintenance for the SRPL Proposed Project. Maintenance activities, particularly driving on dirt access roads to reach the substation, would result in disturbance to wildlife or wildlife mortality, and these impacts are significant according to Significance Criterion 1.f. (impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species) but mitigable to less than significant levels with implementation of Mitigation Measures B-6a and B-12d.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

B-6a **Littering is not allowed.** [BIO-APM-7]

B-12d **Protect wildlife.**

D.2.19.5 SCE La Rumorosa Wind Project

On June 30th, 2007, SEMPRA, the parent company of SDG&E, entered into an agreement with Cannon Power Corporation of San Diego to develop a wind farm east of the town of La Rumorosa in the municipality of Tecate. La Rumorosa is approximately 70 miles southeast of San Diego, across the U.S./Mexico border. The RWD project would create up to 250 MW of power with up to 125 2 MW wind turbines and would be installed along the eastern side of the Sierra de Juárez Mountains (Sempra, 2007).

The RWD project includes a 230 kV overhead transmission line from La Rumarosa that would connect with a new Jacumba Substation in the U.S. Twenty miles of the transmission line would occur in Mexico in existing ROW, seven miles of transmission line would occur in new ROW in Mexico, and 1.7 miles of new ROW would be required in the U.S (Figure B-48). The Environmental Setting and Environmental Impacts and Mitigation Measures for the Jacumba Substation are provided in Section D.2.19.4.

Environmental Setting – United States

The RWD project would require 1.7 miles of new ROW in the U.S. This ROW would be on private land and is located in the Colorado Desert bioregion (CERES, 2003). The ROW (based on aerial photograph interpretation) consists primarily of desert scrubs, semi-desert chaparral, and Peninsular juniper woodland and scrub.

Overview of Special Habitat Management Areas. The transmission line would not pass through any special habitat management areas.

Designated Critical Habitat. The new ROW is located within QCB designated critical habitat.

Special Status Plant Species. A list of special status plant species with potential to occur in the new ROW is based on published literature, sources readily available on the Internet, California Natural Diversity Database (CNDDDB) records searches, United States Department of Agriculture (USDA) Forest Service records searches (USDA, 2007), State and federal species lists, and habitat field surveys for the SWPL Alternatives (see Section E.1.2.1; the I-8 Alternative occurs nearby). No listed plant species have potential to occur in the new ROW based on the habitat present. The following non-listed, sensitive plant species have moderate to high potential to occur. For more specific information about the special status plant species and their sensitivity status, see Table E.1.2-1.

- Jacumba milk-vetch
- Rock nettle
- Mexican hulsea
- Pygmy lotus
- Hairy stickleaf
- Desert spikemoss
- Parry's tetracoccus
- Tecate tarplant
- Sticky geraea
- Slender-leaved ipomopsis
- Mountain Springs bush lupine
- Creamy blazing star
- Payson's jewel-flower

Special Status Wildlife Species. A list of special status wildlife species with potential to occur in the new ROW is based on published literature, sources readily available on the Internet, California Natural Diversity Database (CNDDDB) records searches, United States Department of Agriculture (USDA) Forest Service records searches (USDA, 2007), State and federal species lists, and habitat field surveys for the SWPL Alternatives (see Section E.1.2.1; the I-8 Alternative occurs nearby).

The listed QCB has high potential to occur in the new ROW because it occurs in designated critical habitat for the species, it is in USFWS Survey Area 1 for the species, and recent QCB observations (1998 and 2000) were made near Jacumba (USFWS, 2006). The listed barefoot banded gecko has moderate potential to occur based on its range and the habitats present. The highly sensitive golden eagle is not known to nest in the vicinity of this project (Bittner, 2007).

The following non-listed, sensitive wildlife species have moderate to high potential to occur. For more specific information about the special status wildlife species and their sensitivity status, see Table E.1.2-2.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Northwestern San Diego pocket mouse
- Pallid San Diego pocket mouse
- Jacumba little pocket mouse
- San Diego desert woodrat
- Pallid bat

- Coronado skink
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Sharp-shinned hawk
- Cooper's hawk
- Northern harrier
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Dulzura pocket mouse
- Western mastiff bat
- Mexican long-tongued bat
- Townsend's big-eared bat
- Western red bat
- Small-footed myotis
- Fringed myotis
- Long-legged myotis
- Pocketed free-tailed bat
- San Diego black-tailed jackrabbit
- American badger
- Ringtail

Environmental Setting – Mexico

The RWD project would be situated near the town of La Rumorosa in the municipality of Tecate, and 27 miles of 230 kV transmission line would travel from the RWD site in existing ROW to the west and then north toward the U.S./Mexico border. As this portion of RWD project is located in Mexico, vegetation was identified by interpretation of the Baja California flora and fauna listing on the official Baja California website. The special status plant and wildlife species with potential to occur (listed below) were determined based on Mexican government records. La Rumorosa is located in the "California" botanical regions, also referred to as the Mediterranean region, but borders on the Central or Sonorensis Desert. The climate of the California region is similar to the Mediterranean, characterized by mild, relatively humid winters, and warm, dry summers. Fog constitutes an important factor that affects the biological development of many of the organism within the region. The primary native vegetation communities are believed to be chaparral and pine forests.

The chaparral is characterized by shrubs that are continuously green, have small, hard leaves that can resist extreme periods of drought. The chaparral nearest the La Rumorosa region is the high elevation chaparral that is present at elevation greater than 800 meters, bordering the pine forests of the Sierra de Juárez.

Pine forest vegetation is found primarily in the high mountains with cold temperatures, primarily in the Sierra de Juárez and the San Pedro Mártir regions. The Sierra de Juárez is the most extensive forest in this region with over 340,000 hectares or forest (approximately 840,000 acres). The predominant species within the forests are the *Pinus jeffreyi*, *P. monophylla*, and the *P. quadrifolia* which occupy a large area in the La Rumorosa region, as well as in the Southeast of the Sierra de Juárez, the Sierra de Calamiaué, and the Sierra de San Borja. Juniper forests, specifically the *Juniperus Californica*, are also present in the La Rumorosa region, and play an important ecological role.

There are many native species that occur only in Baja California due to its geologic history and period of separation from the rest of the continent. A specific study of the endemic species that are threatened or in danger of extinction has never been completed and the only known approximation of such species has resulted from regional and United States samplings.

Overview of Special Habitat Management Areas. The RWD site and existing ROW are not located in a special habitat management area.

Designated Critical Habitat. Critical habitat is a USFWS designation that does not apply to Mexico.

Special Status Plant Species. The list below presents the rare species; endemic species; and species that are threatened, in danger or extinction, or with special status, that have potential to occur at the RWD site and along the Mexican ROW based on Mexican government records (GobBC, 2007).

Scientific Name	Common Name	Status
<i>Abies Concolor</i>	Abeto blanco	Rare
<i>Pinus Jeffreyi</i>	Pino Negro	Special protection
<i>Pinus lambertiana</i>	Pino dulce	Threatened
<i>Pinus monophylla</i>	Pino piñonero	Special protection
<i>Pinus quadrifolia</i>	Pino cuatro hojas	Special protection
<i>Pinus ponderosa</i>	Pino real o blanco	Threatened
<i>Cupressus Montana</i>	Cedro de San Pedro Mártir	Rare
<i>Juniperus californica</i>	Junipero de California	Rare
<i>Cupressus guadalupensis</i>		In danger of extinction
<i>Echinocereus lindsayi</i>		In danger of extinction
<i>Pinus radiata var. cedrocensis</i>		Threatened
<i>Pinus attenuata</i>	Pino costero	Special protection
<i>Calocedrus decurrens</i>	Pino	Threatened
<i>Pinus coulteri</i>	Pino rojo	Special protection
<i>Cupressus forbesii</i>		Rare
<i>Pinus radiata var. binata</i>		In danger of extinction
<i>Pinus edulis</i>	Piñón prieto	Special protection
<i>Pinus muricata</i>	Pino costero	In danger of extinction
<i>Ferocactus johnstonianus</i>		Rare
<i>Ferocactus acanthodes var. acanthodes</i>	Biznaga	In danger of extinction
<i>Ferocactus chrysacanthus</i>		Threatened
<i>Mamillaria setispina</i>		Rare
<i>Lophocereus schottii forma mickleyanus</i>	Cabeza de viejo	Rare
<i>Mamillaria angelensis</i>		Rare
<i>Cochemiea pondii</i>		Rare

Source: Baja California website.

Special Status Wildlife Species. The list below presents wildlife species that have potential to occur at the RWD site and along the Mexican ROW based on Mexican government records. These species may or may not be of special status in Mexico. The Peninsular bighorn sheep, in the U.S., is federally listed endangered and State (California) listed threatened. Additionally, the QCB and barefoot banded gecko may occur in the RWD project area. The QCB is federally listed endangered in the U.S., and the barefoot banded gecko is State (California) listed threatened.

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Scientific Name	Common Name
<i>Crotalus viridis</i>	Western rattlesnake
<i>Crotalus enyo</i>	Rattlesnake
<i>Podicepsa auritus</i>	Horned grebe
<i>Podilymbus podiceps</i>	Pied-billed grebe
<i>Phalarocorax penicillatus</i>	Brandt's cormorant
<i>Plegadis chihi</i>	White-faced Ibis
<i>Cathartes aura</i>	Turkey vulture
<i>Cygnus columbianus columbianus</i>	Whistling swan
<i>Anser albifrons</i>	White-fronted goose
<i>Chen caerulescens</i>	Snow goose
<i>Anas cyanoptera</i>	Cinnamon teal
<i>Anas clypeata</i>	Northern shoveler
<i>Mergus Serrator</i>	Red-breasted merganser
<i>Oxyura jamaicensis</i>	Ruddy duck
<i>Pandion haliaetus</i>	Osprey
<i>Circus cyaneus</i>	Northern harrier
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Falco peregrinus</i>	Peregrine falcon
<i>Charadius wilsonia</i>	Wilson's plover
<i>Charadius montanus</i>	Mountain plover
<i>Tringa flavipes</i>	Lesser yellowlegs
<i>Calidris canutus</i>	Red knot
<i>Zenaida asiatica</i>	White-winged dove
<i>Chordeiles acutipennis</i>	Lesser nighthawk
<i>Aeronautes saxatalis</i>	White-throated swift
<i>Selasphorus rufus</i>	Rufous hummingbird

Source: Western Birds, 1995.

Scientific Name	Common Name
<i>Dendrocopos scalaris</i>	Ladder-backed woodpecker
<i>Tyrannus verticalis</i>	Western kingbird
<i>Contopus sordidulus</i>	Western wood pewee
<i>Pyrocephalus rubinus</i>	Vermilion flycatcher
<i>Tachycineta thalassina</i>	Violet-green swallow
<i>Corvus brachyrhynchus</i>	American crow
<i>Auriparus flaviceps</i>	Verdin
<i>Campylorhynchus brunneicapillus</i>	Cactus wren
<i>Toxostoma cinereum</i>	"Gray" thrasher
<i>Regulus satrapa</i>	Golden-crowned kinglet
<i>Phainopepla nitens</i>	Phainopepla
<i>Vireo bellii</i>	Bell's vireo
<i>Vermivora celata</i>	Orange-crowned warbler
<i>Pheucticus ludovicianus</i>	Rose-breasted grosbeak
<i>Passerina cyanea</i>	Indigo bunting
<i>Spizella atrogularis</i>	Black-chinned sparrow
<i>Passerculus sandwichensis beldingi</i>	Savannah sparrow
<i>Junco hyemalis caniceps</i>	Gray-headed junco
<i>Quiscalus mexicanus</i>	Great-tailed grackle
<i>Icterus parisorum</i>	Scott's oriole
<i>Buteo jamaicensis</i>	Red-tailed hawk
<i>Odocoileus hemionus</i>	Mule deer
<i>Urocyon cinereoargenteus</i>	Gray fox
<i>Felis concolor</i>	Mountain lion
<i>Ovis canadensis cremnobates</i>	Peninsular bighorn sheep

Environmental Impacts and Mitigation Measures

Section B.6.2.1 describes the construction and operational requirements for the RWD Project. Impacts of the Jacumba Substation are addressed in Section D.2.19.4. The impacts described below are for the 1.7 miles of new transmission line located in the United States; for the wind farm siting, construction, and operation; the new 20 miles of transmission line in existing Mexican ROW, as well as seven miles of transmission line in new Mexican ROW.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation communities, vegetation management, and type conversion; Class III for non-sensitive vegetation communities)

United States. Construction of the RWD project would include grading for 1.7 miles of transmission line and access roads. These construction activities would result in temporary and/or permanent losses of native vegetation that include desert scrub, semi-desert chaparral, and Peninsular juniper woodland and

scrub, which are all sensitive vegetation communities. Impacts to sensitive vegetation would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. This impact is not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impact. Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to, at least in part, compensate for impacts to sensitive vegetation. Impacts to non-sensitive vegetation communities, should they occur, such as disturbed habitat, developed land, or agriculture, would be adverse but less than significant (Class III).

Mexico. Construction of the RWD project would include grading for wind turbine pads, access roads, an underground power line right-of-way for interconnection systems, a switchyard, a new 230 kV transmission line for approximately 20 miles along an existing ROW and approximately seven miles along new ROW, maintenance facilities, and meteorological tower pads. All of these construction activities would result in temporary and/or permanent losses of native vegetation. [As detailed in Section B.6.2.1, Project Description, the final footprint or permanent disturbance of the RWD project would be 5 to 10 percent of the total acreage of the RWD project sites, approximately 37.5 to 212 acres (BLM, 2005), but the wind facility would require between 750 and 2,125 acres of land that could be temporarily disturbed during construction.

As in the U.S, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a, which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities. This impact is not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impact. Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, and B-1j is required to, at least in part, compensate for impacts to sensitive vegetation. Impacts to non-sensitive vegetation communities, should they occur, such as disturbed habitat, developed land, or agriculture, would be adverse but less than significant (Class III).

Vegetation Management (Loss of Trees) United States and Mexico. No estimates as to how many trees or shrubs would be removed or trimmed as part of vegetation management for this project. However, there are woodland and shrubland communities present (e.g., chaparrals, Peninsular juniper woodland and scrub, and pine forests) that support native trees and shrubs that would likely require either removal or trimming. The loss or trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal or trimming of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Prohibitions under the Migratory Bird Treaty Act are also applied to birds in Mexico under international conventions between the U.S. and Mexico.

Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1)
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2)
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3)
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4)
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a(CA) for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a(CA) is required to reduce the impacts to the greatest extent possible. The full text of the mitigation measures appears in Appendix 12.

Type Conversion, United States and Mexico. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County, California and much of northern Baja California, Mexico is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-1j Protect and restore vegetation. [BIO-APM-20, BIO-APM-23, BIO-APM-25]

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

United States. Construction activities associated with the RWD project could result in adverse effects to jurisdictional waters during grading and vegetation removal (which could cause erosion, sedimentation and/or degradation of water quality) required for construction of the transmission line. A formal jurisdictional delineation for the project would be conducted once project-specific features are sited and final engineering is complete. Then, impacts to jurisdictional areas can be clearly defined, and the project proponent can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not been conducted, the presence and extent of jurisdictional areas is unknown, and the project could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. which states the project would have a substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-2a(CA), B-2b, and B-2c.

Mexico. Construction activities associated with the RWD project could result in adverse effects to surface water resources that may be regulated by the Mexican government. These surface water resources may consist of desert washes, intermittent streams, or ephemeral streams. Adverse effects from construction would include erosion, sedimentation, and/or degradation of water quality that could occur during grading and vegetation removal required for construction of wind turbine pads, access roads, excavation of trenches, and other associated facilities. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-2a(CA), B-2b, and B-2c

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

- B-1c(CA) Conduct biological monitoring.**
- B-1d Perform protocol surveys.** [BIO-APM-1]
- B-1e Train project personnel.** [BIO-APM-2]
- B-1f Construction and survey activities shall be restricted based on final design engineering drawings.** [BIO-APM-4]
- B-1g Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-2c Avoid sensitive features.** [BIO-APM-18]

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

United States and Mexico. The RWD project construction activities could introduce invasive, non-native, or noxious plant (weed) species (e.g., seed brought in on the soles of shoes, or on the tires and undercarriages of vehicles) to the project sites and surrounding areas. The inadvertent introduction of non-native plant species is a special concern for sensitive vegetation communities. Non-native plants pose a threat to the natural processes of plant community succession and fire frequency, and can affect the biological diversity and species composition of native plant communities. The survival of some populations of special status species could be adversely affected by the success of an introduced plant species. The introduction of non-native or noxious weeds would be related to the use of vehicles, construction equipment, or earth materials contaminated with non-native plant seed, and use of straw bales or wattles that contain seeds of non-native plant species. Construction of the RWD project would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a(CA), B-1j, B-2a(CA), and B-3a(CA).

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

- B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.**
- B-1j Protect and restore vegetation.** [BIO-APM-20, BIO-APM-23, BIO-APM-25]
- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-3a(CA) Prepare and implement a Weed Control Plan.**

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class II)

United States and Mexico. Construction activities such as grading, excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community. This would be a significant impact according to Significance Criterion 2.b. (substantial adverse effect on riparian or other sensitive vegetation commu-

nities) and Significance Criterion 2.c. (substantial adverse effect on riparian or other sensitive vegetation communities through the spread of fugitive dust) but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-1i that includes regular watering to control fugitive dust and a 15 mile-per-hour speed limit on dirt access roads to reduce dust.

Mitigation Measure for Impact B-4: Construction activities would create dust that would result in degradation of vegetation

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

United States and Mexico. Special status plant species impacts could be caused by direct loss of individuals, or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction. Plant surveys were not conducted for the RWD project, but a number of special status plant species (listed at the beginning of Section D.2.19.5) have potential to occur in the United States and Mexico. Because a survey for special status plant species has not been conducted, it is not possible to assess the impacts to them, so impacts to special status plant species would be considered significant and not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened would be significant) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species would be significant). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1d, B-1e, B-1f, B-1g, B-1h, B-1i, B-2a(CA), B-2c, B-5a(CA), B-5b, B-5c, and B-5d would minimize the impacts, but not to less than significant levels.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1d Perform protocol surveys. [BIO-APM-1]

B-1e Train project personnel. [BIO-APM-2]

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1g Build access roads at right angles to streambeds and washes. [BIO-APM-5]

B-1h Comply with all applicable environmental laws and regulations. [BIO-APM-6]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-2c Avoid sensitive features. [BIO-APM-18]

B-5a(CA) Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

B-5b Delineate sensitive plant populations. [BIO-APM-16]

B-5c No collection of plants or wildlife. [BIO-APM-13]

B-5d Salvage sensitive species for replanting or transplanting. [BIO-APM-22]

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

United States and Mexico. Direct loss of small mammals, reptiles, and other less mobile species would occur during construction of the RWD project. This section discusses impacts to wildlife in general, particularly non-special status species. Impacts to special status species are described in Impact B-7. Deaths related to construction would be incurred primarily by burrow-dwelling animals; eggs and nestlings of bird species with small, well-hidden nests (impacts to nesting birds is discussed in Impact B-8); and species with limited mobility (lizards, snakes, ground squirrels). More mobile species like birds and larger mammals are expected to disperse into adjacent habitat areas during land clearing and grading. Construction activities and human presence can also alter or disrupt the breeding and foraging behaviors of wildlife. Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality) is discussed in greater detail in Section D.2.10.

Except where wildlife habitats are known to support sensitive, rare, threatened, or endangered species or nesting birds (addressed in Impacts B-7, B-7B, B-7J, B-7O, and B-8 below), all of the impacts on general, non-special status wildlife from construction of the RWD project would be adverse but less than significant (Class III). No mitigation is required.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I)

United States and Mexico. Construction of the RWD project has the potential to directly affect the QCB, Peninsular bighorn sheep, and barefoot banded gecko (see Impacts B-7B, B-7J, and B-7O below) and has the potential to significantly impact the non-listed, sensitive animal species listed at the beginning of Section D.2.19.5. These impacts would be significant because the project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Wildlife Agencies).

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities, including those that would be temporarily disturbed or permanently removed by construction of the RWD project. The mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a[CA]) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a(CA) may not be available, the impacts to non-listed, sensitive wildlife species would be considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c(CA), B-1e, B-1f, B-1i, B-2a(CA), B-2b, B-6a, B-6b, B-6c, B-6d, and B-7a(CA) is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-1f Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]

B-1i Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]

- B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.**
- B-2b Identify environmentally sensitive times and locations for tree trimming.** [BIO-APM-16]
- B-6a Littering is not allowed.** [BIO-APM-7]
- B-6b Survey areas for brush clearing.** [BIO-APM-9]
- B-6c Protect mammals and reptiles in excavated areas.** [BIO-APM-24, BIO-APM-26]
- B-6d Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-7a(CA) Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).**

Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat (Class I)

United States. The Peninsular bighorn sheep (PBS) has potential to occur, although low potential, along the 1.7 miles of new ROW in the United States portion of the RWD project. The southernmost known PBS ewe group in the U.S. occurs north of I-8 in Carrizo Canyon, which includes portions of the Tierra Blanca, In-ko-pah, Coyote, and Jacumba Mountains east of the new transmission line. Historically, a ewe group occurred along the Mexican border, as well, but it has disappeared since the 1980s. The loss was poorly documented but was likely the result of the construction of I-8 in the mid-1960s, railroad activity, livestock grazing, poaching, and fire suppression (USFWS, 2000a).

Mexico. There are more PBS in Mexico than in the U.S (Bighorn Institute, 2007), and the species has higher potential to occur in the RWD project area (wind facility and along the transmission line) than along the 1.7 miles of new ROW in the United States. The most recent surveys estimate the Baja California PBS population at 2,000 to 2,500 (Bighorn Institute, 2007). The Mexican government has established a new conservation program for managing PBS in Mexico (Bighorn Institute, 2007).

The causes of decline of the PBS include habitat loss, degradation, and fragmentation; disease from domestic cattle; insufficient lamb recruitment; and predation coinciding with low population numbers (Center for Biological Diversity, 2003a). Numerous researchers have also expressed concern over the impact of human activity on PBS. Numerous researchers have documented altered PBS behavior in response to anthropogenic disturbance. Even when PBS appear to be tolerant of a particular activity, continued and frequent use can cause them to avoid an area, eventually interfering with use of resources, such as water, mineral licks, lambing or feeding areas, or use of traditional movement routes. In addition, disturbance can result in physiological responses such as elevated heart rate, even when no behavioral response is discernible.

PBS responses to human activity are difficult to predict and depend on the type of activity, season of the activity, elevation of the activity relative to resources, and distance of the activity from resources critical to PBS, among other variables. For instance, ewes with lambs typically are more sensitive to disturbance, as are PBS that are approached from higher elevations. PBS were found to be more sensitive to disturbance during spring and fall, corresponding with the lambing and rutting seasons, and abandonment of lambing habitat was observed while construction activities were ongoing (USFWS, 2000).

PBS movement also appears to be restricted by the perceived barriers of roadways (such as I-8) that separate ewe groups. Ewe movement between groups is limited, and permanent emigration has not been documented (Rubin, et al., 1998). It is unknown whether transmission line access roads, tower structures, or other project features would be perceived by PBS as barriers as well.

Moist air and rain may cause unstable irregularities in the electrical field around conductors and insulators of transmission lines, which can generate a crackling noise. The effects of this noise on PBS are not known. PBS could avoid the area subjected to the noise. Also, the noise could prevent PBS from hearing approaching predators.

As analyzed in Impact B-1, the impacts to the vegetation communities that are part of PBS habitat itself are significant and not mitigable to less than significant levels (Class I) because suitable PBS replacement habitat may not be available.

Even if enough suitable land is available to mitigate habitat impacts to a less than significant level, human and construction activity in PBS habitat could cause PBS to avoid affected areas and could interfere with the use of resources, traditional movement routes, and/or could cause physiological stress or increased predation. All of the potential effects listed above could adversely affect survival and recovery of the species. These impacts are significant according to the following Significance Criteria: 1.a.) substantial adverse effect through any impact to one or more individuals of a federal or State listed species; 1.f.) substantial adverse effect by any impact that directly or indirectly causes the mortality of special status wildlife species; 4.a.) substantial adverse effect by preventing access to foraging habitat, breeding habitat, water sources, etc.; 4.b.) substantial adverse effect by interfering with connectivity between blocks of habitat or block or interfere with a wildlife corridor; and 4.c.) the substantial adverse effect by fragmenting a species' population. Based on the special status of this species and evidence that shows human activities significantly and adversely affect it, these impacts would be significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a(CA), B-1c (CA), B-2a(CA), and B-7c(CA) is required to, at least in part, compensate for impacts to PBS.

Mitigation Measures for Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7c(CA) Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. Mitigation Measure B-7c(CA) is identical to B-7c for the SRPL Proposed Project except that CPUC shall be replaced with "Lead Agencies", and State Parks and/or Wildlife Agencies shall be replaced with "other agencies with jurisdiction over the project".

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

United States and Mexico. The QCB has high potential to occur in the new ROW in the U.S. because it occurs in designated critical habitat for the species, it is in USFWS Survey Area 1 for the species, and recent QCB observations (1998 and 2000) were made near Jacumba (USFWS, 2006). Furthermore, the QCB may occur in the project area in Mexico because it is within the species' range, and suitable habitat is present.

Since no protocol surveys for QCB were completed for this project, all potential QCB habitat is assumed to be occupied by the QCB. With the lack of definitive survey data, the RWD project construction must be assumed to have a significant impact on this species according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species). Since adequate land required by Mitigation Measure B-7i(CA) may

not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, Mitigation Measures B-1a(CA), B-1c(CA), B-2a(CA), and B-7i(CA) are required to, at least in part, minimize impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

B-7i(CA) Conduct quino checkerspot butterfly surveys and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat (Class I)

United States and Mexico. This State listed threatened species is known only from five localities in eastern San Diego County and western Imperial County; it also ranges south into Baja California. The natural history of this gecko is not well known; it is secretive and nocturnal and hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

No surveys were conducted for this species. If surveys were conducted, and the species was not found, the survey result would have to be considered false negative because of the species' highly elusive nature. The barefoot banded gecko is, therefore, assumed to be present in the project area in both the United States and Mexico. Any impact to the barefoot banded gecko or its habitat would be significant according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species) and not mitigable to less than significant levels (Class I) because suitable mitigation land for the gecko may not be available. Implementation of Mitigation Measures B-1a(CA), B-1c(CA), and B-2a(CA) is required to, at least in part, compensate for impacts to this species.

Mitigation Measures for Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat

B-1a(CA) Provide restoration/compensation for affected sensitive vegetation communities.

B-1c(CA) Conduct biological monitoring.

B-2a(CA) Provide restoration/compensation for affected jurisdictional areas.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

United States and Mexico. Construction of the RWD project in the U.S. and Mexico would violate the Migratory Bird Treaty act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). Prohibitions under the Migratory Bird Treaty Act apply to birds in Mexico under international conventions between the U.S. and Mexico. This violation could occur through the removal of vegetation containing bird nests and/or through vehicle and foot traffic or excessive noise associated with construction that cause nest destruction or abandonment of a nest. Violation of the Migratory Bird Treaty Act is a significant impact that is miti-

gable to less than significant levels (Class II) with implementation of Mitigation Measures B-1e, B-1f, B-1g, B-1h, B-1i, B-2b, B-2c, B-6b, B-8a(CA), and B-8b.

Mitigation Measures for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

- B-1e** Train project personnel. [BIO-APM-2]
- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1g** Build access roads at right angles to streambeds and washes. [BIO-APM-5]
- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-2c** Avoid sensitive features. [BIO-APM-18]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-8a(CA)** Conduct pre-construction surveys and monitoring for breeding birds.
- B-8b** Removal of raptor nests. [BIO-APM-27]

Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; Class III linkages or wildlife movement corridors; No Impact fish movement)

United States and Mexico. Due to the nature of wind developments, the wind facility would be constructed primarily on ridgelines that do not contain drainages that carry perennial flows. However, surface water resources that may consist of desert washes, intermittent streams, or ephemeral streams could be crossed by access roads, particularly along the transmission line ROWs. These would carry only intermittent flows, however, in response to seasonal rain events that would not support fish and other species that are dependent on permanent water sources. Therefore, the RWD project area would not affect the movement of fish or other species dependent on permanent water sources (No Impact). This is substantiated by the apparent lack of riparian or wetland vegetation present.

Due to the intermittent locations of construction activity in the transmission line ROWs and its temporary nature, wildlife would not be physically prevented from moving around project equipment in the transmission corridor (No Impact). Construction of the wind facility would occur primarily on ridgelines, and wildlife movement is often concentrated more in canyons, so construction of the wind facility would adversely affect some wildlife movement because of the size of the wind facility impact area, but not to a significant level (Class III), and no mitigation is required.

During project operation, the widely spaced towers and turbines would not physically obstruct wildlife movement; wildlife could move under and around the towers and around the turbines. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact). Impacts associated with Peninsular bighorn sheep traditional movement are explained in Impact B-7B above.

Bat nursery⁴ colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). The impacts to bat nursery colonies, if disturbed, would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1i, B-1g, B-2c, B-6d, and B-9a. Impact B-14 below addresses bat mortality from collision with turbines.

Mitigation Measures for Impact B-9: Adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

- B-1g** **Build access roads at right angles to streambeds and washes.** [BIO-APM-5]
- B-1i** **Restrict the construction of access and spur roads.** [BIO-APM-3, BIO-APM-17]
- B-2c** **Avoid sensitive features.** [BIO-APM-18]
- B-6d** **Reduce construction night lighting on sensitive habitats.** [BIO-APM-29]
- B-9a** **Survey for bat nursery colonies.**

Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

United States. The risk of electrocution is the same for the RWD project transmission line as for the SRPL Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). Therefore, this transmission line does not occur in a highly utilized avian flight path.

Even so, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this transmission line. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according

⁴ A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups.

to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(CA).

Mexico. The California condor is present in Mexico and has a wingspan of up to nine feet and height (head to foot) of 46 to 55 inches (Palmer, 1988). The wingspan and heights of this bird is not long enough to simultaneously contact two energized phase conductors along the 230 kV line. If the birds were to roost communally, however, there is some potential, although very low, that multiple birds would bridge the gap between two energized conductors and be electrocuted (see Section D.2.14.) Because of its voltage, the RWD project would not present an electrocution risk to birds. Still, Mitigation Measure B-10b is recommended to prevent electrocution risk. The risk of electrocution is the same as for the SRPL Proposed Project in Section D.2.14: No Impact.

Twenty miles of the transmission line in Mexico would occur within the existing Tijuana/Mexicali 230 kV ROW. Therefore, this portion of the transmission line would incrementally increase the potential for birds to collide with transmission lines and towers in the ROW. For non-sensitive species or species that migrate during the day, this impact would be incrementally adverse and less than significant (Class III), and no mitigation is required.

The rest of the transmission line (seven miles) would occur in new ROW. In this new ROW and in the 20 miles of existing ROW, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a(CA).

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with the 27 miles of transmission line. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs).

Mitigation Measures for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a(CA) Utilize collision-reducing techniques in installation of transmission lines. There is no known highly utilized avian flight path; therefore, no marking of the overhead lines is required.

B-10b Structures shall be constructed to conform to “Suggested Practices for Raptor Protection on Power Lines.”

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

United States and Mexico. Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur in the RWD project area. The common raven has not been documented to prey on any other listed or sensitive wildlife in the project area in the U.S. (Liebezeit et al., 2002), although the predation

may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required. In Mexico, since the RWD project area does not occur within a special habitat management area; the PBS, QCB, and barefoot banded gecko are not documented prey of the raven; and 20 of the 27 miles of transmission line would occur in an existing 230 kV ROW (presenting an incremental increase in the potential for raven nesting), the predation of listed and sensitive species by ravens nesting on the transmission towers would be adverse but less than significant (Class III), and no mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality (Class I for Peninsular bighorn sheep; Class II for other special-status wildlife and nesting birds; Class III for non-sensitive wildlife and barefoot banded gecko)

United States and Mexico. These types of impacts would occur from maintenance activities: impacts to nesting birds if vegetation is cleared during the breeding season; mortality of special status species from grading, vegetation clearing, or use of access roads; and/or adverse effects to PBS from maintenance activities that cause sheep to avoid affected areas. These impacts would cause disturbance to wildlife and potential wildlife mortality and would be significant impacts according to Significance Criteria 1.a., 1.d., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance of critical habitat (1.d.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat).

Impacts to non-sensitive wildlife would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1f, B-1h, B-1i, B-2b, B-3a(CA), B-5c, B-6a, B-6b, B-7c(CA), and B-12a(CA).

Maintenance activities would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a(CA).

Maintenance activities would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Impacts to barefoot banded gecko from maintenance activities would be adverse but less than significant (Class III) because the species are not known to be impacted by noise, and they are unlikely to occur on a maintained access road, tower pad, or other work area. No mitigation is required.

Impacts to PBS (see Section D.2.11, Impact B-7B) from maintenance activities in Mexico could cause PBS to avoid affected areas and could interfere with the use of resources such as escape terrain; water; mineral licks; rutting, lambing, or feeding areas; the use of traditional movement routes, and/or could cause physiological stress or increased predation. All of these potential effects could adversely affect survival of the species. These impacts are significant and not mitigable to less than significant levels (Class I), although Mitigation Measure B-7c(CA) is required to minimize the impacts.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality

- B-1f** Construction and survey activities shall be restricted based on final design engineering drawings. [BIO-APM-4]
- B-1h** Comply with all applicable environmental laws and regulations. [BIO-APM-6]
- B-1i** Restrict the construction of access and spur roads. [BIO-APM-3, BIO-APM-17]
- B-2b** Identify environmentally sensitive times and locations for tree trimming. [BIO-APM-16]
- B-3a(CA)** Prepare and implement a Weed Control Plan.
- B-5c** No collection of plants or wildlife. [BIO-APM-13]
- B-6a** Littering is not allowed. [BIO-APM-7]
- B-6b** Survey areas for brush clearing. [BIO-APM-9]
- B-7c(CA)** Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. This measure shall be tailored so as to be applicable in Mexico and acceptable to Mexican authorities.
- B-12a(CA)** Conduct maintenance activities outside the general avian breeding season.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

Impact B-13: Operation of the RWD project would lead to avian mortality from collision with turbines (Class I)

United States. No wind tower/turbines and associated facilities would be located within the United States as a part of the RWD project.

Mexico. Operation of the RWD project is expected to result in mortality of birds due to collision with wind turbines. Recent studies have shown that taller towers are likely to reduce raptor mortality due to an increase in ground to rotor clearance, especially for red-tailed hawks, golden eagles and American kestrels that utilize spaces closer to the ground for hunting prey. For example, golden eagles have often been observed hunting within three meters of the ground. Also, raptor use has been shown in general to be higher on the prevailing upwind side of ridges, and turbines sited away from the rim edge may contribute to lower raptor fatality rates. Ground disturbance around wind turbines (roads and work pads) increases the vertical/horizontal edge near turbines, which also may increase prey densities and raptor use. Also, ground disturbance that creates rock piles creates habitat for small mammals and reptiles which could then attract raptors to the turbine sites. Small mammals and reptiles may also be likely to burrow near the turbine bases where soil has been disturbed. Rodent control programs have been used in the past at wind project sites; however, recent studies suggest moderate levels (intermittent) of rodent control may increase raptor fatalities, and secondary impacts to terrestrial wildlife from rodent control are a concern. Associated facilities at wind projects include permanent meteorological towers. Studies have shown that guyed meteorological towers may kill more passerines per structure than wind turbines (Contra Costa, 2007).

Avian mortality would be significant according to Significance Criteria 1.f. (impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species) or 1.g. (violation of the Migratory Bird Treaty Act) and would be significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measure B-13a is required to, at least in part, compensate for impacts to birds from collision with turbines.

Mitigation Measure for Impact B-13: Operation of the RWD project would lead to avian mortality from collision with turbines

B-13a(LR) Implement measures to reduce avian impacts from turbine activities. This mitigation measure includes the following:

- Increase ground to rotor clearance. Turbine tower heights shall be at least 55 meters at sites where will allow that height.
- Wherever feasible, turbines shall not be sited on or immediately adjacent to the upwind sides of ridge crests.
- Turbine construction shall minimize cutting into hill slopes in an attempt to achieve smooth rounded terrain, rather than sudden berms or cuts, to potentially reduce prey abundance.
- Rocks unearthed during the excavation process shall be used during construction of foundations or hauled off site and disposed of properly, and not be left in piles near turbines.
- Discourage small mammals and reptiles from burrowing under or near turbine bases by placing gravel at least 5 feet around each tower foundation.
- The RWD project developer shall not participate in rodent control programs on leased lands and will discourage landowners from using poisoning for rodent control in the vicinity of the project.
- Only un-guyed meteorological towers shall be constructed for the wind project.

A scientifically defensible monitoring program shall be implemented to estimate the avian fatality rates from the new turbines and important covariates such as prey base and avian use. The following shall also be implemented.

- Standardized fatality monitoring and avian use and behavior studies shall be conducted for a minimum of three years.
- A technical advisory committee shall be formed to oversee the program and propose additional mitigation and/or additional monitoring depending on the results of the monitoring program.
- Should additional mitigation be necessary, potential measures may include off-site mitigation.

Impact B-14: Operation of the RWD project would lead to bat mortality from collision with turbines (Class I)

United States. No wind tower/turbines and associated facilities would be located within the United States as a part of the RWD project.

Mexico. Operation of the RWD project is expected to result in some bat mortality from collision with wind turbines. Studies show that bat mortality from collision with wind turbines is highest during the late summer and fall migration season. Based on other studies in the west, some mortality of mostly migratory bats is anticipated. Projected mortality levels are unknown and could be higher or lower based on such factors as regional migratory patterns, patterns of local movements through the project area, and the response of bats to turbines — both individually and collectively (Contra Costa, 2007).

Bat mortality would be significant according to Significance Criteria 1.f. (impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species) and would not be mitigable to less than significant levels (Class I). Implementation of Mitigation Measure B-14a is required to, at least in part, compensate for impacts to bats from collision with turbines.

Mitigation Measure for Impact B-14: Operation of the RWD project would lead to bat mortality from collision with turbines

B-14a Implement a scientifically defensible monitoring program to estimate bat fatality rates from new turbines. The following shall also be implemented.

- Standardized fatality monitoring and bat use and behavior studies shall be conducted for a minimum of three years.
- A technical advisory committee shall be formed to oversee the program and propose additional mitigation and/or additional monitoring depending on the results of the monitoring program.
- Should additional mitigation be necessary, potential measures may include off-site mitigation.

D.2.20 Overall Biological Impacts of Proposed Project

Construction Impact

Temporary and Permanent Vegetation Displacement. Construction of the Proposed Project would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers or permanent access roads) impacts to vegetation communities (Impact B-1). In total, the Proposed Project would temporarily disturb approximately 982 acres of sensitive vegetation (353 acres of non-sensitive vegetation) and would permanently impact approximately 441 acres of sensitive vegetation (48 acres of non-sensitive vegetation).

Construction activities of the Connected Actions and Indirect Effects, particularly at the Stirling Concentrating Solar Power site, would also result in the alteration of soil and surface conditions, including the loss of native seed banks, changes in topography and drainage.

Even with implementation of the APMs and the Mitigation Measures, specifically B-1a (Provide restoration/compensation for affected sensitive vegetation communities), that include mitigation ratios required by the various resource agencies that define the amount of land gained per unit of land lost; adequate land required by Mitigation Measure B-1a may not be available. Therefore, the impacts to sensitive vegetation communities would be significant and not mitigable to less than significant levels (Class I). Impacts to non-sensitive vegetation communities would be adverse but less than significant (Class III) because the communities are not sensitive, and no mitigation would be required unless they occur within designated critical habitat for a federal listed species or within a FTHL MA or in FTHL habitat outside an MA (see Impact B-7A).

Direct or Indirect Impacts to Jurisdictional Waters. It is expected that direct and/or indirect impacts to jurisdictional Waters of the U.S. and possibly wetlands (i.e., areas regulated by the ACOE and RWQCB and/or CDFG) would occur from the Proposed Project and Connected Actions and Indirect Effects (Impact B-2). Direct impacts would include removal of wetland/riparian vegetation and/or filling of jurisdictional areas to create stream crossings. Examples of indirect impacts to jurisdictional resources are streambank erosion and stream sedimentation.

Based on the National Wetland Inventory, there are 19 major drainages that the Proposed Project would cross (SDG&E, 2006). Based on the hydrologic study for the Proposed Project, there are approximately

167 identified watercourses that the Proposed Project would cross. Other minor watercourse crossings may be found along the route.

With implementation of BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18 (or similar Mitigation Measures), and Mitigation Measures B-1c and B-2a, impacts to jurisdictional areas are significant but mitigable to less than significant levels (Class II).

Impacts to Sensitive Vegetation Communities. The introduction of non-native plant species is a special concern, especially for sensitive vegetation communities and communities that support special-status plant species (Impact B-3). Non-native plants pose a threat to the natural processes of plant community succession, affect fire frequency, affect the biological diversity and species composition of native communities, and can affect a community's value as wildlife habitat.

The Proposed Project and Connected Actions and Indirect Effects would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact is considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-2a, and B-3a that include habitat restoration/compensation, a pre-construction weed inventory, and a Weed Control Plan.

Focused plant species surveys were conducted in spring/summer of 2007 where ROE permission was granted, and although some special status plant species were found, the results of the surveys are inconclusive because the poor rainfall conditions likely prevented the germination of many annual species. Even with implementation of BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22, the Proposed Project would impact special status plant species as detailed above in Impact B-5). Listed or sensitive plant (special status) species are also known to occur within and adjacent to the Future Transmission System Expansion corridors, and there is the potential for listed or sensitive plant species to occur within the Connected Actions and Indirect Effects corridors. Because it is not possible to completely assess the impacts to all special status plant species (including those with potential to occur [see Table D.2-3] since the survey results were inconclusive and some areas could not be surveyed), and because the possibility exists that the results of complete conclusive surveys would result in a significant impact, the overall impacts to special status plant species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Direct or Indirect loss of Wildlife. Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals, or direct loss of habitat as a result of temporary or permanent grading or vegetation clearing during Proposed Project, Connected Actions, or Indirect Effects construction (Impact B-7). In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from construction equipment, noise, and human activity in the construction zone.

The Proposed Project would impact the following listed wildlife species: Peninsular bighorn sheep (Class I), least Bell's vireo (Class II), quino checkerspot butterfly (Class I), arroyo toad (Class II), Stephens' kangaroo rat (Class I), coastal California gnatcatcher (Class II), and San Diego fairy shrimp (Class II). Each of these species is addressed individually in Section D.2.11 along with discussions of the listed desert pupfish (Class II), desert tortoise (Class II), southwestern willow flycatcher (Class II), Riverside fairy shrimp (Class II), and barefoot banded gecko (Class I) that could be impacted. Discussions are also provided for the sensitive FTHL (Class I), burrowing owl (Class II), and golden eagle (Class I and Class II)

that would be impacted. The Proposed Project, Connected Impacts, and Indirect Effects would also impact non-listed, sensitive wildlife species and their habitats (see Appendix 8A).

The following APMs would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. Even with implementation of the APMs, the Proposed Project would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1.

Most of the non-listed sensitive species' habitats are sensitive vegetation communities; the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

The Proposed Project, Connected Actions, and Indirect Effects areas contain a variety of vegetation communities as well as transmission towers that provide sites for bird nests. Construction activities would disturb vegetation and existing transmission towers and have the potential to impact nesting birds (Impact B-8). Ground-nesting birds could also be impacted by foot or vehicle/equipment traffic. The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing, or possessing migratory birds is unlawful.

BIO-APM-2 through 6, BIO-APM-9, BIO-APM-16, BIO-APM-18, and BIO-APM-27 (or Mitigation Measures B-1e through B-1i, B-2b, B-2c, B-6b and B-8b) would be implemented as part of the Proposed Project, Connected Action or Indirect Effects to minimize or prevent potential loss of nesting birds. However, these APMs either do not define the breeding season dates or do not include dates that cover the entire breeding season. With the additional implementation of Mitigation Measure B-8a, violation of the Migratory Bird Treaty Act is mitigable to less than significant levels (Class II).

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 (Impact B-9).

Operational Impacts

Temporary and Permanent Vegetation Displacement. The Proposed Project would cause permanent (displacement of vegetation with project features such as towers or permanent access roads) impacts to vegetation communities (Impact B-1). In total, the Proposed Project would permanently impact approximately 441 acres of sensitive vegetation (48 acres of non-sensitive vegetation).

Operation activities of the Connected Actions and Indirect Effects, particularly at the Stirling CSP site, would also result in the alteration of soil and surface conditions. The 36,000 CSP dishes would cast a shadow over an estimated 4,000 acres within the facility and an increase in water availability would occur during project operations. These project elements would substantially change the microclimate of the 8,000-acre site, which is anticipated to reduce or eliminate habitat suitability for many desert species. Therefore, all vegetation within the entire 8,000-acre fenced facility would be considered permanently impacted. The IID project would result in approximately 0.24 to 0.31 acres of permanent habitat loss, and

the San Felipe Substation would be approximately 20 acres in size. As described in Section B.6.3, it is expected that a geothermal project such as Esmeralda-San Felipe within Truckhaven would result in approximately 235 acres of permanent disturbance. The final footprint or permanent disturbance of the RWD project would be 5 to 10 percent of the total acreage of the RWD project sites, approximately 37.5 to 212.5 acres, but the wind facility would require between 750 and 2,125 acres of land that could be temporarily disturbed during construction.

Direct or Indirect Loss of Wildlife. During project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers (No Impact). Furthermore, surface water resources along the Proposed Project, Connected Actions, and Indirect Effects include desert washes and other streams, the majority of which are dry at most times and unlikely to support fish populations. Therefore, they are not expected to affect the movement of fish (No Impact).

However, bat nursery colonies would be significantly impacted by the Proposed Project, Connected Actions, or Indirect Effects if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction (Impact B-9). The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the Proposed Project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a which includes surveying for bat colonies; prohibiting approach of, or entrance to, an active nursery colony site; and implementation of methods to minimize potential indirect impacts to a colony site from falling rock or substantial vibration.

Mortality as a result of collision with Proposed Project, Connected Actions, or Indirect Effects features (i.e., transmission towers and lines) would be greatest where the movements of migrating birds are the most concentrated (Impact B-10). Since most birds migrate at night, and migration corridors have never been studied systematically, there is no way to know how many birds and what species of birds would actually be impacted by collision with transmission lines, towers, poles, or static wires. Therefore, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I).

For non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a, which requires the utilization of collision-reducing techniques, requires a study to determine the effectiveness of such devices, and requires implementation of a reporting system to document bird mortality.

Operation of the RWD project, an Indirect Effect of the Proposed Project, is expected to result in mortality of birds due to collision with wind turbines (Impact B-13). Recent studies have shown that taller towers are likely to reduce raptor mortality due to an increase in ground to rotor clearance, especially for red-tailed hawks, golden eagles, and American kestrels that utilize spaces closer to the ground for hunting prey. Avian mortality would be significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measure B-13a is required to, at least in part, compensate for impacts to birds from collision with turbines.

Operation of the RWD project, an Indirect Effect of the Proposed Project, is expected to result in some bat mortality from collision with wind turbines (Impact B-14). Studies show that bat mortality from collision with wind turbines is highest during the late summer and fall migration season. Based on other

studies in the west, some mortality of mostly migratory bats is anticipated. Bat mortality would not be mitigable to less than significant levels (Class I). Implementation of Mitigation Measure B-14a is required to, at least in part, compensate for impacts to bats from collision with turbines.

Environmental Impacts and Mitigation Measures for Alternatives Along Proposed Project Route

The discussion in each of the following sections addresses the impacts within each alternative, each of which would replace either a portion of the Proposed Project or portion of another alternative. Many of the alternatives evaluated in this section would be combined with other segments of the Proposed Project and/or other alternative segments to form a complete project. An analysis of how these alternatives compare with the Proposed Project is provided in Section E of this EIR/EIS. Table D.2-8a lists the impact titles and range of significance for all the alternatives. Table D.2-8b identifies the specific impact significance for each of the alternatives individually.

Table D.2-8a. Impacts Identified – Alternatives – Biological Resources

Impact No.	Description	Impact Significance
All Alternatives		
B-1	Construction activities would result in temporary and permanent losses of native vegetation	I, II, III
B-2	Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality	II, No Impact
B-3	Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species	II
B-4	Construction activities would create dust that would result in degradation of vegetation	III
B-5	Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants	I, No Impact
B-6	Construction, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality	III
B-7	Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (includes Impacts B-7A through B-7O for individual wildlife resources)	I, II, No Impact
B-8	Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)	II
B-9	Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites	II, No Impact
B-10	Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species	No impact (electrocution) I, II (collision)
B-11	Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers	II, III, No Impact
B-12	Maintenance activities would result in disturbance to wildlife and could result in wildlife mortality	I, II, III, No Impact

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Links	Alternatives	Impact No. (Class I, II, III, and/or NI)											
		B-1	B-2	B-3	B-4	B-5	B-6	B-7*	B-8	B-9	B-10	B-11	B-12
Imperial Valley	FTHL Eastern	I, II, III	II	II	III	I	III	I, II, NI	II	NI	I, II, NI	II	II, III, NI
	West of Dunaway	I, III	II	II	III	I	III	I, II, NI	II	NI	I, II, NI	II	II, III, NI
	West Main Canal–Huff Road Modification	I, III	II	II	III	I	III	II, NI	II	NI	I, II, NI	NI	II, III, NI
Anza-Borrego	Partial Underground 230 kV ABDSP SR78 to S2	I, III	II	II	III	I	III	I, II, NI	II	II, NI	I, II, NI	II, III, NI	III
	Overhead 500 kV ABDSP within Existing ROW	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
Central	Santa Ysabel Existing ROW	I, III	II	II	III	I	III	I, II, NI	II	II, NI	I, II, NI	III	II, III
	Santa Ysabel Partial Underground	I, III	II	II	III	I	III	I, II	II	II, NI	NI	NI	II, III
	Santa Ysabel All Underground	I, III	II	II	III	I	III	I, II, NI	II	II, NI	I, II, NI	NI	II, III
	Mesa Grande	I	II	II	III	I	III	I, NI	II	II, NI	I, II, NI	III	II, III
Inland Valley	CNF Existing 69 kV Route	I	II	II	III	I	III	I	II	II, NI	I, II, NI	III	II, III
	Oak Hollow Road Underground	I, III, NI	II	II	III	I	III	I, II	II	II, NI	NI	NI	II, III
	San Vicente Transition	I, III	II	II	III	I	III	I, II	II	II, NI	I, II, NI	III	II, III
	Chuck Wagon Road	I, III	II	II	III	I	III	I, II	II	II, NI	I, II, NI	III	II, III
Coastal	Pomerado Road to Miramar Area North	I, III	II	II	III	I	III	I, II	II	II, NI	I, II, NI	III	II, III
	Los Peñasquitos Canyon Preserve-Mercy Road	III, NI	II	II	III	NI	III	II, III	II	II, NI	NI	NI	II, III
	Black Mountain to Park Village Road Underground	III, NI	NI	II	III	NI	III	II, III	II	NI	NI	NI	II, III
	Coastal Link System Upgrade	I, III, NI	NI	II	III	NI	III	II, III	II	NI	I, III, NI	NI	II, III
Top of the World Substation		I, III	II	II	III	I	III	I	II	II, NI	I, II, NI	III	II, III

NI = No Impact; *includes Impacts B-7A through B-7Q for individual wildlife resources

Impacts Common to All Alternatives

Several general impacts to biological resources would occur with this alternative, and impact significance would be the same as for the Proposed Project due to their similar ecology and the wide-ranging nature of the impacts. For these impacts, the mitigation measures presented for the Proposed Project would also be required for these alternatives. Brief descriptions of the impacts have been included in this section and detailed discussion of each of these impacts is presented in the Proposed Project impact analysis in Sections D.2.5 to D.2.16.

Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species (Class II)

Implementation of BIO-APM-23 would ensure that the Proposed Project and alternatives would only remove the minimum amount of vegetation necessary for the construction of structures and facilities and that topsoil located in areas containing sensitive habitat with little no non-native species would be conserved during excavation and reused as cover on temporarily disturbed areas to facilitate re-growth of native vegetation and hinder the establishment of non-native species should non-native seeds be present in the temporarily disturbed areas. Implementation of BIO-APM-25 would ensure that disturbed soils would be revegetated with an appropriate seed mix that does not contain invasive, non-native plant species.

Although the reuse of topsoil can be effective, it may not be appropriate if there are any non-native species present. Furthermore, it is not always possible to obtain seed mixes that are absolutely free of invasive, non-native plant (weed) species. Therefore, the Proposed Project and alternatives would have a substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (Significance Criterion 2.b.), and the impact is considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-2a, and B-3a that include habitat restoration/compensation, a pre-construction weed inventory, and a Weed Control Plan.

Mitigation Measures for Impact B-3: Construction and operation/maintenance activities would result in the introduction of invasive, non-native, or noxious plant species

- B-1a** **Provide restoration/compensation for impacted sensitive vegetation communities.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.**
- B-3a** **Prepare and implement a Weed Control Plan.**

Impact B-4: Construction activities would create dust that would result in degradation of vegetation (Class III)

Construction activities such as grading, tower footing excavation, and driving of heavy equipment on unpaved roadways would result in increased levels of blowing dust that may settle on surrounding vegetation. Increased levels of dust on plants can significantly impact plants' photosynthetic capabilities and degrade the overall vegetation community. Implementation of BIO-APM-3 would ensure that, in addition to regular watering to control fugitive dust created during clearing, grading, earth-moving, excavation, or other construction activities that could interfere with plant photosynthesis, a 15-mile-per-hour speed limit would be observed on dirt access roads to reduce dust. This would ensure that the Proposed Project and the alternatives would not result in a substantial adverse effect on riparian or other sensitive vegetation communities (Significance Criterion 2.b.) through the spread of fugitive dust (Significance

Criterion 2.c.) and would render the potential impact from dust to a level of adverse but less than significant (Class III). No mitigation is required.

Impact B-6: Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality (Class III)

Direct mortality of small mammals; reptiles; eggs and nestlings of bird species with small, well-hidden nests and other less mobile species would likely occur during construction of the Proposed Project and the alternatives. This action would result primarily during habitat clearing, earth removal, grading, digging, and equipment movement. More mobile species like birds and larger mammals are expected to disperse into nearby habitat areas during construction.

Noise, dust, and visual disturbances from increased human activity, and exhaust fumes from heavy equipment used during construction would result in habitats adjacent to the construction zone being temporarily unattractive to wildlife. Construction would affect wildlife in adjacent habitats by interfering with breeding or foraging activities, altering movement patterns, or causing animals to temporarily avoid areas adjacent to the construction zone. Nocturnally active (i.e., active at night) wildlife would be affected less by construction than diurnally active (i.e., active during the day) species since construction would occur primarily during daylight hours (there may be some exceptions if construction occurs in the desert during the summer months).

Wildlife species are most vulnerable to disturbances during their breeding seasons. These disturbances would result in nest, roost, or territory abandonment and subsequent reproductive failure if these disturbances were to occur during an affected species' breeding season.

The use of access roads by construction/maintenance vehicles would result in accidental road-killed wildlife if these species were to be on the roads when they are used. Diurnally active reptiles and small mammals such as desert cottontails and California ground squirrels are the most likely to be subject to vehicle-caused mortality.

All of these impacts to general wildlife from the Proposed Project and alternatives would be significant according to Significance Criterion 4.a. (prevent access to foraging habitat, breeding habitat, water sources, or other areas necessary for survival and reproduction) and Significance Criterion 4.d. (adversely affect animal behavior through increased noise or nighttime lighting); however, with implementation of the following APMs, as set forth in Table D.2-5, the impacts would be adverse but less than significant (Class III), and no mitigation is required. Impacts to listed or sensitive wildlife species are addressed separately for each alternative below.

These APMs would be implemented as part of the Proposed Project and alternatives to address impacts to wildlife from construction activities, including the use of access roads: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-9, BIO-APM-16, BIO-APM-24, BIO-APM-26, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, clearing brush and trimming trees outside the breeding season, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act) (Class II)

The Migratory Bird Treaty Act implements various treaties and conventions between the U.S. and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the Act, taking, killing or possessing migratory birds is unlawful.

The following APMs would be implemented as part of the Proposed Project and alternatives to minimize or prevent potential loss of nesting birds: BIO-APM-2 through 6, BIO-APM-9, BIO-APM-16, BIO-APM-18, and BIO-APM-27. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, complying with wildlife/habitat protection regulations, surveying for nests prior to clearing brush, trimming trees outside the nesting season, designing structures and access roads to avoid or minimize impacts, and removing existing raptor nests from structures outside the raptor breeding season. However, these APMs either do not define the breeding season dates or do not include dates that cover the entire breeding season.

Even with the APMs, the Proposed Project and alternatives would violate the Migratory Bird Treaty Act if it resulted in the killing of migratory birds or caused the destruction or abandonment of migratory bird nests and/or eggs (Significance Criterion 1.g). This could occur through the removal of vegetation and/or through vehicle and foot traffic or excessive noise associated with construction. Violation of the Migratory Bird Treaty Act is a significant impact that is mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-8a. Wherever the mitigation measure set forth is more specific or restrictive than the APMs, the mitigation measure takes precedence.

Mitigation Measure for Impact B-8: Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act)

B-8a Conduct pre-construction surveys and monitoring for breeding birds.

D.2.21 Imperial Valley Link Alternatives Impacts and Mitigation Measures

There are three alternatives analyzed in the Imperial Valley Link, the FTHL Eastern Alternative, the SDG&E West of Dunaway Alternative, and the SDG&E West Main Canal-Huff Road Modification Alternative.

D.2.21.1 FTHL Eastern Alternative

This alternative was developed by the EIR/EIS team as a way to avoid almost 2 miles within the Flat-Tailed Horned Lizard (FTHL) Management Area. Instead the 500 kV overhead route would follow section lines within agricultural lands and would be approximately 1.5 miles shorter than the proposed route.

Environmental Setting

The FTHL Eastern Alternative is located in the Colorado Desert bioregion (CERES, 2003). This route would be approximately 1.2 miles shorter than the Proposed Project route. The FTHL Eastern Alternative crosses mostly agricultural fields, developed land, and disturbed habitat. The predominant native vegetation community along this route is Sonoran creosote bush scrub (Appendix 8D-1). The communities listed in Table D.2-9 that are found along this alternative route are described in detail in Section

D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: freshwater marsh, arrowweed scrub, mesquite bosque, and tamarisk scrub.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation community occurs along this alternative that does not occur along the Proposed Project route: non-native vegetation.

11000 Non-Native Vegetation. Non-native vegetation consists of non-native plant species that have been planted or have become established naturally and are not maintained or irrigated.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, the first approximate 1.8 miles of the route would pass through or adjacent to FTHL MA, but it would avoid nearly two miles of FTHL MA.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat is located along this route.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed during the rare plant survey for this alternative in 2007. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within approximately six miles of this alternative, and none have moderate to high potential to occur.

Special Status Wildlife Species. No listed or non-listed, sensitive wildlife species were observed during surveys for this alternative in 2007. The highly sensitive burrowing owl was observed between agricultural fields south of MP FTHL-3, east and west of the PSA (Appendix 8D-1), and the highly sensitive FTHL is expected to occur in the southern end of this alternative. No other special status wildlife species have been reported to the CNDDDB within approximately three miles of this alternative. The State listed threatened Swainson's hawk has potential to migrate across it, however. For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the FTHL Eastern Alternative as a result of construction, operation, and maintenance of the project.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation and type conversion; Class II for vegetation management; Class III for non-sensitive vegetation)

Construction of the FTHL Eastern Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-9). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed, disturbed habitat, eucalyptus woodland, and extensive agriculture would be adverse but less than significant (Class III), and no mitigation is required (unless it is in a FTHL MA or in FTHL habitat outside an MA [see Impact B-7A and Table D.2-9 below]). Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-9 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the FTHL Eastern Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-9. Impacts to Vegetation Communities and Required Mitigation – FTHL Eastern Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.17	0	0.00	0.47	0	0.00	0.00	0.00
Disturbed habitat	2.17	0	0.00	1.08	0	0.00	0.00	0.00
Extensive agriculture – field/pasture, row crops	4.11	0	0.00	3.67	0	0.00	0.00	0.00
Non-native vegetation	0.03	0	0.00	0.09	0	0.00	0.00	0.00
Subtotal	6.48	—	0.00	5.31	—	0.00	0.00	0.00

Table D.2-9. Impacts to Vegetation Communities and Required Mitigation – FTHL Eastern Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Desert Scrub and Dune Habitats								
Desert saltbush scrub	0.00	2:1	0.00	0.84	2:1	0.84	0.84	0.84
Desert saltbush scrub – disturbed	0.30	2:1	0.60	0.02	2:1	0.02	0.02	0.62
Sonoran creosote bush scrub	0.74	2:1	1.48	2.41	2:1	2.41	2.41	3.89
Sonoran creosote bush scrub – disturbed	0.41	2:1	0.82	0.01	2:1	0.01	0.01	0.83
Subtotal	1.45	—	2.90	3.28	—	3.28	3.28	6.18
Herbaceous Wetlands, Vernal Pools, Freshwater, and Streams								
Freshwater marsh	0.01	3:1	0.03	0.00	2:1	0.00	0.00	0.03
Subtotal	0.01	—	0.03	0.00	—	0.00	0.00	0.03
Riparian Scrubs								
Arrowweed scrub	0.00	2:1	0.00	0.13	2:1	0.13	0.13	0.13
Tamarisk scrub	0.19	1:1	0.19	1.57	1:1	1.57	0.00	0.19
Tamarisk scrub – disturbed	0.01	1:1	0.01	0.09	1:1	0.09	0.00	0.01
Subtotal	0.20	—	0.20	1.79	—	1.79	0.13	0.33
GRAND TOTAL	8.14	—	3.13	10.38	—	5.07	3.41	6.54

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately 31 non-native trees (acacia, eucalyptus, and pine) and zero native trees would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. SDG&E has also estimated that this alternative would require trimming of up to approximately 68 non-native trees (acacia, brisbane box, eucalyptus, and pine) and zero native trees.

The loss or trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal or trimming of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including removal/trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegeta-

tion community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-9.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

It is expected that direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the FTHL Eastern Alternative. A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: freshwater marsh, arrowweed scrub, mesquite bosque, and tamarisk scrub.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described

in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a. The full text of the mitigation measures appears in Appendix 12.

Mitigation Measures for Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-9.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No listed or non-listed, sensitive plant species were observed during the rare plant survey for this alternative in 2007. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within approximately six miles of this alternative, and none have moderate to high potential to occur.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that special status plant species are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-9.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-9.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (No Impact listed or sensitive wildlife except FTHL and burrowing owl; Other impact classes depend on species; see individual discussions)

Similar to the segment of the Proposed Project that it would replace, the FTHL Eastern Alternative would not result in impacts to Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, quino checkerspot butterfly, arroyo toad, Stephens' kangaroo rat, coastal California gnatcatcher, San Diego fairy shrimp, Riverside fairy shrimp, and barefoot banded gecko. Therefore, Impacts B-7B and B-7D through B-7O, which are included in the discussion of impacts for the overall Proposed Project, are not described for this alternative.

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. The highly sensitive FTHL is expected to occur in the southern end of this alternative (see Impact B-7A below and Appendix 8D-1). The highly sensitive burrowing owl was observed between agricultural fields south of MP FTHL-3, east and west of the PSA (see Impact B-7C below and Appendix 8D-1). No listed or non-listed, sensitive wildlife species have been reported to the CNDDDB within approximately three miles of this alternative, nor were any observed during 2007 surveys. The State listed threatened Swainson's hawk has potential to migrate across the alternative, however. The Swainson's hawk is discussed in Impact B-10 below.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

With implementation of the APMs, the FTHL Eastern Alternative would not have a substantial adverse effect on listed or non-listed, sensitive wildlife species and their habitats (No Impact; with the exception of the FTHL and burrowing owl; see Impacts B-7A and B-7C below).

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

Construction of the FTHL Eastern Alternative would impact five acres of FTHL MA (3.8 acres of temporary disturbance and 1.2 acres of permanent impact through habitat removal; see Appendix 8D, Figure Ap.8D-1) and would cause harm or harassment, and direct disturbance to FTHLs (mortality and loss of habitat). These impacts are significant according to Significance Criterion 1.c. (substantial adverse effect on FTHL MAs) and Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7b is required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of this alternative include increased predation of FTHLs by round-tailed ground squirrels that are attracted to roads and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 below for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b per the compensation requirements of the Flat-Tailed Horned Lizard Rangelwide Management Strategy that accounts for "indirect deleterious impacts" (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-9.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-9.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangelwide Management Strategy. For the FTHL Eastern Alternative, the required mitigation for FTHL impacts (if off-site acquisition is the method of compensation) is 23.5 acres.

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (6.5 acres associated with a single burrow) loss, even when impacts to individual owls and burrows are avoided. Although the burrowing owl was not observed within the PSA, it is a mobile species observed nearby. Therefore, the FTHL Eastern Alternative has the potential to impact up to two pairs and foraging habitat from construction of towers DA10 and DA11 (see Appendix 8D, Figure Ap.8D-1). The inability to avoid such impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c,

B-2a, and B-7d. With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls; see Section D.2.11, Impact B-7C), and with the mitigation options available per the CDFG (see full text of Mitigation Measure B-7d), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measures for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-9.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-9.
- B-7d** Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies. For the FTHL Eastern Alternative the required mitigation for impacts to the burrowing owl based on survey results include acquiring and preserving 19.5 acres of occupied habitat; or acquiring and preserving 26 acres of unoccupied habitat contiguous with occupied habitat; or acquiring and preserving 39 acres of suitable, unoccupied habitat.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact)

The FTHL Eastern Alternative may contain desert washes that carry intermittent or ephemeral flows in response to seasonal rain events. They are not expected to support fish and other species that are dependent on permanent water sources. This alternative does not cross designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat nursery colonies in the alternative area.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Due to the intermittent locations of construction activity, its temporary nature, and its location largely in an agricultural setting, 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 (No Impact).

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

Mortality as a result of collision with FTHL Eastern Alternative project features would be greatest where the movements of migrating birds are the most concentrated. However, there is no known concentrated

movement of migrating birds in Imperial Valley. Observations of Swainson's hawks in the Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the eastern portion of the Proposed Project (and through the FTHL Eastern Alternative), the migration is probably scattered until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

Even so, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II)

An increase in common ravens as a result of providing additional towers for nesting would impact the FTHL (also see Impact B-7A) through increased predation. This impact would be significant according to Significance Criterion 1.c. (substantial adverse effect on FTHL MAs by permanent disturbance) and Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a.

Mitigation Measure for Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a Prepare and implement a Raven Control Plan.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for nesting birds, burrowing owl, and FTHL; Class III for non-sensitive wildlife; No impact other special status species)

Special status species, with the exception of the FTHL and burrowing owl, have not been reported to the CNDDB within approximately six miles of this alternative, and none were observed during surveys of this alternative in 2007. Therefore, project maintenance (see Section D.2.16) would not impact special status species since none are present (No Impact).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.c., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance to FTHL MAs (1.c.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the burrowing owl if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of its nesting territories during its breeding season. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of FTHL. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7b.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-7b Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.21.2 West of Dunaway Alternative

This 6.1-mile alternative was suggested by SDG&E and approved by the proposed land use developer in the area. It would be an overhead 500 kV line, and would be 2.2 miles longer than the Proposed Project.

Environmental Setting

This alternative is located in the Colorado Desert bioregion (CERES, 2003). This route would diverge from the Proposed Project at MP 4. This route is 6.1 miles long (2.3 miles longer than the Proposed Project route segment it would replace) and would replace 3.8 miles of the Proposed Project. This alternative largely crosses undisturbed desert habitats. The predominant native vegetation community along this route is Sonoran creosote bush scrub (Appendix 8D-2). The communities listed in Table D.2-10 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: mesquite bosque, southern willow scrub, tamarisk scrub, and Sonoran wash scrub. Furthermore, there are 10 watercourse crossings, including Yuha Wash, with this alternative (Table D.12-12). Most of these watercourses are likely to be delineated as jurisdictional, non-wetland waters.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation community occurs along this alternative that does not occur along the Proposed Project route or the previously discussed alternative: unvegetated habitat-desert pavement.

13000 Unvegetated Habitat-Desert Pavement. Desert pavement is an exposure of bedrock or pebbles, closely packed after the removal of finer rock material, polished or smoothed by blown sand so that, eventually, the upper surfaces of the bedrock or pebbles are ground flat. The pebbles are often bonded together by salts, drawn to the surface in solution and precipitated by evaporation, which act as a cement (Clark, 1985).

Overview of Special Habitat Management Areas. The first approximate 2.5 miles of the West of Dunaway Alternative occurs in the FTHL MA (more than would occur with the segment of the Proposed Project this alternative would replace; Appendix 8D-2).

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat is located along this route.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed during the rare plant survey for this alternative in 2007. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within approximately three miles of this alternative, and none have moderate to high potential to occur.

Special Status Wildlife Species. No listed or non-listed, sensitive wildlife species were observed during surveys for this alternative in 2007. The highly sensitive FTHL is expected to occur in the southern end of this alternative. The highly sensitive burrowing owl has high potential to occur along this alternative. No other listed or non-listed, sensitive wildlife species have been reported to the CNDDDB within approximately three miles of this alternative. The State listed threatened Swainson's hawk has potential to migrate across it, however. For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the West of Dunaway Alternative as a result of construction, operation, and maintenance of the project.

There are four impacts that would occur in all links and all alternatives. They are listed below and summarized in Section D.2.20 under “Impacts Common to All Alternatives”. Impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II),
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II).

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the West of Dunaway Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-10). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be

available to compensate for the impacts. Impacts to developed, disturbed habitat, and unvegetated habitat-desert pavement would be adverse but less than significant (Class III), and no mitigation is required (unless it is in a FTHL MA or in FTHL habitat outside an MA [see Impact B-7A and Table D.2-10 below]). Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-10 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the West of Dunaway Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-10. Impacts to Vegetation Communities and Required Mitigation – West of Dunaway Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.13	0	0.00	0.14	0	0.00	0.00	0.00
Disturbed habitat	0.60	0	0.00	0.19	0	0.00	0.00	0.00
Unvegetated habitat-desert pavement	2.52	0	0.00	3.3	0	0.00	0.00	0.00
Subtotal	3.25	—	0.00	3.76	—	0.00	0.00	0.00
Desert Scrub and Dune Habitats								
Desert saltbush scrub	0.28	2:1	0.56	0.00	2:1	0.00	0.00	0.56
Sonoran creosote bush scrub	9.77	2:1	19.54	40.88	2:1	40.88	40.88	60.42
Sonoran creosote bush scrub – disturbed	0.53	2:1	1.06	3.01	2:1	3.01	3.01	4.07
Sonoran desert scrub	1.59	2:1	3.18	0.20	2:1	0.20	0.20	3.38
Sonoran wash scrub	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	12.17	—	24.34	44.09	—	44.09	44.09	68.43
Riparian Scrubs								
Mesquite bosque	1.20	3:1	3.60	0.24	2:1	0.24	0.24	3.84
Southern willow scrub	0.07	3:1	0.21	0.00	2:1	0.00	0.00	0.21
Tamarisk scrub	0.40	3:1	1.20	0.00	2:1	0.00	0.00	1.20
Subtotal	1.67	—	5.01	0.24	—	0.24	0.24	5.25
GRAND TOTAL	17.09		29.35	48.09		44.33	44.33	73.68

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately 28 non-native trees (acacia, eucalyptus, locust, pine, and tamarisk) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. Additionally, SDG&E has estimated that up to approximately 85 native trees (63 desert willow, 10 desert ironwood, and 12 mesquite) and 13 creosote bushes would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative.

The loss of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would

also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of up to approximately 20 non-native trees (acacia, brisbane box, eucalyptus, and pine) and up to one native willow tree. Although the trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegeta-

tion community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-10.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

It is expected that direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the West of Dunaway Alternative. A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: mesquite bosque, southern willow scrub, tamarisk scrub, and Sonoran wash scrub. Furthermore, there are 10 watercourse crossings, including Yuha Wash, with this alternative (Table D.12-12). Most of these watercourses are likely to be delineated as jurisdictional, non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c **Conduct biological monitoring.**

B-2a **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-10.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within more than three miles of this alternative, and non have moderate to high potential to occur. Poor rainfall conditions in 2007 limited the observation of annual plant species during the rare plant survey for this alternative, and no special status plant species were observed. However, due to the poor rainfall conditions, the absence of these species cannot be conclusively determined.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that special status plant species are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-10.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-10.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (No Impact listed or sensitive wildlife except FTHL and burrowing owl; Other impact classes depend on species; see individual discussions)

Similar to the segment of the Proposed Project that it would replace, the West of Dunaway Alternative would not result in impacts to Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, quino checkerspot butterfly, arroyo toad, Stephens' kangaroo rat, coastal California gnatcatcher, San Diego fairy shrimp, Riverside fairy shrimp, and barefoot banded gecko. Therefore, Impacts B-7B and B-7D through B-7O, which are included in the discussion of impacts for the overall Proposed Project, are not described for this alternative.

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. The highly sensitive FTHL is expected to occur in the southern end of this alternative (see Impact B-7A below and Appendix 8D-2). Although the burrowing owl was not observed in 2007 along this alternative, only a summer season survey has been conducted to date (see Table D.2-1), and the burrowing owl is a mobile species that could move into the alternative area at any time (see Impact B-7C below). No listed or non-listed, sensitive wildlife species have been reported to the CNDDDB within approximately three miles of this alternative, nor were any observed during 2007 surveys. The State listed threatened Swainson's hawk has potential to migrate across the alternative, however. The Swainson's hawk is discussed in Impact B-10 below.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

With implementation of the APMs, the West of Dunaway Alternative would not have a substantial adverse effect on listed or non-listed, sensitive wildlife species and their habitats (No Impact; with the exception of the FTHL and burrowing owl; see Impacts B-7A and B-7C below).

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

Construction of the West of Dunaway Alternative would impact 45.7 acres of FTHL MA (38.6 acres of temporary disturbance and 7.1 acres of permanent impact through habitat removal; see Appendix 8D, Figure Ap.8D-2) and would cause harm or harassment, and direct disturbance to FTHLs (mortality and loss of habitat). These impacts are significant according to Significance Criterion 1.c. (substantial adverse effect on FTHL MAs) and Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7b is required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of this alternative include increased predation of FTHLs by round-tailed ground squirrels and loggerhead shrikes (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 below for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). Mitigation in the form of habitat compensation would be required for impacts from the increased predation as described in Mitigation Measure B-7b per the compensation requirements of the Flat-Tailed Horned Lizard Rangewide Management Strategy that accounts for “indirect deleterious impacts” (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-10.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-10.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy. For the West of Dunaway Alternative, the required mitigation for FTHL impacts (if off-site acquisition is the method of compensation) is 211.5 acres.

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

The burrowing owl was not found along this alternative but is known from the vicinity. Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (6.5 acres associated with a single burrow) loss, even when impacts to individual owls and burrows are avoided. The inability to avoid such impacts, should the burrowing owl be found along this alternative, would be significant

according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7d. With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls; see Section D.2.11, Impact B-7C) and with the mitigation options available per the CDFG (see full text of Mitigation Measure B-7d), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measures for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-10.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-10.
- B-7d** Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact)

The West of Dunaway Alternative contains desert washes that carry intermittent or ephemeral flows in response to seasonal rain events. They are not expected to support fish and other species that are dependent on permanent water sources. This alternative does not cross designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat nursery colonies in the alternative area.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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 (No Impact).

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

Mortality as a result of collision with West of Dunaway Alternative project features would be greatest where the movements of migrating birds are the most concentrated. However, there is no known concentrated movement of migrating birds in Imperial Valley. Observations of Swainson's hawks in the

Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the eastern portion of the Proposed Project (and through the West of Dunaway Alternative), the migration is probably scattered until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

Even so, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II)

An increase in common ravens as a result of providing additional towers for nesting would impact the FTHL (see Impact B-7A above) through increased predation. This impact would be significant according to Significance Criterion 1.c. (substantial adverse effect on FTHL MAs by permanent disturbance) and Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11a.

Mitigation Measure for Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11a Prepare and implement a Raven Control Plan.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for nesting birds, burrowing owl, and FTHL; Class III for non-sensitive wildlife; No impact other special status species)

Special status species, with the exception of the FTHL and burrowing owl, have not been reported to the CNDDDB within approximately three miles of this alternative, and none were observed during surveys of this alternative in 2007. Therefore, project maintenance (see Section D.2.16) would not impact special status species since they are not present (No Impact).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant impacts according to Significance Criteria 1.c., 1.f., 1.g., and 2.b. that include disturbance to FTHL MAs (1.c.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the burrowing owl should it be present and the noise threshold (i.e., 60 dB[A] Leq hourly) met or exceeded at the edge of its nesting territories during its breeding season. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of FTHL. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7b.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** **Prepare and implement a Weed Control Plan.**
- B-7b** **Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.**
- B-12a** **Conduct maintenance activities outside the general avian breeding season.**

D.2.21.3 West Main Canal–Huff Road Modification Alternative

This 4.9-mile alternative would follow the IID Westside Main Canal to the east-northeast, and then turn north on Huff Road. Existing IID 92 kV transmission lines are located on the west side of Huff Road along most of this segment; however, where the IID line would turn northwest, this alternative would continue straight along Huff Road to reconnect with the Proposed Project 0.2 miles south of Wheeler Road (MP 15.9). The lengths of the alternative and the proposed routes would be essentially the same; however, this route would avoid direct effects to the Bullfrog Farms and also to the Raceway development.

Environmental Setting

The West Main Canal-Huff Road Modification Alternative is located in the Colorado Desert bioregion (CERES, 2003). It is 4.9 miles long and would replace 5.3 miles of the Proposed Project. Similar to the Proposed Project route segment this alternative would replace, it largely crosses agricultural fields, developed land, and disturbed habitat. The predominant native vegetation community along this route is desert saltbush scrub (Appendix 8D-3). The communities listed in Table D.2-11 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: disturbed wetland, freshwater marsh, arrowweed scrub, mesquite bosque, and tamarisk scrub.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, no FTHL MA is located along this route.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat is located along this route.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed during the rare plant survey for this alternative in 2007. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within approximately nine miles of this alternative, and none have moderate to high potential to occur.

Special Status Wildlife Species. No listed or non-listed, sensitive wildlife species were observed during surveys for this alternative in 2007. The West Main Canal-Huff Road Modification Alternative does not occur within the current distribution of the highly sensitive FTHL (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). The highly sensitive burrowing owl was observed during surveys in 2007 approximately 0.1 miles west of MP WMC-4.5 and approximately 0.3 miles west of MP WMC-3.3 (Appendix 8D-3). No other listed or non-listed, sensitive wildlife species have been reported to the CNDDDB within approximately three miles of this alternative. The State listed threatened Swainson's hawk has potential to migrate across it, however. For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the West Main Canal-Huff Road Modification Alternative as a result of construction, operation, and maintenance of the project.

There are four impacts that would occur in all links and all alternatives. They are listed below and summarized in Section D.2.20 under “Impacts Common to All Alternatives”. Impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II),
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II).

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the West Main Canal-Huff Road Modification Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-11). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to non-native vegetation, developed, disturbed habitat, and extensive agriculture would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-11 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the West Main Canal-Huff Road Modification Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-11. Impacts to Vegetation Communities and Required Mitigation – West Main Canal-Huff Road Modification Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts			Total Offsite Mitigation	
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration		Offsite Mitigation
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Non-native vegetation	0.07	0	0.00	0.00	0	0.00	0.00	0.00
Developed	0.06	0	0.00	0.00	0	0.00	0.00	0.00
Disturbed habitat	3.28	0	0.00	1.53	0	0.00	0.00	0.00
Extensive agriculture	4.12	0	0.00	4.23	0	0.00	0.00	0.00
Subtotal	7.53	—	0.00	5.76	—	0.00	0.00	0.00
Desert Scrub and Dune Habitats								
Desert saltbush scrub	0.34	2:1	0.68	0.38	2:1	0.38	0.38	1.06
Desert saltbush scrub – disturbed	0.53	2:1	1.06	0.19	2:1	0.19	0.19	1.25
Subtotal	0.87	—	1.74	0.57	—	0.57	0.57	2.31
Herbaceous Wetlands, Vernal Pools, Freshwater, and Streams								
Disturbed wetland	0.09	2:1	0.18	0.00	2:1	0.00	0.00	0.18
Freshwater marsh	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.09	—	0.18	0.00	—	0.00	0.00	0.18
Riparian Scrubs								
Arrowweed scrub	0.02	2:1	0.04	0.17	2:1	0.17	0.17	0.21
Arrowweed scrub – disturbed	0.03	2:1	0.06	0.01	2:1	0.01	0.01	0.07
Mesquite bosque – disturbed	0.07	3:1	0.21	0.03	2:1	0.03	0.03	0.24
Tamarisk scrub	0.07	1:1	0.07	0.03	1:1	0.03	0.00	0.07
Subtotal	0.19	—	0.38	0.24	—	0.24	0.21	0.59
GRAND TOTAL	8.68	—	2.30	6.57	—	0.81	0.78	3.08

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately 12 non-native trees (acacia, eucalyptus, locust, pine, and tamarisk) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the this alternative. Additionally, SDG&E has estimated that up to approximately 40 native trees (29 desert willow, 5 desert ironwood, and 6 mesquite) and six creosote bushes would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the this alternative.

The loss of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12)

for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of up to approximately eight non-native trees (acacia, brisbane box, eucalyptus, and pine) and zero native trees. Although the trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

The loss of up to approximately 40 native trees is considered a significant impact that is not mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identi-

fied as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-11.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

It is expected that direct and/or indirect impacts to jurisdictional waters and possibly wetlands (i.e., areas regulated by the ACOE and Regional Water Quality Control Board RWQCB and/or CDFG) could occur from construction of the West Main Canal-Huff Road Modification Alternative. A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the alternative route are often jurisdictional: disturbed wetland, freshwater marsh, arrowweed scrub, mesquite bosque, and tamarisk scrub.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-11.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No listed or non-listed, sensitive plant species have been reported to the CNDDDB within approximately nine miles of this alternative, and none have moderate to high potential to occur. Poor rainfall conditions in 2007 limited the observation of annual plant species during the rare plant survey for the West Main Canal-Huff Road Modification Alternative, and no special status plant species were observed. However, due to the poor rainfall conditions, the absence of these species cannot be conclusively determined.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that special status plant species are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-11.

- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-11.
- B-5a** **Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class II for burrowing owl; No Impact other listed or sensitive wildlife)

Similar to the segment of the Proposed Project that it would replace, the West Main Canal-Huff Road Modification Alternative would not result in impacts to FTHL, Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, quino checkerspot butterfly, arroyo toad, Stephens' kangaroo rat, coastal California gnatcatcher, San Diego fairy shrimp, Riverside fairy shrimp, and barefoot banded gecko. Therefore, Impacts B-7A, B-7B and B-7D through B-7O, which are included in the discussion of impacts for the overall Proposed Project, are not described for this alternative.

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. No listed or non-listed, sensitive wildlife species have been reported to the CNDDDB within approximately three miles of this alternative, and none have moderate to high potential to occur. The highly sensitive burrowing owl was observed during surveys in 2007 approximately 0.1 miles west of MP WMC-4.5 and approximately 0.3 miles west of MP WMC-3.3 (see Impact B-7C below and Appendix 8D-3), and the State listed threatened Swainson's hawk potential has potential migrate across the alternative. The Swainson's hawk is discussed in Impact B-10 below.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

With implementation of the APMs, this alternative would not have a substantial adverse effect on listed or non-listed, sensitive wildlife species and their habitats (No Impact; with the exception of the burrowing owl; see Impact B-7C below).

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

Although the burrowing owl was not observed within the PSA, it was observed nearby (Appendix 8D, Figure Ap.8D-3) and could move into the alternative area at any time. Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (6.5 acres associated with a single burrow) loss, even when impacts to individual owls and burrows are avoided. The inability to avoid such impacts, should the burrowing owl be found along this alternative, would be significant according

to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7d. With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls; see Section D.2.11, Impact B-7C) and with the mitigation options available per the CDFG (see full text of Mitigation Measure B-7d), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measure for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

- B-1a** **Provide restoration/compensation for impacted sensitive vegetation communities.** See Table D.2-11.
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-11.
- B-7d** **Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact)

The West Main Canal-Huff Road Modification Alternative may contain desert washes that carry intermittent or ephemeral flows in response to seasonal rain events. They are not expected to support fish and other species that are dependent on permanent water sources. This alternative does not cross designated critical habitat for Peninsular bighorn sheep, and there are no rock crevices, caves, or other potential features present to support bat nursery colonies in the alternative area.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Due to the intermittent locations of construction activity, its temporary nature, and its location largely in an agricultural setting, 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 (No Impact).

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

Mortality as a result of collision with West Main Canal-Huff Road Modification Alternative project features would be greatest where the movements of migrating birds are the most concentrated. How-

ever, there is no known concentrated movement of migrating birds in Imperial Valley. Observations of Swainson's hawks in the Imperial Valley demonstrate that the species is a regular there, but most observations are of scattered individuals and small flocks. Given the lack of any topography to funnel the migration of Swainson's hawks through the eastern portion of the Proposed Project (and through the West Main Canal-Huff Road Modification Alternative), the migration is probably scattered until the birds reach the base of the mountains at Borrego Springs (Unitt, 2007).

Even so, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

The West Main Canal-Huff Road Modification Alternative does not occur within the current distribution of the highly sensitive FTHL (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). No other listed or non-listed, sensitive wildlife species that could be preyed upon by ravens have been reported to the CNDDDB within approximately three miles of this alternative, nor were any observed during surveys for this alternative in 2007. Therefore, this alternative would not have a substantial adverse effect on FTHL MAs by permanent disturbance (Significance Criterion 1.c.) and would not indirectly cause the mortality of special status wildlife species (Significance Criterion 1.f.; No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for nesting birds and burrowing owl; Class III for non-sensitive wildlife; No impact other special status species)

Special status species, with the exception of the burrowing owl, have not been reported to the CNDDDB within approximately three miles of this alternative, and none were observed during surveys of this alternative in 2007. Therefore, project maintenance (see Section D.2.16) would not impact special status species since they are not present (No Impact).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.f., 1.g., and 2.b. that include impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the burrowing owl should it be present and the noise threshold (i.e., 60 dB[A] Leq hourly) met or exceeded at the edge of its nesting territories during its breeding season. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.22 Anza-Borrego Link Alternatives Impacts and Mitigation Measures

Two alternatives are considered in the Anza-Borrego Link: the Partial Underground 230 kV ABDSP SR78 to S2 Alternative (also considered with an All Underground Option) and the Overhead 500 kV ABDSP within Existing ROW Alternative.

D.2.22.1 Partial Underground 230 kV ABDSP SR78 to S2 Alternative

This alternative was developed by the EIR/EIS team and would include installation of a double-circuit bundled 230 kV line (as opposed to an overhead 500 kV with the Proposed Project) that would be installed underground in SR78 through ABDSP. The proposed Central East Substation would not be constructed with this alternative and approximately 2 miles of transmission line (one mile of 500 kV and one mile of 230 kV) to and from that substation would be eliminated. Instead a new 500 kV/230 kV substation would be constructed adjacent to the existing IID San Felipe Substation to accommodate the new transmission line.

There is also an All Underground Option considered for this alternative, in which the entire length of the 230 kV transmission line between the San Felipe Substation and the connection to the Proposed Project would be installed underground in Highways SR78 and S2.

Environmental Setting

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative is located in the Colorado Desert and South Coast bioregions (CERES, 2003). This alternative is 37.6 miles long (9.8 miles overhead and 27.8 miles underground) and would replace 34 miles of the Proposed Project. The first underground segment would begin at the San Felipe Substation (to be constructed as part of this alternative east of ABDSP) and would be installed in paved roads (Split Mountain Road and SR78) for 25 miles. The second underground segment would also be in paved roadway within S2 in the San Felipe Valley for approximately 2.8 miles. The first overhead segment would be one mile long at the western edge of ABDSP within the Grapevine Mountain Wilderness Area from MP SR78-25 to MP SR78-26. The second overhead segment would be approximately 8.8 miles long along the east side of S2 from approximately MP SR78-28.8 to the Proposed Project's Central East Substation at MP SR78-37.6. A brief discussion of the San Felipe Substation is provided at the end of Section D.2.22.1. The predominant vegetation community along this alternative is Sonoran mixed woody and succulent scrub. The communities listed in Table D.2-12 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative are often jurisdictional: mesquite bosque, southern willow scrub, southern cottonwood-willow riparian forest, southern riparian forest, cismontane alkali marsh, and freshwater marsh.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation communities occur along this alternative that do not occur along the Proposed Project route or any other previously described route.

29000 Acacia Scrub. Acacia scrub is a shrubby habitat less than two meters tall that is dominated by catclaw (*Acacia greggii*). It occurs in a patchy distribution in canyons and washes and may support a variety of seasonal herbaceous species. Other species present include cheesebush (*Hymenoclea salsola*), rush sweetbush (*Bebbia juncea*), smoke tree (*Psoralea argemone*), rayless encelia (*Encelia frutescens*), and cacti (e.g., cholla [*Cylindropuntia* spp.] and Engelmann's hedgehog cactus [*Echinocactus polycephalus*]).

37K00 Flat-Topped Buckwheat Scrub. Flat-topped buckwheat scrub is a nearly monotypic type of coastal sage scrub that occurs in the interior mountains and valleys. It is predominated by its namesake, *Eriogonum fasciculatum*, which typically comprises

more than 70 percent of the vegetative cover. Other species in this community may include deerweed, cudweeds (*Gnaphalium bicolor*, *G. californica*, and *G. coulteri*).

52310 Cismontane alkali marsh. Cismontane alkali marsh is characterized by wet or inundated areas dominated by emergent vegetation, but often with an understory of grasses or sedges. Standing water or saturated soil is present all or most of the year. High evaporation and low input of fresh water results in high salinity, especially during the summer (Holland, 1986). Characteristic species may include: salt grass (*Distichlis* spp.), California loosestrife (*Lythrum californicum*), and Mexican rush (*Juncus mexicanus*).

61330 Southern Cottonwood-Willow Riparian Forest. Southern cottonwood-willow riparian forest consists of tall, open, broad-leaved, winter-deciduous riparian species and is dominated by cottonwood species (e.g., *Populus fremontii* and *Populus trichocarpa*), with willow species (*Salix* spp.) comprising the main understory. This vegetation community is dense, structurally diverse, and similar to southern arroyo willow riparian forest, although it contains a greater amount of cottonwoods and western sycamores (*Platanus racemosa*; Holland, 1986).

61300 Southern Riparian Forest. Southern riparian forest is composed of winter-deciduous trees such as willow, cottonwood, and western sycamore, that require water near the soil surface. The canopies of the individual trees overlap, so that a canopy cover exceeding 100 percent may occur in the upper tree stratum. Associated understory species may include mule fat, stinging nettle (*Urtica dioica* ssp. *holosericea*), and wild grape (*Vitis girdiana*; Beauchamp, 1986).

Overview of Special Habitat Management Areas. This alternative occurs almost entirely within ABDSP. It would pass overhead adjacent to the San Felipe Hills Wilderness Study Area, overhead through the San Felipe Valley Wildlife Area, and overhead through a portion of Grapevine Mountain Wilderness. This alternative would be underground in SR78 and S2 where they pass through Grapevine Mountain Wilderness. It would also be underground in SR78 where it passes between Pinyon Ridge Wilderness and Vallecito Mountains Wilderness.

Designated Critical Habitat. This alternative is located within Peninsular bighorn sheep designated critical habitat from approximately MP SR78-11.5 through MP SR78-27.5 and is located within approximately 500 feet of southwestern willow flycatcher designated critical habitat west of S2 at approximately MP SR78-35.5.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed along this alternative in 2007: desert spikemoss.

These listed or non-listed, sensitive plant species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records: Borrego bedstraw (listed) and Coves' cassia (non-listed, sensitive). For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. The following listed wildlife species were observed along this alternative.

- Least Bell's vireo

- PBS
- Little willow flycatcher and/or southwestern willow flycatcher (in migration only in 2007)

The following listed or highly sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records.

- QCB
- Swainson's hawk
- Unarmored threespine stickleback
- Southwestern willow flycatcher
- Barefoot banded gecko
- Western yellow-billed cuckoo
- FTHL
- SKR

The following non-listed, sensitive wildlife species were observed along this alternative.

- Sharp-shinned hawk
- Yellow-breasted chat
- Northern harrier
- Summer tanager
- Yellow warbler

The following non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records.

- Two-striped garter snake
- Red-diamond rattlesnake
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Colorado Desert fringe-toed lizard
- Belding's orange-throated whiptail
- Silvery legless lizard
- Cooper's hawk
- White-tailed kite
- Prairie falcon
- Loggerhead shrike
- California horned lark
- Western bluebird
- Le Conte's thrasher
- Crissal thrasher
- Townsend's big eared bat
- Western mastiff bat
- Fringed myotis
- Long-legged myotis
- Pallid bat
- Pallid San Diego pocket mouse
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Yuma myotis
- Colorado Valley woodrat
- San Diego desert woodrat
- Pocketed free-tailed bat
- Palm Springs little pocket mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Partial Underground 230 kV ABDSP SR78 to S2 Alternative as a result of construction, operation, and maintenance of the project.

There are four impacts that would occur in all links and all alternatives. They are listed below and summarized in Section D.2.20 under “Impacts Common to All Alternatives”. Impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II),
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II).

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-12). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

This alternative also has the potential to impact vegetation outside of the construction zone in Sentenac Canyon where blasting of the hillside would occur, and rock or debris could roll into San Felipe Creek and impact riparian vegetation. Since it is not possible to estimate the acreage of this potential impact, none is included in Table D.2-12. Mitigation Measures B-1a and B-1c, however, provide a method of documenting this impact, should it occur, and compensating for it. These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed and disturbed habitat would be adverse but less than significant (Class III), and no mitigation is required (unless it is in a FTHL MA or in FTHL habitat outside an MA [see Impact B-7A and Table D.2-12 below]). Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-12 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Partial Underground 230 kV ABDSP SR78 to S2 Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-12. Impacts to Vegetation Communities and Required Mitigation – Partial Underground 230 kV ABDSP SR78 to S2 Alternative*

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Off-site Mitigation
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.35	0	0.00	0.06	0	0.00	0.00	0.00
Disturbed habitat	1.19	0	0.00	0.27	0	0.00	0.00	0.00
Subtotal	1.54	--	0.00	0.33	--	0.00	0.00	0.00
Desert Scrub and Dune Habitats								
Acacia scrub	0.37	2:1	0.74	0.88	2:1	0.88	0.88	1.62
Acacia scrub – burned	3.51	2:1	7.02	1.19	2:1	1.19	1.19	8.21
Acacia scrub – disturbed	0.00	2:1	0.00	0.23	2:1	0.23	0.23	0.23
Desert saltbush scrub	6.69	2:1	13.38	0.00	2:1	0.00	0.00	13.38
Desert saltbush scrub – disturbed	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Sonoran creosote bush scrub	56.55	2:1	113.10	0.46	2:1	0.46	0.46	113.56
Sonoran creosote bush scrub – disturbed	0.44	2:1	0.88	0.00	2:1	0.00	0.00	0.88
Sonoran desert scrub	1.63	2:1	3.26	0.92	2:1	0.92	0.92	4.18
Sonoran desert scrub – disturbed	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Sonoran mixed woody scrub	11.09	2:1	22.18	7.46	2:1	7.46	7.46	29.64
Sonoran mixed woody scrub – disturbed	0.48	2:1	0.96	0.23	2:1	0.23	0.23	1.19
Sonoran mixed woody and succulent scrub	3.40	2:1	6.80	2.98	2:1	2.98	2.98	9.78
Sonoran mixed woody and succulent scrub – disturbed	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Sonoran wash scrub	0.58	2:1	1.16	0.17	2:1	0.17	0.17	1.33
Sonoran wash scrub – disturbed	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	84.74	--	169.48	14.52	--	14.52	14.52	184.00

Sunrise Powerlink Project
D.2 BIOLOGICAL RESOURCES

Table D.2-12. Impacts to Vegetation Communities and Required Mitigation – Partial Underground 230 kV ABDSP SR78 to S2 Alternative*

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Off-site Mitigation
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Coastal and Montane Scrub Habitats								
Coastal sage scrub–inland form-disturbed	0.34	1.5:1	0.51	0.94	1:1	0.94	0.00	0.51
Flat-topped buckwheat scrub	0.42	2:1	0.84	0.31	2:1	0.31	0.31	1.15
Subtotal	0.76	--	1.35	1.25	--	1.25	0.31	1.66
Chaparrals								
Chamise chaparral	1.56	1:1	1.56	2.73	1:1	2.73	0.00	1.56
Chamise chaparral-burned	0.46	1:1	0.46	0.46	1:1	0.46	0.00	0.46
Northern mixed chaparral	2.37	1:1	2.37	1.73	1:1	1.73	0.00	2.37
Northern mixed chaparral-burned	4.73	1:1	4.73	3.26	1:1	3.26	0.00	4.73
Northern mixed chaparral-granitic	0.13	1:1	0.13	0.68	1:1	0.68	0.00	0.13
Semi-desert chaparral	0.98	1:1	0.98	0.46	1:1	0.46	0.00	0.98
Subtotal	10.23	--	10.23	9.32	--	9.32	0.00	10.23
Woodlands and Forests								
Coast live oak woodland	0.08	3:1	0.24	0.01	3:1	0.01	0.02	0.26
Peninsular juniper woodland and scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.08	--	0.24	0.01	--	0.01	0.02	0.26
Herbaceous Wetlands, Freshwater, and Streams								
Cismontane alkali marsh	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Freshwater marsh	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	--	0.00	0.00	--	0.00	0.00	0.00
Riparian Scrubs								
Mesquite bosque	0.56	3:1	1.68	0.61	2:1	0.61	0.61	2.29
Southern willow scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.56	--	1.68	0.61	--	0.61	0.61	2.29
Riparian Forests and Woodlands								
Desert dry wash woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern cottonwood-willow riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	--	0.00	0.00	--	0.00	0.00	0.00
GRAND TOTAL	97.91	--	182.98	26.04	--	25.71	15.46	198.44

*Impacts and mitigation include the San Felipe Substation.

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately 85 non-native trees (acacia, eucalyptus, locust, pine, and tamarisk) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. Additionally, SDG&E has estimated that up to approximately 365 native trees (270 desert willow, 43 desert

ironwood, 48 mesquite, and 4 oak trees) and up to 56 creosote bushes would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative.

The loss of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that alternative would require trimming of up to approximately eight non-native trees (acacia, brisbane box, eucalyptus, and pine) and up to one native oak tree. Although the trimming of non-native trees or shrubs would be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise, trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species.

Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative are often jurisdictional: mesquite bosque, southern willow scrub, southern cottonwood-willow riparian forest, southern riparian forest, cismontane alkali marsh, and freshwater marsh.

Furthermore, there are at least 45 major watercourse crossings with this alternative, many with multiple individual crossings (Table D.12-14). The majority of these crossings (37 crossings), however, occur where the alternative occurs underground in existing roadways. In addition to the crossings, the alternative travels underground in SR78 adjacent to a series of desert washes and San Felipe Creek; part of San Felipe Creek is in a narrow canyon (Sentenac Canyon) where water flow is confined, and SR78 shows evidence of having been eroded by past creek flows. Most of the watercourses, with the excep-

tion of San Felipe Creek, are likely to be delineated as jurisdictional, non-wetland waters. It is anticipated that there would be minimal impacts to jurisdictional waters and wetlands since most of this alternative occurs in existing roadways.

This alternative has the potential to impact jurisdictional areas along San Felipe Creek in Sentenac Canyon where blasting of the hillside would occur, and rock or debris could roll into San Felipe Creek. Since it is not possible to estimate the acreage of this potential impact, none is included in Table D.2-12. Mitigation Measures B-1c and B-2a, however, provide a method of documenting this impact, should it occur, and compensating for it.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a. The full text of the mitigation measures appears in Appendix 12.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c **Conduct biological monitoring.**

B-2a **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-12.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of the overhead portions of this alternative and the San Felipe Substation. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. Desert spikemoss was the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8E); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. The following special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records: Borrego

bedstraw and Coves' cassia. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Desert Spikemoss. Desert spikemoss was observed at five locations between MPs SR78-20 and SR78-21, at eight locations from approximately MPs SR78-22 to just past SR78 23, and at one location between SR78-25 and SR78-26 (Appendix 8E, Figure Ap.8E-4). This alternative is likely to impact the one location of this species between SR78-25 and SR78-26 through construction of an access road and towers HWYS2004 and HWYS2005. The other locations occur adjacent to SR78, and this alternative would be underground in SR78 where they are located.

Pygmy Lotus. Pygmy lotus was observed at four locations adjacent to SR78 between approximately MPs SR78-22 to SR78 23 (Appendix 8E, Figure Ap.8E-4). This species would not be impacted by this alternative because it would be underground in SR78 where they are located.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted at the San Felipe Substation site and along the 9.8 miles of the two overhead segments of the alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.

B-5a Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative, particularly at the San Felipe Substation and along the 9.8 miles of the overhead transmission line segments. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: burrowing owl, desert pupfish, bald eagle, coastal California gnatcatcher, San Diego fairy shrimp, and Riverside fairy shrimp. Although the desert tortoise has low potential to occur, the USFWS required surveys for the species in this alternative study area (MP SR78-0 through MP SR78-12 [San Felipe Substation through the intersection of SR78 and Kane Springs Road]), so the tortoise is addressed in Impact B-7G below. Although the golden eagle was observed along this alternative (Appendix 8E, Figure Ap.8E-3), the closest location of a golden eagle nest to this alternative is approximately 6.5 miles away (Bittner, 2007). Since a significant impact to golden eagles occurs within 4,000 feet of an active eagle nest, the golden eagle would not be affected by this alternative and is not addressed further.

This alternative would impact these non-listed, sensitive wildlife species and their habitats: yellow warbler, yellow-breasted chat, summer tanager, sharp-shinned hawk, northern harrier, and white-tailed kite (the FTHL is addressed in Impact B-7A) and has the potential to impact the 30 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.22.1) should they be present.

Yellow Warbler. Six yellow warblers were observed along San Felipe Creek between MPs SR78-23 and SR78-27 (Appendix 8E, Figures Ap.8E-4 and Ap.8E-5). This alternative would not directly impact this species or its habitat because the alternative is underground in SR78 where it is adjacent to the habitat (i.e., San Felipe Creek). It would cause significant indirect noise impacts that would affect yellow warbler breeding, however, if construction were to occur adjacent to San Felipe Creek during the general avian breeding season (see Impact B-8).

Yellow-Breasted Chat. Six yellow-breasted chats were observed along San Felipe Creek between MPs SR78-24 and SR78-28 (Appendix 8E, Figures Ap.8E-4 and Ap.8E-5). This alternative would not directly impact this species or its habitat because the alternative is underground in SR78 where it is adjacent to the habitat (i.e., San Felipe Creek). It would cause significant indirect noise impacts that would affect yellow-breasted chat breeding, however, if construction were to occur adjacent to San Felipe Creek during the general avian breeding season (see Impact B-8).

Summer Tanager. Four summer tanagers were observed along San Felipe Creek between MPs SR78-24 and SR78-27 (Appendix 8E, Figures Ap.8E-4 and Ap.8E-5). This alternative would not directly impact this species or its habitat because the alternative is underground in SR78 where it is adjacent to the habitat (i.e., San Felipe Creek). It would cause significant indirect noise impacts that would affect summer

anager breeding, however, if construction were to occur adjacent to San Felipe Creek during the general avian breeding season (see Impact B-8).

Sharp-Shinned Hawk. One sharp-shinned hawk was observed near MP SR78-31 (Appendix 8E, Figure Ap.8E-5). This alternative is not likely to impact this species since it is a fall migrant or uncommon winter visitor that is not known to nest in San Diego County (Unitt, 2004).

Northern Harrier. One northern harrier was observed near MP SR78-31.5 (Appendix 8E, Figure Ap.8E-5). This species could possibly breed along this alternative (Unitt, 2004). The location where it was observed is adjacent to an underground portion of the alternative that is not within an existing roadway. So construction of this underground portion would impact this species by grading, trenching, human activity, etc. if it occurred at or near a nest location (this species nests on the ground; see Impact B-8). Some of its foraging habitat would be removed as well and replaced with access roads and towers.

White-Tailed Kite. One white-tailed kite was observed near MP SR78-27.5. This species has potential to nest in riparian forest along San Felipe Creek. This alternative would not directly impact breeding habitat for this species, and it occurs underground in SR78 where this species was observed. This alternative would cause significant indirect noise impacts that would affect white-tailed kite breeding, however, if construction were to occur adjacent to San Felipe Creek during the general avian breeding season (see Impact B-8).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-12); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

This alternative would impact or has the potential to impact the following listed (or highly sensitive FTHL) species and their habitats: flat-tailed horned lizard, Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, desert tortoise, QCB, SKR, barefoot banded gecko, unarmored three-spine stickleback, and western yellow-billed cuckoo. Each of these species is addressed individually below (see Impacts B-7A, B-7B, B-7D, B-7E, B-7G, B-7J, B-7L, B-7O, B-7P, and B-7Q) along with the arroyo toad (see Impact B-7K). Impacts to the listed Swainson's hawk are discussed in Impact B-10.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I for mortality/habitat loss; No Impact predation)

Construction of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative would permanently impact 63.4 acres of FTHL habitat outside an MA through habitat removal at the San Felipe Substation site and would cause harm or harassment and direct disturbance to FTHLs (mortality and loss of habitat). These impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7b is required to, at least in part, compensate for impacts to the FTHL and its habitat. Although this alternative passes through FTHL MA from approximately MP SR78-4 through MP SR78-5, the transmission line would occur underground in SR78, so no impacts to FTHL MA would occur.

Since the transmission line associated with this alternative would be underground in existing roads in FTHL MA or habitat outside an MA, there would be No Impact to FTHLs from increased predation by round-tailed ground squirrels and loggerhead shrikes. See Impact B-11 below for a specific discussion of common raven predation.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy. For the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the required mitigation for FTHL impacts (if off-site acquisition is the method of compensation) is 125.8 acres.

Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat (Class I)

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative would occur underground within SR78 through PBS designated critical habitat, and most of the construction is expected to occur within the existing roadway boundaries. However, some impacts to the critical habitat (3.4 acres of temporary disturbance and 3.6 acres of permanent impacts) would occur with this alternative from tower pads, an access road, and two pull sites for the one-mile overhead segment from MP SR78-25 to MP SR78-26 (Appendix 8E, Figure Ap.8E-4). Additionally, construction of the underground segment in SR78 through Sentenac Canyon (Appendix 8E, Figure Ap.8E-4) would involve blasting the hillside, trenching in the roadway, excavating rock, breaking up the rock, and removing the rock. All of these activities would include the use of heavy equipment. The spoils from the excavations would be stored off of the roadway. Therefore, the construction in this area would extend outside the existing roadway, and it is possible that blasted rock and/or debris may also end up outside the construction zone. Since any impact to critical habitat is significant according to Significance Criterion 1.d. (substantial adverse effect on designated critical habitat for a federal listed species through temporary or permanent disturbance) the impacts would be significant and not mitigable to less than significant levels (Class I) because suitable PBS replacement critical habitat, or other suitable habitat as determined by the USFWS, BLM, CDFG, and ABDSP, may not be available.

Even if enough suitable land is available to mitigate habitat impacts to below a level of significance, human and construction activity in PBS habitat could cause PBS to avoid affected areas and could interfere with the use of resources (e.g., bighorn sheep foraging along, and drinking from, San Felipe Creek), traditional movement routes, and/or could cause physiological stress or increased predation. During a least Bell's vireo survey on May 11, 2007, two Peninsular bighorn sheep rams were observed foraging on mesquite in San Felipe Creek (in Sentanac Canyon). The rams were observed near MP SR78-22.7, approximately 2,000 feet downstream of the SR78 bridge over San Felipe Creek. The animals were also seen drinking water in the creek and foraging on freshwater marsh plants in the creek bed. All of the potential effects listed above could adversely affect survival and recovery of the species. These impacts are significant according to the following Significance Criteria: 1.a.) substantial adverse effect through any impact to one or more individuals of a federal or State listed species; 1.f.) substantial adverse effect by any impact that directly or indirectly causes the mortality of special status wildlife species; 4.a.) substantial adverse effect by preventing access to foraging habitat, breeding habitat, water sources, etc.; 4.b.) substantial adverse effect by interfering with connectivity between blocks of habitat or block or interfere with a wildlife corridor; and 4.c.) the substantial adverse effect by fragmenting (although temporary during construction for the underground segments) a species' population. Based on the listed status of this species and evidence that shows human activities significantly and adversely affect it, these impacts would be significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7c is required to, at least in part, compensate for impacts to PBS.

Mitigation Measures for Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.

B-7c Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. For the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the required mitigation for PBS impacts includes off-site purchase of 24.8 acres and on-site restoration of 3.4 acres.

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo is present along this alternative. A protocol survey conducted in 2007 between MPs SR78-22.7 and SR78-25 and between MPs SR78-26 and SR78-26.5 determined there were 12 breeding pairs and three unpaired territorial male vireos within the 200-foot-wide PSA along San Felipe Creek. Numerous least Bell's vireos were also heard singing outside of the PSA (for a total of 30 least Bell's vireos [Appendix 8E, Figures Ap.8E-4 and Ap.8E-5]). Additionally, one migrant least Bell's vireo was found during surveys for the Proposed Project at the Tamarisk Grove Campground immediately north of SR78 east of MP SR78-19 of this alternative (Appendix 8E, Figure Ap.8E-4).

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative would permanently impact 0.26 acres of occupied vireo habitat and would temporarily disturb 0.29 acres of occupied vireo habitat. This alternative would occur underground within SR78 where the vireos were observed, and most of the construction is expected to occur within the existing roadway boundaries. However, along SR78 through Sentenac Canyon (Appendix 8E, Figure Ap.8E-4), construction would involve blasting the hillside, trenching in the roadway, excavating rock, breaking up the rock, and removing the rock. All of these activities would include the use of heavy equipment. The spoils from the excavations would be stored off of the roadway. Therefore, the construction in this area would extend outside the existing roadway, and it is possible that blasted rock may also end up outside the construction zone and in the vireo habitat, thereby degrading it for the vireo, and potentially directly causing the mortality of individuals of the species (particularly if a nest is destroyed). The human activity associated with the construction would also disrupt vireo breeding.

Additionally, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo-occupied habitat or to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the vireo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.

- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-12.
- B-7e** **Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.** For the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the required mitigation for impacts to least Bell's vireo occupied habitat include 1.36 acres of off-site acquisition and preservation of occupied habitat and on-site restoration of 0.29 acres.

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

Two listed subspecies of willow flycatchers occur in California: little willow flycatcher (*Empidonax traillii brewsteri*) and southwestern willow flycatcher (*E. t. extimus*). The southwestern willow flycatcher is the subspecies that breeds in southern California, but both subspecies use riparian habitats in San Diego and Imperial Counties during migration. Up to 24 willow flycatchers were observed during the protocol survey along the 200-foot-wide PSA along San Felipe Creek in 2007; all were migrants that moved on to other breeding grounds. No breeding southwestern willow flycatchers were found. Although the southwestern willow flycatcher was not found to breed in the study area in 2007, it is known to breed approximately one mile upstream from Scissors Crossing (i.e., the intersection of SR78 and S2; Unitt, 2004) and could move into the study area and breed during any future breeding season.

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative would permanently impact 0.26 acres of occupied vireo habitat and would temporarily disturb 0.29 acres of occupied vireo habitat. This alternative would occur underground within SR78 through Sentenac Canyon where the flycatchers were observed, and most of the construction is expected to occur within the existing roadway boundaries. However, along SR78 through Sentenac Canyon (Appendix 8E, Figure Ap.8E-4), construction would involve blasting the hillside, trenching in the roadway, excavating rock, breaking up the rock, and removing the rock. All of these activities would include the use of heavy equipment. The spoils from the excavations would be stored off of the roadway. Therefore, the construction in this area would extend outside the existing roadway, and it is possible that blasted rock may also end up outside the construction zone and in the flycatcher habitat, thereby degrading it for the flycatcher, and potentially directly causing the mortality of individuals of the species (particularly if a nest is destroyed). The human activity associated with the construction would also disrupt flycatcher breeding.

Additionally, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). Designated critical habitat for the southwestern willow flycatcher occurs closest to this alternative (approximately 500 feet away) west of S2 at approximately MP SR78-35.5 (Appendix 8E, Figure Ap.8E-6) that could potentially be affected by excessive construction noise. This critical habitat was not surveyed for the southwestern willow flycatcher because it was outside the 200-foot-wide PSA.

Any impact to southwestern willow flycatcher-occupied habitat (including occupied critical habitat) or to southwestern willow flycatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the southwestern willow flycatcher or its occupied habitat (including occupied critical habitat) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. Any impact to southwestern willow flycatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.
- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the required mitigation for impacts to southwestern willow flycatcher occupied habitat include 1.36 acres of off-site acquisition and preservation of occupied habitat and on-site restoration of 0.29 acres.

Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat (Class II)

Although the desert tortoise has low potential to occur along this alternative according to the USFWS and BLM, the USFWS required surveys for the species in this alternative PSA. Therefore, MP SR78-0 through MP SR78-12 [San Felipe Substation through the intersection of SR78 and Kane Springs Road where potential tortoise habitat occurs] was surveyed where right of entry permission was granted (see Section D.2.1.1 and Appendices 8B and 8C).

The remains of one desert tortoise were found in a landscaped cactus/rock garden southwest of the intersection of SR78 and Split Mountain Road, between the 300- and 600-foot Zone of Influence (ZOI) surveyed. According to the landowner, the desert tortoise, a female, wandered into the garden area and excavated a burrow approximately five years ago. The tortoise died in the burrow shortly after and was left untouched. No other desert tortoise, or sign of desert tortoise, was observed during the survey. Staff at ABDSP and Ocotillo Wells State Vehicular Recreation Area believe that most desert tortoises on the west side of the Salton Sea are probable releases, and that these individuals occur at extremely low densities (State Parks, 2007c).

Any direct or indirect impact to the desert tortoise or its occupied habitat (e.g., vehicle crushing a tortoise, occupied habitat removal) would be significant according to Significance Criterion 1.a. (substantial adverse effect on one or more individuals of a species that is federal or State listed). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7g.

Mitigation Measures for Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.

B-7g Implement appropriate avoidance/minimization strategies for desert tortoise.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

A protocol survey for the QCB was not conducted for the alternatives of the Sunrise Powerlink Project because the 2007 flight season was not preceded by adequate rainfall. The USFWS protocol (2002) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability."

The nearest reported QCB observation was made in 1972 approximately 19 miles south of this alternative at Pine Valley (Appendix 8C; USFWS, 2006). No designated critical habitat for this species occurs along this alternative; the nearest critical habitat is approximately 17 miles to the northwest along SR79 (Critical Habitat Unit 2, Southwest Riverside Unit).

This alternative, from MP SR78-32 to MP SR78-37.6, occurs within USFWS protocol Survey Area 2 for the species (Appendix 8C). Suitable QCB habitat includes grassland, forbland, juniper woodland, and open scrub and chaparral communities that support native species of plantain (*Plantago erecta* and *P. patagonica*, its primary host plants) and a variety of adult nectar resources (USFWS, 2001). While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2 given the very limited number of recent sightings, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a Provide restoration/compensation for impacted sensitive vegetation communities.** See Table D.2-12.
- B-1c Conduct biological monitoring.**
- B-2a Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-12.
- B-7i Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (No Impact)

The arroyo toad recovery plan erroneously lists an arroyo toad observation in the San Felipe basin, near Borrego Springs, on July 25, 1950 (USFWS, 1999c). Voucher specimens were collected by W.E. Duellman and deposited at the University of Michigan Museum of Zoology (USGS, 2004). Recent examination of the voucher specimens showed that they were western toads (*Bufo boreas*), which are not listed or sensitive (Ervin and Fisher, 2002). Although the arroyo toad has low potential to occur, a protocol survey was conducted in 2007 for this alternative because suitable breeding habitat for the species is present in San Felipe Creek (Appendices 8B and 8C). The arroyo toad was not found. Since the arroyo toad is absent from the PSA, there would be No Impact to it from construction of the alternative, and no mitigation is required.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

Access was not granted to parcels with potential for the SKR, so a survey for the species was not conducted, and it is assumed to be present wherever suitable SKR habitat occurs: five locations between MPs SR78-34 and SR78-37.6 (Appendix 8E, Figure Ap.8E-6). Impacts to assumed occupied SKR habitat include four acres of temporary disturbance and six acres of permanent impacts. Direct and indirect impacts to the SKR and its occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7k** Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, the required mitigation for impacts to SKR occupied habitat include 16 acres of off-site acquisition and preservation of occupied habitat and on-site restoration of four acres.

Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat (Class I)

This State listed threatened species is known only from five localities in eastern San Diego County and western Imperial County. ABDSP affords protection for some gecko habitat (CDFG, 2006b). The natural history of this gecko is not well known; it is secretive and nocturnal and hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

No surveys were conducted for this species. If surveys were conducted, and the species was not found, the survey result would have to be considered false negative because of the species' highly elusive nature. The barefoot banded gecko is, therefore, assumed to be present along this alternative route in ABDSP. Any impact to the barefoot banded gecko or its habitat, particularly along SR78 in Sentenac Canyon where blasting of the rocky hillside would occur, would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species through habitat modification) and not mitigable to less than significant levels (Class I) because suitable mitigation land for the gecko may not be available since it is known from only five localities. Implementation of Mitigation Measures B-1a, B-1c, and B-2a is required to, at least in part, compensate for impacts to this species.

Mitigation Measures for Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.

Impact B-7P: Direct or indirect loss of unarmored threespine stickleback or direct loss of habitat (Class II)

The unarmored threespine stickleback is a federal and State listed endangered species. Historically, the unarmored threespine stickleback occurred at the headwaters of the Santa Clara River and at low gradient parts of the Los Angeles, San Gabriel, and Santa Ana rivers. The CDFG introduced stickleback to Sentenac Canyon in 1972 and 1973. A population appears to be persisting in the lower part of San Felipe Creek (California State Parks, 2005). The species has been collected upstream and downstream of Sentenac Cienega (south of MP SR78-25) within the last three years (State Parks, 2007).

This alternative would be located underground in SR78 through Sentenac Canyon and would transition to an overhead line for one mile on the north side of SR78 north of Scissors Crossing; SR78, for this one mile stretch, is north of San Felipe Creek and Sentenac Cienega. After one mile, the overhead line would transition underground again in S2, also north of San Felipe Creek. Since there would be no direct impacts to San Felipe Creek or Sentenac Cienega where the stickleback has potential to occur, no direct impacts to the species are expected. There could be indirect impacts to the species if, for example, sediment were to enter San Felipe Creek or Sentenac Cienega from construction, however. The following APMs would be implemented as part of the project to minimize or prevent such impacts to stickleback habitat: BIO-APM-4 and BIO-APM-6 that include confining construction to predetermined areas and complying with all applicable environmental laws and regulations, including, without limitation, those regulating and protecting wildlife and its habitat.

Even with implementation of the APMs, this alternative still has potential to impact stickleback habitat through inadvertent, unplanned construction activities (e.g., an accident where construction equipment loses traction and slides down toward the creek pushing sediment as it slides) that may occur adjacent to the creek or cienega and cause sediment to enter stickleback habitat. This potential sedimentation impact would be significant according to Significance Criterion 1.a (substantial adverse effect through any impact to one or more individuals of a federal or State listed species). The impact would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. The impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7n.

Mitigation Measures for Impact B-7P: Direct or indirect loss of unarmored threespine stickleback or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.

B-7n Minimize potential impacts to unarmored threespine stickleback habitat. The qualified biologist (see Mitigation Measure B-1c) shall be present during construction adjacent to San Felipe Creek and Sentenac Cienega to ensure that adjacent activities do not result in sedimentation to these wetlands. If an accident occurs, and the creek or cienega is impacted, the qualified biologist shall immediately notify the CPUC, BLM, State Parks, and Wildlife Agencies and shall stop work in the area of impact per Mitigation Measure B-1c. Reinitiation of work following a stop work order shall only occur per Mitigation Measure B-1c. The qualified biologist shall inform all construction and maintenance crews of the sensitivity of the stickleback habitat and the necessity to avoid impacts to it.

Impact B-7Q: Direct or indirect loss of western yellow-billed cuckoo or direct loss of habitat (Class II)

The yellow-billed cuckoo is a State listed endangered bird species that requires extensive stands of mature riparian woodland for breeding. In San Diego County, the cuckoo is a rare and sporadic summer visitor, not known to have nested for decades (Unitt, 2004). The species has been documented along San Felipe Creek (north of Scissors Crossing [i.e., the intersection of SR78 and S2] and near the alternative study area) in 2001, 2002, and 2006 (Unitt, 2004; Paul Jorgensen, 2006) and could begin to nest in the area.

Although a survey protocol for this species has not been established, the species was looked for during least Bell's vireo and southwestern willow flycatcher surveys along San Felipe Creek for this alternative in 2007. The cuckoo was not observed. This alternative would occur underground in SR78 through Sentenac Canyon where the cuckoo could potentially occur, overhead for one mile across the hillsides north of SR78, and then underground in S2, the latter segment just north of Scissors Crossing where the cuckoo has been recently documented. Construction along SR78 through Sentenac Canyon would involve blasting the hillside, trenching in the roadway, excavating rock, breaking up the rock, and removing the rock. All of these activities would include the use of heavy equipment. The spoils from the excavations would be stored off of the roadway. Therefore, the construction in this area would extend outside the existing roadway, and it is possible that blasted rock may also end up outside the construction zone and in potential cuckoo habitat, thereby degrading it for the cuckoo, and potentially directly causing the mortality of individuals of the species (particularly if a nest is destroyed). The human activity associated with the construction would also disrupt cuckoo breeding.

Additionally, cuckoo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [American Institute of Physics, 2005]). This noise could occur, not only from construction in Sentenac Canyon, but also from construction of the overhead and underground segments along SR78 and in S2. Any impact to the cuckoo or its occupied habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the cuckoo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7o.

Mitigation Measures for Impact B-7Q: Direct or indirect loss of western yellow-billed cuckoo or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-12.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-12.
- B-7o** Conduct yellow-billed cuckoo surveys and implement appropriate avoidance/minimization/compensation strategies. All grading or brushing taking place within riparian habitat of the western yellow-billed cuckoo shall be conducted from October through February, which is outside the cuckoo's breeding season.

When conducting all other project activities during the breeding season of March through September, within 500 feet (USFWS, 2007b) of habitat in which the cuckoo is known to occur or has potential to occur, a biologist permitted by the USFWS shall survey for the cuckoo within one week prior to initiating activities in an area.

If the cuckoo is present, a permitted biologist shall survey for nesting cuckoos approximately once per week within 500 feet of the construction area (USFWS, 2007b), for the duration of the activity in that area during the breeding season.

If/when an active nest is located, a 300-foot no construction buffer zone (USFWS, 2007b) shall be established around each nest site. No construction shall take place within this buffer until the nest is no longer active unless there are physical or safety constraints. If construction must take place within the buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the cuckoo-occupied habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the project activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies, State Parks (for activities in ABDSP), and USDA Forest Service (for activities on National Forest Lands) to devise methods to reduce the noise and/or disturbance. 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 nesting cuckoos and the activities, and working in other areas until the young have fledged. The permitted biologist shall monitor the nest daily until either activities are no longer within 300 feet of the nest, or the fledglings become independent of their nest.

Mitigation for the loss of western yellow-billed cuckoo-occupied habitat shall occur at the ratios for comparable habitat shown in Table D.2-12.

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the western yellow-billed cuckoo or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity manage-

ment of all acquired cuckoo habitat. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all acquired western yellow-billed cuckoo habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands);
- Baseline biological data for all western yellow-billed cuckoo habitat;
- Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management;
- A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan;
- Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and
- Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish (including unarmored threespine stickleback), and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Due to the intermittent locations of construction activity, its temporary nature, and most of it occurring within paved roadways, 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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact). Impacts associated with Peninsular bighorn sheep traditional movement are explained in Impact B-7B above.

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by this alternative if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting (as would occur in Sentenac Canyon) or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. A bat nursery colony site is where pregnant female bats

assemble (or one bat if it's of a solitary species) to give birth and raise their pups. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). Impacts to bat nursery colonies have the highest potential to occur along the overhead portions of this alternative where vegetation would be removed and in Sentenac Canyon where blasting would occur. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 (impede the use of native wildlife nursery sites). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. This migration happens all along the east side of San Diego County's mountains but is most concentrated along this alternative in San Felipe Valley (San Felipe Valley is the most heavily used corridor) and Borrego Valley (for the Swainson's hawk; Unitt, 2007).

The Partial Underground 230 kV ABDSP SR78 to S2 Alternative occurs underground through the Swainson's hawk migration route through Borrego Valley, with the exception of the San Felipe Substation that would be built as part of this alternative. Impacts to raptors and other avian species from collisions with substation facilities have not been historical issues at SDG&E substations throughout San Diego County (Pandion Systems, Inc. 2006). Therefore, no impacts to the Swainson's hawk from collision are expected for this substation. However, this alternative has two overhead segments that both occur in San Felipe Valley. Therefore, impacts could occur to birds from collision at these locations.

Since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also,

like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. The highly utilized avian flight paths for this alternative include both overhead transmission line segments. All other required mitigation that is part of Mitigation Measure B-10a for the Proposed Project shall also apply to this mitigation.

Impact B-11: Presence of transmission lines may result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No impact for underground segments; Class II for ravens in ABDSP; Class III for red-tailed hawks)

This alternative would not introduce new towers in FTHL or desert tortoise habitat; it would be underground in the areas where these species have potential to occur. Since no towers would be erected in this habitat (i.e., between approximately MP SR78-0 and MP SR78-12.5 for the FTHL and from MP SR78-0 through MP SR78-12 for the desert tortoise), and the San Felipe Substation is unlikely to provide nesting sites for ravens, no increase in predation of these species by ravens that nest on transmission towers is expected to occur (No Impact).

However, predation of any special status species by ravens that nest on transmission towers in ABDSP (i.e., from MP SR78-25 through MP SR78-26 for this alternative) would be significant according to Significance Criterion 1.a. (substantial adverse effect on one or more individuals of a species that is federal or State listed) and Significance Criterion 1.f. (indirectly cause the mortality of special status wildlife species). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11b.

Although this alternative would provide additional potential sites for red-tailed hawk nesting along the overhead segment in ABDSP from MP SR78-25 through MP SR78-26, the overall number of red-tailed hawks would still be limited by the availability of prey, so any increase in the number of hawks and hawk predation of special status wildlife, should it occur, would be adverse but less than significant (Class III), and no mitigation is required. However, implementation of Mitigation Measure B-11b for significant impacts from raven predation would deter red-tailed hawk perching and nesting on the towers.

Mitigation Measure for Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11b Prepare and implement a Raven Control Plan for ABDSP.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class III non-sensitive wildlife. Other impact classes depend on species)

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conduct-

ing a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.d., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance of critical habitat (1.d.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7o and B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. This would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12c.

Impacts to PBS and its critical habitat (specifically from the use of the access road to maintain the overhead line that occurs north of SR78 from MP SR78-25 through MP SR78-26) could cause PBS to avoid the affected areas and could interfere with the use of resources such as escape terrain; water; mineral licks; rutting, lambing, or feeding areas; the use of traditional movement routes, and/or could cause physiological stress or increased predation. All of these potential effects could adversely affect survival and recovery of the species and are significant and not mitigable to less than significant levels (Class I), although Mitigation Measure B-7c is required to, at least in part, compensate for the impacts to PBS. Maintenance activities that occur within the SR78 and S2 roadways inside and outside critical habitat would have adverse but less than significant impacts to PBS (Class III).

Impacts to barefoot banded gecko from maintenance activities would be adverse but less than significant (Class III) because the species is unlikely to occur on a maintained access road, tower pad, or other work area. No mitigation is required.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** Prepare and implement a Weed Control Plan.
- B-7c** Minimize impacts to Peninsular bighorn sheep, and provide compensation for loss of critical habitat.
- B-7o** Conduct yellow-billed cuckoo surveys and implement appropriate avoidance/minimization/compensation strategies.
- B-12a** Conduct maintenance activities outside the general avian breeding season.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

San Felipe Substation

The San Felipe Substation would be constructed as part of this alternative at MP SR78-0 (between MP 58 and MP 59 of the Proposed Project). Construction of this substation would result in impacts to approximately 70 acres of primarily Sonoran creosote bush scrub. This site does not occur within any special habitat management area, although habitat for the FTHL is present, and there is low potential for the desert tortoise to occur at the site. No special status plant species were observed at the site, but due to dry weather conditions during the 2007 surveys, the negative survey results are inconclusive for their absence. All of the impacts from construction, operation, and maintenance of this substation were considered in the analysis of the Partial Underground 230 kV ABDSP SR78 to S2 Alternative above.

All Underground Option for ABDSP Partial Underground Alternative

In comparison with the Partial Underground 230 kV ABDSP SR78 to S2 Alternative, this option would install the one-mile overhead segment at MP SR78-25 through MP SR78-26 underground in SR78 and S2 to the south. It would also install the western end of the alternative (along Highway S2) underground. Habitat in these areas is illustrated in Appendix 8E, Figures Ap. 8E-5 and Ap. 8E-6. Placing the lines underground in existing roadways would eliminate direct impacts to biological resources over approximately nine miles, including one mile of impacts to PBS designated critical habitat and impacts to four locations of assumed occupied SKR habitat.

D.2.22.2 Overhead 500 kV ABDSP within Existing ROW Alternative

The alternative would differ from the proposed route in the Grapevine Canyon area (in the Angelina Springs Cultural District), in the vicinity of Tamarisk Grove Campground, and in a few areas east of Tamarisk Grove Campground along SR78. The alternative would remain within the existing SDG&E 69 kV ROW/easement. This alternative would eliminate towers within State-designated Wilderness. Undergrounding of the existing 69 kV and 92 kV lines would not occur with this alternative; those lines would be underbuilt on Delta lattice towers.

The *East of Tamarisk Grove Campground 150-Foot Option* was suggested by SDG&E in which the alternative would follow the Proposed Project route in the 150-foot proposed alignment, and not the existing ROW, between the eastern Park boundary (MP 60.9) to Tamarisk Grove Campground (MP 74.8) near the SR78/Highway S3 intersection. Similar to the Proposed Project described in Section B.2.2, SDG&E would underbuild and underground the existing 92 kV and 69 kV lines.

Environmental Setting

The Overhead 500 kV ABDSP Within Existing ROW Alternative is located in the Colorado Desert and South Coast bioregions (CERES, 2003). This alternative is 22.5 miles long and would replace 21.8 miles of the Proposed Project. This alternative follows the Proposed Project route except from approximately MP ER-20 through MP ER-21.3 in Grapevine Canyon in the Angelina Springs Cultural District where the alternative would remain within the existing SDG&E 69 kV existing ROW/easement, and towers or access roads would not be located on State designated Pinyon Ridge Wilderness. The predominant vegetation communities along this alternative route are various types of desert scrubs such as Sonoran creosote bush scrub and Sonoran mixed woody and succulent scrub. The communities listed in Table D.2-13 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetlands: mesquite bosque and southern willow scrub. Furthermore, there are 16 major drainages identified along this alternative in the National Wetland Inventory; minor drainages may also be found along this route. Most of these watercourses are likely to be delineated as jurisdictional, non-wetland waters.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, the BLM San Felipe Hills Wilderness Study Area is located just south of the western end of this alternative, and the State designated Vallecito Mountains, Pinyon Ridge, and Grapevine Canyon wilderness areas in ABDSP occur along the route.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, this alternative is located within Peninsular bighorn sheep designated critical habitat from approximately MP ER-0.5 through MP ER-19.5.

Special Status Plant Species. One listed plant species, Borrego bedstraw, and two non-listed, sensitive plant species, Coves' cassia and pygmy lotus, were observed along this alternative in 2007.

No other listed plant species have moderate to high potential to occur along the alternative route. Six non-listed, sensitive plant species have moderate to high potential to occur along this alternative, as follows, based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Ayenia
- Spearleaf
- Hairy stickleaf
- Desert spikemoss
- Bristly scaleseed

Special Status Wildlife Species. These listed wildlife species were observed, or are expected to occur, along this alternative: least Bell's vireo and PBS. The highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007).

The following listed or highly sensitive wildlife species have moderate to high potential along this alternative to occur based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records.

- QCB
- Barefoot banded gecko
- FTHL
- Swainson's hawk
- Burrowing owl

Two non-listed, sensitive wildlife species were observed along this alternative: red-diamond rattlesnake and Cooper's hawk (Appendix 8E, Figure Ap. 8E-9). The following 35 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB, USFWS, and/or ABDSP records.

- Two-striped garter snake
- Coastal rosy boa
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Colorado Desert fringe-toed lizard
- Belding's orange-throated whiptail
- Silvery legless lizard
- Long-eared owl
- Sharp-shinned hawk
- White-tailed kite
- Northern harrier
- Prairie falcon
- Loggerhead shrike
- California horned lark
- Western bluebird
- Le Conte's thrasher
- Crissal thrasher
- American badger
- Yellow warbler
- Yellow-breasted chat
- Summer tanager
- Townsend's big eared bat
- Western mastiff bat
- Fringed myotis
- Long-legged myotis
- Pallid bat
- Pallid San Diego pocket mouse
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Yuma myotis
- Colorado Valley woodrat
- San Diego desert woodrat
- Pocketed free-tailed bat
- Palm Springs little pocket mouse
- Jacumba little pocket mouse

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Overhead 500 kV ABDSP Within Existing ROW Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for affected sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for affected jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Overhead 500 kV ABDSP Within Existing ROW Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-13). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired. Desert ecosystems are especially sensitive to ground disturbance and can take decades to recover, if at all.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (which states the project would have a substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed disturbed habitat would be adverse but less than significant (Class III), and no mitigation is required (unless it is in FTHL habitat

[see Impact B-7A and Table D.2-13 below]). Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-13 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Overhead 500 kV ABDSP Within Existing ROW Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-13. Impacts to Vegetation Communities and Required Mitigation – Overhead 500 kV ABDSP Within Existing ROW Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Off-site Mitigation
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.17	0	0.00	0.24	0	0.00	0.00	0.00
Disturbed habitat	0.06	0	0.00	0.14	0	0.00	0.00	0.00
Subtotal	0.23	--	0.00	0.38	--	0.00	0.00	0.00
Desert Scrub and Dune Habitats								
Encelia scrub	1.70	2:1	3.40	1.00	2:1	1.00	1.00	4.40
Sonoran creosote bush scrub	2.36	2:1	2.72	6.34	2:1	6.34	6.34	9.06
Sonoran desert scrub	1.01	2:1	2.02	1.17	2:1	1.17	1.17	3.19
Sonoran mixed woody scrub	2.43	2:1	4.86	3.98	2:1	3.98	3.98	8.84
Sonoran mixed woody and succulent scrub	24.45	2:1	48.90	30.69	2:1	30.69	30.69	79.59
Sonoran mixed woody and succulent scrub - disturbed	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Sonoran wash scrub	6.01	2:1	12.02	7.75	2:1	7.75	7.75	19.77
Desert saltbush scrub	0.71	2:1	1.42	0.23	2:1	0.23	0.23	1.65
Subtotal	38.67	--	75.34	51.16	--	51.16	51.16	126.50
Chaparrals								
Semi-desert chaparral	1.55	1:1	1.55	2.55	1:1	2.55	0.00	1.55
Subtotal	1.55	--	1.55	2.55	--	2.55	0.00	1.55
Woodlands and Forests								
Peninsular juniper woodland and scrub	0.00	3:1	0.00	0.31	2:1	0.31	0.31	0.31
Subtotal	0.00	—	0.00	0.31	—	0.31	0.31	0.31
Riparian Scrubs								
Mesquite bosque	0.27	3:1	0.81	0.24	2:1	0.24	0.24	1.05
Tamarisk scrub	0.23	1:1	0.23	0.05	1:1	0.05	0.00	0.23

Table D.2-13. Impacts to Vegetation Communities and Required Mitigation – Overhead 500 kV ABDSP Within Existing ROW Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Off-site Mitigation
	Impact	Ratio	Off-site Mitigation	Impact	Ratio	On-site Restoration	Off-site Mitigation	
Subtotal	0.50	--	1.04	0.29	--	0.29	0.24	1.28
Riparian Forests and Woodlands								
Desert dry wash woodland	1.10	3:1	3.30	3.83	2:1	3.83	3.83	7.13
Subtotal	1.10	--	3.30	3.83	--	3.83	3.83	7.13
GRAND TOTAL	42.05	--	81.23	58.52	--	58.14	55.54	136.77

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately 1,004 non-native trees (acacia, eucalyptus, locust, pine, and tamarisk) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. SDG&E has also estimated that up to approximately 4,384 native trees (3,272 desert willow, 525 desert ironwood, and 587 mesquite) and up to 679 creosote bushes would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative.

The loss of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of up to approximately 34 non-native trees (acacia, brisbane box, eucalyptus, and pine) and up to one native willow tree. Although the trimming of non-native trees or shrubs would be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise,

trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetlands: mesquite bosque and southern willow scrub. Furthermore, there are 16 major drainages identified along this alternative in the National Wetland Inventory; minor drainages may also be found along this route. Most of these watercourses are likely to be delineated as jurisdictional, non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas. See Table D.2-13.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. Borrego bedstraw, Coves' cassia, and pygmy lotus were the only special status plant species observed along this alternative in 2007 (Appendix 8E-9 and 8E-10); however as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status

plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDB, USFWS, and/or ABDSP records: ayenia, spearleaf, hairy stickleaf, desert spikemoss, and bristly scaleseed. None of these species is listed. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Borrogo Bedstraw. One Borrogo bedstraw plant was observed near MP ER-19 (Appendix 8E, Figure Ap. 8E-9). Construction of this alternative would not impact the plant at this location.

Coves' Cassia. Coves' cassia was observed near MP ER-16 (one individual; Appendix 8E, Figure Ap. 8E-9), near MP ER-20 (350 individuals; Appendix 8E, Figure Ap. 8E-10), and near MP ER-20.5 (50 individuals; Appendix 8E, Figure Ap. 8E-10). All of these individuals would be impacted by construction of access roads and/or towers from this alternative.

Pygmy Lotus. One pygmy lotus plant was observed near MP ER-19 (Appendix 8E, Figure Ap. 8E-9). Construction of this alternative would not impact the plant at this location.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

B-1a Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for affected jurisdictional areas. See Table D.2-13.

B-5a Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: southwestern willow flycatcher, desert pupfish, bald eagle, arroyo toad, SKR, coastal California gnatcatcher, San Diego fairy shrimp, and Riverside fairy shrimp. Although the desert tortoise has low potential to occur, the USFWS required surveys for the species in this alternative study area (MP ER-0 through MP ER-14), so the tortoise is addressed in Impact B-7G below.

This alternative would impact the PBS, least Bell's vireo, and golden eagle as addressed in Impacts B-7B, B-7D, and B-7H, respectively. This alternative would also impact the following listed or highly sensitive wildlife species should they occur along this alternative: FTHL (Impact B-7A), burrowing owl (Impact B-7C), QCB (Impact B-7J), barefoot banded gecko (Impact B-7O), and Swainson's hawk (see Impact B-10).

This alternative would also impact the red diamond rattlesnake; Cooper's hawk; and 35 non-listed, sensitive wildlife species (listed at the beginning of D.2.21.2) and their habitats should they occur along this alternative route.

Red-Diamond Rattlesnake. One red-diamond rattlesnake was observed near MP ER 14.5. This species could occur in any habitat along this alternative and would be affected by habitat loss from construction.

Cooper's Hawk. One Cooper's hawk was observed near MP ER-15 near the Tamarisk Grove Campground. This species has potential to nest in the tamarisk trees at the campground or in trees that are part of the adjacent desert dry wash woodland. This alternative would directly impact this potential breeding habitat for this species, and it would cause significant indirect noise impacts that would affect Cooper's hawk breeding if construction were to occur adjacent to this area during the general avian breeding season (see Impact B-8).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling,

sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-13); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-13.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat (Class I)

Construction of the Overhead 500 kV ABDSP Within Existing ROW Alternative would impact 21.7 acres of FTHL habitat outside an MA (14.9 acres of temporary disturbance and 6.8 acres of permanent impact) and would cause harm or harassment and direct disturbance to FTHLs (mortality and loss of habitat). These impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7b is required to, at least in part, compensate for impacts to the FTHL and its habitat.

Potential indirect impacts of this alternative include increased predation of FTHLs by round-tailed ground squirrels that are attracted to roads and increased predation of FTHLs by loggerhead shrikes that perch on transmission towers and lines (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003; see Impact B-11 below for a specific discussion of common raven predation). These impacts would be significant according to Significance Criterion 1.f. (directly or indirectly cause the mortality of a special status wildlife species). Mitigation in the form of habitat compensation would be

required for impacts from the increased predation as described in Mitigation Measure B-7b per the compensation requirements of the Flat-Tailed Horned Lizard Rangewide Management Strategy that accounts for “indirect deleterious impacts” (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). However, this impact would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land required in Mitigation Measure B-7b may not be available to compensate the impact.

Mitigation Measures for Impact B-7A: Direct or indirect loss of flat-tailed horned lizard or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas. See Table D.2-13.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7b** Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy. For the Overhead 500 kV ABDSP Within Existing ROW Alternative, the required mitigation for impacts to the FTHL includes 44.3 acres (if off-site acquisition is the method of compensation).

Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat (Class I)

The Overhead 500 kV ABDSP Within Existing ROW Alternative would pass through approximately 19 miles of PBS designated critical habitat from approximately MP ER-0 through MP ER-20. The Proposed Project would impact approximately 80.1 acres of PBS critical habitat (45.7 acres of temporary disturbance and 34.4 acres of permanent impact through habitat removal) during project construction. Any impact to critical habitat is significant according to Significance Criterion 1.d. (substantial adverse effect on designated critical habitat for a federal listed species through temporary or permanent disturbance) the impacts would be significant and not mitigable to less than significant levels (Class I) because suitable PBS replacement critical habitat, or other suitable habitat as determined by the USFWS, BLM, CDFG, and ABDSP, may not be available.

Even if enough suitable land is available to mitigate habitat impacts to below a level of significance, human and construction activity in PBS habitat could cause PBS to avoid affected areas and could interfere with the use of resources. These potential effects could adversely affect survival and recovery of the species and are significant according to the following Significance Criteria: 1.a.) substantial adverse effect through any impact to one or more individuals of a federal or State listed species; 1.f.) substantial adverse effect by any impact that directly or indirectly causes the mortality of special status wildlife species; 4.a.) substantial adverse effect by preventing access to foraging habitat, breeding habitat, water sources, etc.; 4.b.) substantial adverse effect by interfering with connectivity between blocks of habitat or block or interfere with a wildlife corridor; and 4.c.) the substantial adverse effect by fragmenting a species' population. Based on the listed status of this species and evidence that shows that human activities significantly, adversely affect it, these impacts would be significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7c is required to, at least in part, compensate for impacts to PBS.

Mitigation Measures for Impact B-7B: Direct or indirect loss of Peninsular bighorn sheep or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas. See Table D.2-13.
- B-7c** Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. For the Overhead 500 kV ABDSP Within Existing ROW Alternative, the required mitigation for PBS impacts includes off-site purchase of 263.4 acres and on-site restoration of 45.7 acres.

Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat (Class II)

Although the burrowing owl was not observed in 2007 along this alternative (during a survey for the Proposed Project), only a summer season survey has been conducted to date, and the burrowing owl is a mobile species that could move into the alternative area at any time. Burrowing owl survival can be adversely affected by human disturbance and foraging habitat (6.5 acres associated with a single burrow) loss, even when impacts to individual owls and burrows are avoided. The inability to avoid such impacts, should the burrowing owl be found along this alternative, would be significant according to Significance Criterion 1.f. (substantial adverse effect on a special status wildlife species through direct or indirect impacts). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7d. With the fact that the mitigation does not have to consist of any particular vegetation type (it just has to be suitable for burrowing owls; see Section D.2.11, Impact B-7C) and with the mitigation options available per the CDFG (see full text of Mitigation Measure B-7d), it is expected that appropriate mitigation land would be available to satisfy the mitigation requirement.

Mitigation Measures for Impact B-7C: Direct or indirect loss of burrowing owl or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for affected jurisdictional areas. See Table D.2-13.
- B-7d** Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

A migrant least Bell's vireo was found at the Tamarisk Grove Campground (which is located at approximately MP ER-14.2 of this alternative) and at Yaqui Well (which is located at approximately MP ER-14.6) during the 2007 rare plant survey for the Proposed Project (Appendix 8E, Figure Ap. 8E-9). The USFWS protocol survey for the vireo for this alternative did not locate any least Bell's vireos at this, or any other, location along this alternative (Appendix 8B). Although the vireo did not breed in those locations in 2007, breeding could occur there in the future. Construction of this

alternative would temporarily impact 2.5 acres and permanently impact 0.7 acre of occupied least Bell's vireo habitat at these locations.

Should the least Bell's vireo breed in these locations at a later date, it could also be indirectly impacted by construction noise as well as human activity associated with construction that could disrupt vireo breeding. Least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo-occupied habitat or to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the vireo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. Any impact to vireo breeding from excessive noise would significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-13.
- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Overhead 500 kV ABDSP Within Existing ROW Alternative, the required mitigation for the least Bell's vireo includes on-site restoration of 2.5 acres and off-site acquisition and preservation of 7.1 acres of occupied least Bell's vireo habitat.

Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat (Class II)

Although the desert tortoise has low potential to occur along this alternative according to the USFWS and BLM, the USFWS required surveys for the species for a portion of this alternative. Therefore, approximately MP ER-0 through MP ER-14 (same as Proposed Project MP 61 through 74.9) was surveyed where right of entry permission was granted (see Section D.2.1.1 and Appendices 8B and 8C). No desert tortoise, or sign of desert tortoise, was observed during the survey.

Still, the desert tortoise is a mobile species and could move into the alternative area prior to construction. Any direct or indirect impact to the desert tortoise or its occupied habitat (e.g., vehicle crushing a tortoise, occupied habitat removal) would be significant according to Significance Criterion 1.a. (substantial adverse effect on one or more individuals of a species that is federal or State listed). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7g.

Mitigation Measures for Impact B-7G: Direct or indirect loss of desert tortoise or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-13.
- B-7g** Implement appropriate avoidance/minimization strategies for desert tortoise.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I for nests within 4,000 feet; Class II in existing transmission corridor)

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Impact B-12 below) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criterion 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g. (result in the abandonment of migratory bird nests and/or eggs), and 1.h (take golden eagles, eagle eggs, or any part of an eagle). Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly traveled road or a utility corridor that already contains large structures, or if the project is underground (Bittner, 2007). The existing dirt road through Grapevine Canyon does not qualify as a highly traveled road, the existing 69 kV distribution line wood poles are not considered large structures, and this alternative would not be underground.

A golden eagle was observed near MP ER-11, and there is one golden eagle nest area that occurs less than 4,000 feet from this alternative. There is also direct line-of-sight between the nest area and this alternative. The specific location of this nest area is not disclosed in this EIR/EIS, nor are the areas within 4,000 feet of the nest area in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. The nest location, for purposes of this document, was provided by the Wildlife Research Institute (Bittner, 2007). Impacts to this eagle pair from construction of this alternative would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest area and the project (less than 4,000 feet) and the direct line-of-sight that would occur. Implementation of Mitigation Measure B-7h, is required to, at least in part, compensate for impacts to the golden eagle.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

This alternative, from approximately MP ER-22.3 to MP ER-22.9 (MP 82.9 through MP 83.5 of the Proposed Project), occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. All QCB-suitable habitat along this alternative route within Survey Area 2 was surveyed for the QCB in 2007 during the USFWS protocol survey conducted for the Proposed Project, and no QCB was found. However, the 2007 flight season was not preceded by adequate rainfall, so the survey results are not adequate to establish absence of this species. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-13.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7O: Direct or indirect loss of barefoot banded gecko or direct loss of habitat (Class I)

This State listed threatened species is known only from five localities in eastern San Diego County and western Imperial County. ABDSP affords protection for some gecko habitat (CDFG, 2006b). The natural history of this gecko is not well known; it is secretive and nocturnal and hides by day in deep crevices. It is active in fairly cool ambient temperatures during periods of increased humidity, typically spring through fall. It hibernates through the winter (CaliforniaHerps.com, 2007).

No surveys were conducted for this species. If surveys were conducted, and the species was not found, the survey result would have to be considered false negative because of the species' highly elusive nature. The barefoot banded gecko is, therefore, assumed to be present along the route in ABDSP. Any impact to the barefoot banded gecko or its habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species through habitat modification) and not mitigable to less than significant levels (Class I) since the extent of the impacts that would occur is unknown. Implementation of Mitigation Measures B-1a, B-1c, and B-2a is required to, at least in part, compensate for impacts to this species.

Mitigation Measures for Impact B-70: Direct or indirect loss of barefoot banded gecko or direct loss of habitat

- B-1a** Provide restoration/compensation for affected sensitive vegetation communities. See Table D.2-13.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-13.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement easier (No Impact). Impacts associated with Peninsular bighorn sheep traditional movement routes are explained in Impact B-7B above.

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by this alternative if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). The impacts to bat nursery colonies would be significant according to Significance Criterion 4 (impede the use of native wildlife nursery sites). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

- B-9a** Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative would install large, 500 kV transmission lines, so the golden eagle is not expected to be impacted by collision with this alternative.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). This alternative travels through Grapevine Canyon and is in the southeast to northwest Grapevine Canyon corridor to Lake Henshaw (for land and water birds) and is in the route through Borrego Valley up to Coyote Canyon (for the State listed Swainson's hawk). These areas encompass the entire 22.5-mile-long alternative. The Swainson's hawk is currently a rare migrant in San Diego County, but the Borrego Valley is an important staging site in spring. During migration, this species passes through southern California, specifically through the Anza-Borrego Desert (Unitt, 2004). As many as 6,200 Swainson's hawks have recently been observed over a two-month period during migration in Borrego Valley (State Parks, 2006) where the birds stop to roost and feed on flying ants, dragonflies, or moth caterpillars (Unitt, 2004). "...the numbers seen in the Anza-Borrego Desert suggest that most or all of California's Swainson's hawks migrate across San Diego County" (Unitt, 2004).

Since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Listed or sensitive bird species could collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. The highly utilized avian flight path for this alternative includes the entire 23.3-mile-long alternative. All other required mitigation that is part of Mitigation Measure B-10a for the Proposed Project shall also apply to this mitigation.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class II for ravens and Class III for red-tailed hawks)

An increase in common ravens as a result of providing additional towers for nesting would impact the FTHL (see Impact B-7A above) and desert tortoise (see Impact B-7G above) by increased predation of these species should they be present. These species have potential to occur from MP ER-0 through MP ER-8 for the FTHL and MP ER-0 through MP ER-14 for the tortoise. Additionally, predation of any special status species by ravens that occurs in ABDSP would be significant. All of these impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect on one or more individuals of a species that is federal or State listed) and Significance Criterion 1.f. (indirectly cause the mortality of special status wildlife species).

With respect to predation of FTHL, desert tortoise, and any special status species in ABDSP by ravens, these impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-11b. Although the project would provide additional potential sites for red-tailed hawk nesting, the overall number of red-tailed hawks would still be limited by the availability of prey, so any increase in the number of hawks and hawk predation of special status wildlife, should it occur, would be adverse but less than significant (Class III), and no mitigation is required. However, implementation of Mitigation Measure B-11b for significant impacts from raven predation would deter red-tailed hawk perching and nesting on the towers.

Mitigation Measure for Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers

B-11b Prepare and implement a Raven Control Plan for ABDSP.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class III non-sensitive wildlife. Other impact classes depend on species.)

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.d. through 1.h., and 2.b. that include any impacts to one or more listed species (1.a.); disturbance of critical habitat (1.d.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.); violation of the Bald Eagle Protection Act (1.h.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant

because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of FTHL, desert tortoise, and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7b, B-7g, and B-12c.

Maintenance activities (see Section D.2.16), would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16), would impact the least Bell's vireo or burrowing owl should they be present and the noise threshold (i.e., 60 dB[A] Leq hourly) met or exceeded at the edge of their nesting territories during their breeding seasons. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Furthermore, maintenance activities (see Section D.2.16) would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7h.

Impacts to PBS and its critical habitat could cause PBS to avoid the affected areas and could interfere with the use of resources such as escape terrain; water; mineral licks; rutting, lambing, or feeding areas; the use of traditional movement routes, and/or could cause physiological stress or increased predation. All of these potential effects could adversely affect survival and recovery of the species and would be significant and not mitigable to less than significant levels (Class I), although Mitigation Measure B-7c is required to, at least in part, compensate for the impacts to PBS.

Impacts to the barefoot banded gecko from maintenance activities would be adverse but less than significant (Class III) because the species is unlikely to occur on a maintained access road, tower pad, or other work area. No mitigation is required.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** **Prepare and implement a Weed Control Plan.**
- B-7b** **Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangewide Management Strategy.**
- B-7c** **Minimize impacts to Peninsular bighorn sheep, and provide compensation for loss of critical habitat.**
- B-7g** **Implement appropriate avoidance/minimization strategies for desert tortoise.**
- B-7h** **Implement appropriate avoidance/minimization strategies for eagle nests.**

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

East of Tamarisk Grove Option

In comparison with the Overhead 500 kV ABDSP Within Existing ROW Alternative, this option would move the new 500 kV transmission line farther from SR78 and Tamarisk Grove Campground, reducing highway encroachment and tree trimming around the campground. Impacts to biological resources from this option would not differ significantly from the Overhead 500 kV ABDSP Within Existing ROW Alternative, and no new mitigation measures would be required.

D.2.23 Central Link Alternatives Impacts and Mitigation Measures

Four Central Link Alternatives are considered in this section: the Santa Ysabel Existing ROW Alternative, the Santa Ysabel Partial Underground Alternative, the Santa Ysabel SR79 All Underground Alternative, and the Mesa Grande Alternative.

D.2.23.1 Santa Ysabel Existing ROW Alternative

This alternative would follow an existing 69 kV transmission line ROW on the west side of SR79 in the northern half and east of SR79, along the toe of the hill slope in the southern portion of the alternative. This route would pass east of the existing Santa Ysabel Substation and continue to follow the existing 69 kV line south of SR78 until it rejoins the proposed corridor.

Environmental Setting

The Santa Ysabel Existing ROW Alternative is located in the South Coast bioregion (CERES, 2003). This overhead alternative is 9 miles long and would replace 9.4 miles of the Proposed Project. The predominant vegetation communities along this alternative are non-native grassland, oak woodlands, northern mixed chaparral, and coastal sage scrub-inland form. The communities listed in Table D.2-14 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation community was identified during vegetation mapping along this alternative that may be jurisdictional wetland: riparian woodland. Furthermore, there are nine watercourse crossings, including Santa Ysabel Creek, with this alternative (Table D.12-15). These watercourses could be jurisdictional wetlands or non-wetland waters.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation community occurs along this alternative that does not occur along the Proposed Project route or any other previously described route.

77000 Mixed Oak Woodland. Mixed oak woodland is composed of black (*Quercus kelloggii*), Engelmann oak, and coast live oak. The understory is typically non-native grassland but may also be chaparral or sage scrub. This habitat occurs in the interior valleys and mountains of San Diego County.

Overview of Special Habitat Management Areas. Unlike the segment of the Proposed Project that this alternative would replace, this alternative travels through the eastern portion of the Santa Ysabel

Open Space Preserve. Similar to the segment of the Proposed Project that this alternative would replace, this alternative also travels through the San Dieguito River Park.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed: San Diego gumplant.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Orcutt's brodiaea
- San Bernardino aster
- Delicate clarkia
- San Diego marsh-elder
- Southern skullcap
- San Diego milk-vetch

Special Status Wildlife Species. The four listed species presented below are assumed present due to the presence of potentially suitable habitat and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). Also, the highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007).

- Arroyo toad
- Southwestern willow flycatcher
- Least Bell's vireo
- Stephens' kangaroo rat

Additionally, the listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species.

One non-listed, sensitive wildlife species, ferruginous hawk, was observed near this alternative, and the following 40 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- | | |
|--------------------------------------|---------------------------------|
| • Large-blotched salamander | • White-tailed kite |
| • Western spadefoot toad | • California horned lark |
| • Coast Range newt | • Prairie falcon |
| • Silvery legless lizard | • Yellow-breasted chat |
| • Belding's orange-throated whiptail | • Yellow warbler |
| • Coastal rosy boa | • Loggerhead shrike |
| • Red-diamond rattlesnake | • Pallid bat |
| • San Diego ringneck snake | • Dulzura pocket mouse |
| • Coronado skink | • Pallid San Diego pocket mouse |
| • San Diego mountain kingsnake | • Townsend's big-eared bat |
| • Coast (San Diego) horned lizard | • Western mastiff bat |

- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Tri-colored blackbird
- Southern California rufous-crowned sparrow
- Grasshopper sparrow
- Bell's sage sparrow
- Northern harrier
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- Yuma myotis
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Santa Ysabel Existing ROW Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Santa Ysabel Existing ROW Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-14). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20,

BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities. The full text of the mitigation measures appears in Appendix 12.

Table D.2-14 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Santa Ysabel Existing ROW Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-14. Impacts to Vegetation Communities and Required Mitigation – Santa Ysabel Existing ROW Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	2.30	0	0.00	0.09	0	0.00	0.00	0.00
Disturbed habitat	0.23	0	0.00	0.23	0	0.00	0.00	0.00
Subtotal	2.53	—	0.00	0.32	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Coastal sage scrub–inland form	1.66	1.5:1	2.49	1.52	1:1	1.52	0.00	2.49
Subtotal	1.66	—	2.49	1.52	—	1.52	0.00	2.49
Grasslands and Meadows								
Non-native grassland	8.93	1:1	8.93	7.08	1:1	7.08	0.00	8.93
Non-native grassland – disturbed	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	8.93	—	8.93	7.08	—	7.08	0.00	8.93
Chaparrals								
Northern mixed chaparral	4.31	1:1	4.31	3.81	1:1	3.81	0.00	4.31
Northern mixed chaparral – disturbed	0.16	1:1	0.16	0.00	1:1	0.00	0.00	0.16
Southern mixed chaparral	0.33	1:1	0.33	1.00	1:1	1.00	0.00	0.33
Subtotal	4.80	—	4.80	4.81	—	4.81	0.00	4.80

Table D.2-14. Impacts to Vegetation Communities and Required Mitigation – Santa Ysabel Existing ROW Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Woodlands and Forests								
Coast live oak woodland	2.68	3:1	8.04	2.54	3:1	2.54	5.08	13.12
Engelmann oak woodland	5.71	3:1	17.13	3.02	3:1	3.02	6.04	23.17
Englemann oak woodland – disturbed	0.13	3:1	0.39	0.21	3:1	0.21	0.42	0.81
Mixed oak woodland	4.80	3:1	14.40	2.93	3:1	2.93	5.86	20.26
Subtotal	13.32	—	39.96	8.70	—	8.70	17.40	57.36
Riparian Forests and Woodlands								
Riparian woodland	0.32	3:1	0.96	0.31	2:1	0.31	0.31	1.27
Subtotal	0.32	—	0.96	0.31	—	0.31	0.31	1.27
GRAND TOTAL	31.56	—	57.14	22.74	—	22.42	17.71	74.85

Vegetation Management (Loss of Trees). SDG&E has estimated that up to approximately three non-native trees (acacia, eucalyptus, and, pine) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. Additionally, SDG&E has estimated that up to approximately 1,623 native trees (13 elderberry and 1,610 oak trees [coast live oak, Engelmann oak, and black oak]) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative.

The loss of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). Likewise, removal of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has also stated that alternative would require trimming of up to approximately six non-native trees (acacia, brisbane box, eucalyptus, and pine) and up to approximately 795 native oak trees and four native willow trees. Although the trimming of non-native trees or shrubs would be an adverse but less than significant impact (Class III) because they are non-native and they usually do not support special status wildlife species, trimming a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). Likewise, trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation community was identified during vegetation mapping along this alternative that may be jurisdictional wetland: riparian woodland near MP SYR-4. This vegetation community would be directly impacted by this alternative (see Table D.2-14). Furthermore, there are nine watercourse crossings, including Santa Ysabel Creek, with this alternative (Table D.12-15). These watercourses could be jurisdictional wetlands or non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-14.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. San Diego gumplant was the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8F-2); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed, and there were access limitations along this alternative (see Appendix 8B). These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Orcutt's brodiaea, delicate clarkia, southern skullcap, San Bernardino aster, San Diego marsh-elder, and San Diego milk-vetch. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

San Diego Gumplant. Three San Diego gumplants were observed in three locations near MP SYR-8 (Appendix 8AF, Figure Ap.8F-2). This alternative would impact all of these plants through construction of towers and access roads.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-14.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, desert pupfish, desert tortoise, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko. Although the State listed bald eagle has low potential to occur along this alternative, it has recently begun nesting at nearby Lake Henshaw after years of absence, so it is addressed in Impact B-7I.

This alternative would impact or has the potential to impact the following listed or highly sensitive species and their habitats: least Bell's vireo, southwestern willow flycatcher, golden eagle, bald eagle, QCB, arroyo toad, and SKR. Each of these species is addressed individually below (see Impacts B-7D, B-7E, B-7H, B-7I, B-7J, B-7K, and B-7L, respectively).

This alternative has the potential to impact the non-listed, sensitive ferruginous hawk and the 40 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.23.1) should they be present.

Ferruginous Hawk. The ferruginous hawk was observed in two locations near MP SYR-5.5 (Appendix 8AF-2). These locations would not be directly impacted by this alternative, and it is not likely to significantly impact this species since it is an uncommon winter visitor that does not nest in San Diego County (Unitt, 2004).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations

to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-14); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-14.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo is assumed to be present along this alternative at approximately MP SYR-0.5 due to the presence of potential habitat (habitat polygon smaller than the minimum mapping unit) within the mapped coast live oak woodland and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). It was not found during a USFWS protocol survey at MP SYR-5.8. There would be no direct construction impacts to vireo habitat along this alternative.

Least Bell's vireo breeding, however, can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measure for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

The southwestern willow flycatcher is assumed to be present along this alternative at approximately MP SYR-0.5 due to the presence of potential habitat (habitat polygon smaller than the minimum mapping unit) within the mapped coast live oak woodland and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). It was not found during a USFWS protocol survey at MP SYR-5.8. There would be no direct construction impacts to southwestern willow flycatcher habitat along this alternative.

Southwestern willow flycatcher breeding, however, can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to southwestern willow flycatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to southwestern willow flycatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measure for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I)

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Impact B-12 below) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criterion 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g. (result in the abandonment of migratory bird nests and/or eggs), and 1.h (take golden eagles, eagle eggs, or any part of an eagle). Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly traveled road or a utility corridor that already contains large structures, or if the project is underground (Bittner, 2007). This alternative does not occur immediately adjacent to SR78 or SR79, the existing ROW 69 kV distribution line poles are not considered large structures, and this alternative is not underground, so these exceptions do not apply to this alternative.

There is one golden eagle nest area that occurs less than 2,000 feet from this alternative and another golden eagle nest area that occurs within 4,000 feet of this alternative. The specific locations of these nests areas are not disclosed in this EIR/EIS, nor are the MPs within 2,000 and 4,000 feet, respectively, of these nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. The nest locations, for purposes of this document, were provided by the Wildlife Research Institute (Bittner, 2007). Impacts to both eagle pairs would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest areas and the project (less than 4,000 feet). Implementation of Mitigation Measure B-7h is required to, at least in part, compensate for impacts to the golden eagle pairs.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (No Impact)

One bald eagle pair nests at Lake Henshaw, and the nest area for this bald eagle pair is more than 4,000 feet from the Proposed Project and even farther west of this alternative (Bittner, 2007). Human activity within 4,000 feet of a nest area is considered significant; since the nest area is greater than 4,000 feet from this alternative, it would have no impact on the bald eagle, so no mitigation is required.

Impacts/mitigation relating to bald eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-14.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

The arroyo toad is assumed to be present along this alternative at MPs SYR-0.6 and SYR-5.8 because potential habitat for the species is present, the arroyo toad is known from the area, and ROE permission was not granted in time to meet survey protocol. Therefore, an arroyo toad survey could not be conducted (see Appendices 8B and 8C).

Impacts to the arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment) where the toad is assumed to occur include: five acres of temporary disturbance to upland burrowing habitat and 9.8 acres of permanent impact to upland burrowing habitat. The pre-construction survey required in Mitigation Measure B-7j would conclusively define if there would be impacts to the arroyo toad in the areas of assumed toad presence from construction (i.e., if appropriate climatic conditions are present to encounter arroyo toads). The requirements in Mitigation Measure B-7j may be reduced based on the results of this survey. It is expected that adequate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the arroyo toad is typically available and regularly provided in San Diego County. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7j.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-14.
- B-7j** Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Santa Ysabel Existing ROW Alternative, the required mitigation for arroyo toad occupied habitat includes five acres of on-site restoration and 24.6 acres of off-site acquisition and preservation of occupied toad upland burrowing habitat.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

The SKR is assumed to be present at MPs SYR-3.9 through SYR-4.0 due to access limitations (see Section D.2.1.1 and Appendices 8B and 8C). Direct and indirect impacts to the SKR and its assumed occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). Impacts to SKR habitat include 0.5 acres of temporary disturbance and 0.64 acres of permanent impacts. The pre-construction survey required in Mitigation Measure B-7k would conclusively define all the impacts to the SKR in the areas of assumed SKR presence from construction of this alternative. The requirements in Mitigation Measure B-7k may be reduced based on the results of this survey. These impacts would be significant and not mitigable to less than significant levels because adequate mitigation land for the SKR may not be available to compensate for the impacts (Class I). However implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** **Provide restoration/compensation for impacted sensitive vegetation communities.** See Table D.2-14.
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-14.
- B-7a** **Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).**
- B-7k** **Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies.** For the Santa Ysabel Existing ROW Alternative, the required mitigation for SKR occupied habitat includes on-site restoration of 0.5 acres and off-site acquisition and preservation of 1.78 acres.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow (BIO-APM-5) and adversely affect the movement of fish, and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative would install large transmission structures, so the golden eagle and bald eagle are not expected to be impacted by collision with this alternative.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley. There is almost no evidence for Santa Ysabel Valley being a migration route. It is not a corridor linking the desert and coastal slopes (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission

line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.e. through 1.g., and 2.b that include any impacts to one or more listed species (1.a.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if

weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo and southwestern willow flycatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. Furthermore, maintenance activities would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h and B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, arroyo toad and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12b and B-12c.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** Prepare and implement a Weed Control Plan.
- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.
- B-12a** Conduct maintenance activities outside the general avian breeding season.
- B-12b** Conduct maintenance when arroyo toads are least active.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.23.2 Santa Ysabel Partial Underground Alternative

This 230 kV alternative would begin at MP 105.5 where the proposed route would join Mesa Grande Road at the base of the hills at the western side of the Santa Ysabel Valley. The alternative would transition underground at the southern side of Mesa Grande Road and would travel underground in Mesa Grande Road, SR79 and then, south of SR78, following property lines for approximately one mile to rejoin the proposed route at approximately MP 109.5 where it would transition overhead. The route would be 0.7 miles longer than the proposed route.

Environmental Setting

The Santa Ysabel Partial Underground Alternative is located in the South Coast bioregion (CERES, 2003). This five-mile-long alternative would begin at Proposed Project MP 105.5 (along Mesa Grande Road) at the base of the hills at the western side of the Santa Ysabel Valley. This alternative would transition underground at the south side of Mesa Grande Road and would rejoin the Proposed Project at approximately MP 109.5 where it would transition overhead. The predominant vegetation community along this alternative is non-native grassland. The communities listed in Table D.2-15 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: mule fat scrub, southern willow scrub, riparian woodland, and southern sycamore-alder riparian woodland. Furthermore, there are six watercourse crossings, including Santa Ysabel Creek, with this alternative (Table D.12-16). These watercourses could be jurisdictional wetlands or non-wetland waters.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation community occurs along this alternative that does not occur along the Proposed Project route or any other previously described route.

62400 Southern Sycamore-alder Riparian Woodland. Southern sycamore-alder riparian woodland is a tall, open, broadleaved, winter-deciduous, streamside woodland dominated, in the PSA, by western sycamore. These open stands may have non-native grassland for an understory in areas that are grazed. In other areas, poison-oak (*Toxicodendron diversilobum*), mugwort (*Artemisia douglasiana*), and Mexican elderberry (*Sambucus mexicanus*) comprise the understory.

Overview of Special Habitat Management Areas. Unlike the segment of the Proposed Project that this alternative would replace, this alternative skirts the western edge of the eastern portion of the Santa Ysabel Open Space Preserve. Similar to the segment of the Proposed Project that this alternative would replace, this alternative also travels through the San Dieguito River Park.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed: San Diego gumplant.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDB or USFWS records. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Orcutt's brodiaea
- San Bernardino aster
- Delicate clarkia
- San Diego marsh-elder

- Southern skullcap
- San Diego milk-vetch

Special Status Wildlife Species. The listed arroyo toad and SKR are assumed present due to the presence of potentially suitable habitat and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). Also, the highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007). The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species. USFWS protocol surveys for the listed least Bell's vireo and southwestern willow flycatcher were negative for this alternative (i.e., neither species was found).

One non-listed, sensitive wildlife species, ferruginous hawk, was observed near MP SYPU-1.5, and the following 40 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Large-blotched salamander
- Western spadefoot toad
- Coast Range newt
- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Tri-colored blackbird
- Southern California rufous-crowned sparrow
- Grasshopper sparrow
- Bell's sage sparrow
- Northern harrier
- White-tailed kite
- California horned lark
- Prairie falcon
- Yellow-breasted chat
- Yellow warbler
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Pallid San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- Yuma myotis
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Santa Ysabel Partial Underground Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted

sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)

- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Santa Ysabel Partial Underground Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-15). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to non-native vegetation and developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-15 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Santa Ysabel Partial Underground Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-15. Impacts to Vegetation Communities and Required Mitigation – Santa Ysabel Partial Underground Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts			Total Offsite Mitigation	
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration		Offsite Mitigation
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.41	0	0.00	0.02	0	0.00	0.00	0.00
Disturbed habitat	0.62	0	0.00	0.07	0	0.00	0.00	0.00
Extensive agriculture – field/pasture, row crops	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Non-native vegetation	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	1.03	—	0.00	0.09	—	0.00	0.00	0.00
Grasslands and Meadows								
Non-native grassland	8.67	1:1	8.67	3.73	1:1	3.73	0.00	8.67
Non-native grassland – disturbed	0.02	1:1	0.02	0.00	1:1	0.00	0.00	0.02
Subtotal	8.69	—	8.69	3.73	—	3.73	0.00	8.69
Chaparrals								
Northern mixed chaparral	0.75	1:1	0.75	0.00	1:1	0.00	0.00	0.75
Northern mixed chaparral – disturbed	0.10	1:1	0.10	0.00	1:1	0.00	0.00	0.10
Southern mixed chaparral	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	0.85	—	0.85	0.00	—	0.00	0.00	0.85
Woodlands and Forests								
Coast live oak woodland	1.42	3:1	4.26	0.25	3:1	0.25	0.50	4.76
Engelmann oak woodland	1.21	3:1	3.63	0.03	3:1	0.03	0.06	3.69
Subtotal	2.63	—	7.89	0.28	—	0.28	0.56	8.45
Riparian Scrubs								
Southern willow scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Riparian woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern sycamore-alder riparian woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
GRAND TOTAL	13.20	—	17.43	4.10	—	4.01	0.56	17.99

Vegetation Management (Loss of Trees). SDG&E made no estimates as to how many trees or shrubs would be removed or trimmed as part of vegetation management for this alternative because where it diverges from the Proposed Project route, it would be located primarily underground in roads. However, there are native woodland communities present along the short portion of the route that would not be in the Proposed Project corridor or underground in roads (see Table D.2-15) that support trees that would likely require either removal or trimming. The loss or trimming of non-native trees or

shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal or trimming of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II).

Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type

conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-15.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: southern willow scrub, riparian woodland, and southern sycamore-alder riparian woodland. These potential wetlands would not be directly impacted by this alternative (see Table D.2-15). Furthermore, there are six watercourse crossings, including Santa Ysabel Creek, with this alternative (Table D.12-16). These watercourses could be jurisdictional wetlands or non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be

considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-15.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. San Diego gumplant was the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8F, Figure Ap.8F-3); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed, and there were access limitations along this alternative (see Appendix 8B). These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Orcutt's brodiaea, delicate clarkia, southern skullcap, San Bernardino aster, San Diego marsh-elder, and San Diego milk-vetch. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

San Diego Gumplant. Four San Diego gumplants were observed between MP SYPU-3 and MP SYPU-5 (Appendix 8F, Figure Ap.8F-3). This alternative has the potential to impact all individuals of this species during construction.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation

measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-15.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-15.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, bald eagle, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

Two listed species, arroyo toad and SKR, are assumed present along this alternative due to the presence of potentially suitable habitat and survey limitations (see Section D.2.1.1; Appendices 8B and 8C; and Impacts B-7K and B-7L). Also, the highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007; see Impact B-7H). The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species (see Impact B-7J). USFWS protocol surveys for the listed least Bell's vireo and southwestern willow flycatcher were negative for this alternative (i.e., neither species was found), so these species are not addressed.

This alternative has the potential to impact the non-listed, sensitive ferruginous hawk and the 40 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.23.2) should they be present.

Ferruginous Hawk. The ferruginous hawk was observed in two locations near MP SYPU-1.5 (Appendix 8F, Figure Ap.8F-3). These locations would not be directly impacted by this alternative, and it is not likely to significantly impact this species since it is an uncommon winter visitor that does not nest in San Diego County (Unitt, 2004).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-15); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-15.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-15.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class II)

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Impact B-12 below) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criterion 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status

species), 1.g. (result in the abandonment of migratory bird nests and/or eggs), and 1.h (take golden eagles, eagle eggs, or any part of an eagle). Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly traveled road or a utility corridor that already contains large structures, or if the project is underground (Bittner, 2007). This alternative does not occur immediately adjacent to SR78 or SR79, and the existing ROW 69 kV distribution line poles to the east are not considered large structures.

There is one golden eagle nest area that occurs less than 4,000 feet from this alternative where it is underground. The specific location of this nest area is not disclosed in this EIR/EIS, nor are the MPs within 4,000 feet of this nest area in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. The nest location, for purposes of this document, was provided by the Wildlife Research Institute (Bittner, 2007). Impacts to the golden eagle pair would be significant but mitigable to less than significant levels (Class II) because the project would be underground within 4,000 feet of the nest area. Implementation of Mitigation Measure B-7h is required to compensate for impacts to the golden eagle.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-14.

- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-14.
- B-7i** **Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.**

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

The arroyo toad is assumed to be present along this alternative at MP SYPU-1.7 because potential habitat for the species is present, the arroyo toad is known from the area, and ROE permission was not granted in time to meet survey protocol. Therefore, an arroyo toad survey could not be conducted (see Appendices 8B and 8C).

Impacts to the arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment) where the toad is assumed to occur include: 0.6 acres of temporary disturbance to upland burrowing habitat and 1.4 acres of permanent impact to upland burrowing habitat. The pre-construction survey required in Mitigation Measure B-7j would conclusively define if there would be impacts to the arroyo toad in the areas of assumed toad presence from construction (i.e., if appropriate climatic conditions are present to encounter arroyo toads). The requirements in Mitigation Measure B-7j may be reduced based on the results of this survey. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the arroyo toad is typically available and regularly provided in San Diego County. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7j.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

- B-1a** **Provide restoration/compensation for impacted sensitive vegetation communities.** See Table D.2-14.
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-14.
- B-7j** **Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies.** For the Santa Ysabel Partial Underground Alternative, the required mitigation for arroyo toad occupied habitat includes 0.6 acres of on-site restoration and 3.4 acres of off-site acquisition and preservation of occupied toad upland burrowing habitat.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

The SKR is assumed to be present at MPs SYPU-0 through SYPU-0.7 due to access limitations (see Section D.2.1.1 and Appendices 8B and 8C). Direct and indirect impacts to the SKR and its assumed occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). Impacts to SKR habitat include 0.6 acres of temporary disturbance and 0.7 acres of permanent impacts.

The pre-construction survey required in Mitigation Measure B-7k would conclusively define all the impacts to the SKR in the areas of assumed SKR presence from construction of this alternative. The requirements in Mitigation Measure B-7k may be reduced based on the results of this survey. These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-15.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-15.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7k** Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Santa Ysabel Partial Underground Alternative, the required mitigation for SKR occupied habitat includes on-site restoration of 0.6 acres and off-site acquisition and preservation of two acres.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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 two underground-overhead transition structures at either end of the alternative would not physically obstruct wildlife movement; wildlife could move around the structures. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Due to the intermittent locations of construction activity, and since this alternative is essentially an underground alternative that would install only two overhead-underground transition structures (one at each end of the alternative), wildlife would not be prevented from moving around any project equipment within the transmission corridor (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. There is almost no evidence for Santa Ysabel Valley being a migration route (Unitt, 2004), and according to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative is essentially an underground alternative that would install only two overhead-underground transition structures (one at each end of the alternative), so the golden eagle and other listed or sensitive bird species are not expected to be impacted by collision with this alternative (No Impact).

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

This alternative would install only two overhead-underground transition structures five miles apart (one at each end of the alternative), so it is not likely to cause increased predation of listed and sensitive species by nesting ravens (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.e. through 1.g., and 2.b that include any impacts to one or more listed species (1.a.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7h.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, arroyo toad and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12b and B-12c.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** Prepare and implement a Weed Control Plan.
- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.
- B-12a** Conduct maintenance activities outside the general avian breeding season.
- B-12b** Conduct maintenance when arroyo toads are least active.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.23.3 Santa Ysabel SR79 All Underground Alternative

This alternative would diverge from the Proposed Project at MP 100, just south of the crossing of SR78. It would start as an overhead 230 kV line, which would then transition to an underground route on private property, west of SR79. It would be underground along existing dirt roads and within hay fields and SR79 through the Santa Ysabel Valley, rejoining the proposed route south of SR78.

Environmental Setting

The Santa Ysabel SR79 All Underground Alternative is located in the South Coast bioregion (CERES, 2003). This 8.9-mile alternative route would diverge from the proposed route at MP 100 and would follow the existing 69 kV ROW overhead for approximately 1,100 feet south until the line would be west of the Alquist-Priolo Fault Zone. The line would transition underground and would travel south for approximately 0.9 miles while located east of and parallel to the existing 69 kV ROW. The Santa Ysabel SR79 All Underground Alternative would then turn east for approximately 1,500 feet and would cross a drainage area that would require a horizontal directional drill as well as existing hay fields to intersect SR79. The alternative route would enter SR79 south of Elsinore Fault Alquist-Priolo Fault Zone crossing and would travel south in the roadway. South of Mesa Grande Road, this alternative would be the same as the Santa Ysabel Partial Underground Alternative (see Section D.2.23.2). The predominant vegetation communities along this alternative are non-native grassland, oak woodlands, and northern mixed chaparral (Appendix 8F, Figures Ap.8F-4 and Ap.8F-5). The communities listed in Table D.2-16 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: mule fat scrub, southern willow scrub, riparian woodland, southern cottonwood-willow riparian forest, and southern sycamore-alder riparian woodland. Furthermore, there are 18 watercourse crossings, including one of Santa Ysabel Creek and two of Carrista Creek, with this alternative (Table D.12-17). These watercourses could be jurisdictional wetlands or non-wetland waters.

Overview of Special Habitat Management Areas. Unlike the segment of the Proposed Project that this alternative would replace, this alternative skirts the western edge of the eastern portion of the Santa Ysabel Open Space Preserve. Similar to the segment of the Proposed Project that this alternative would replace, this alternative also travels through the San Dieguito River Park.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed: San Diego gumplant.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Orcutt's brodiaea
- San Bernardino aster
- Delicate clarkia
- San Diego marsh-elder
- Southern skullcap
- San Diego milk-vetch

Special Status Wildlife Species. The four listed species presented below are assumed present due to the presence of potentially suitable habitat and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). Also, the highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007).

- Arroyo toad
- Southwestern willow flycatcher
- Least Bell's vireo
- Stephens' kangaroo rat

Additionally, the listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species.

Four non-listed, sensitive wildlife species, ferruginous hawk, tri-colored blackbird, yellow warbler, and Cooper's hawk were observed near or along this alternative, and the following 37 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Large-blotched salamander
- Western spadefoot toad
- Coast Range newt
- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Southern California rufous-crowned sparrow
- White-tailed kite
- California horned lark
- Prairie falcon
- Yellow-breasted chat
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Pallid San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- Yuma myotis

- Grasshopper sparrow
- Bell's sage sparrow
- Northern harrier
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Santa Ysabel SR79 All Underground Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds)

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation; Class III for non-sensitive vegetation)

Construction of the Santa Ysabel SR79 All Underground Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-16). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Impacts to sensitive vegetation communities are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to non-native vegetation and developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-16 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Santa Ysabel SR79 All Underground Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-16. Impacts to Vegetation Communities and Required Mitigation – Santa Ysabel SR79 All Underground Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.41	0	0.00	0.03	0	0.00	0.00	0.00
Disturbed habitat	0.62	0	0.00	0.07	0	0.00	0.00	0.00
Non-native vegetation	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	1.03	—	0.00	0.10	—	0.00	0.00	0.00
Grasslands and Meadows								
Non-native grassland	16.57	1:1	16.57	5.40	1:1	5.40	0.00	16.57
Meadow – disturbed	0.02	2:1	0.04	0.00	1:1	0.00	0.00	0.04
Subtotal	16.59	—	16.61	5.40	—	5.40	0.00	16.61
Chaparrals								
Chamise chaparral	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Chamise chaparral-burned	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Northern mixed chaparral	0.88	1:1	0.88	0.23	1:1	0.23	0.00	0.88
Northern mixed chaparral–disturbed	0.10	1:1	0.10	0.00	1:1	0.00	0.00	0.10
Southern mixed chaparral	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	0.98	—	0.98	0.23	—	0.23	0.00	0.98
Woodlands and Forests								
Coast live oak woodland	2.20	3:1	6.60	0.84	3:1	0.84	1.68	8.28
Engelmann oak woodland	1.21	3:1	3.63	0.03	3:1	0.03	0.06	3.69

Table D.2-16. Impacts to Vegetation Communities and Required Mitigation – Santa Ysabel SR79 All Underground Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Subtotal	3.41	—	10.23	0.87	—	0.87	1.74	11.97
Riparian Scrubs								
Southern willow scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Riparian woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Riparian woodland – disturbed	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern coast live oak riparian forest	0.32	3:1	0.96	0.21	2:1	0.21	0.21	1.17
Southern cottonwood-willow riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern sycamore-alder riparian woodland	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.32	—	0.96	0.21	—	0.21	0.21	1.17
GRAND TOTAL	22.33	—	28.78	6.81	—	6.71	1.95	30.73

Vegetation Management (Loss of Trees). The first 1,100 feet of this alternative (beginning from where it diverges from the Proposed Project) is overhead, and a portion of this route segment travels through coast live oak woodland. SDG&E has estimated that zero non-native trees would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the this alternative. However, according to SDG&E, up to approximately 10 native oak trees would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative.

The loss of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees or shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of up to approximately zero non-native trees and up to approximately two native oak trees. The trimming of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: southern willow scrub, riparian woodland, southern cottonwood-willow riparian forest, southern sycamore-alder riparian woodland, and southern coast live oak riparian forest. Southern coast live oak riparian forest would be directly impacted by this alternative (see Table D.2-16). Furthermore, there are 18 watercourse crossings, including one of Santa Ysabel Creek and two of Carrista Creek, with this alternative (Table D.12-17). These watercourses could be jurisdictional wetlands or non-wetland waters. At least one of these watercourses would require a horizontal directional drill to install this alternative. This drill would minimize impacts to the aboveground riparian vegetation.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. San Diego

gumplant was the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8F-3); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed, and there were access limitations along this alternative (see Appendix 8B). These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Orcutt's brodiaea, delicate clarkia, southern skullcap, San Bernardino aster, San Diego marsh-elder, and San Diego milk-vetch. The San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

San Diego Gumplant. Four San Diego gumplants were observed between MP SYAU-8 and MP SYAU-9 (Appendix 8F, Figure Ap.8F-5). This alternative has the potential to impact all individuals of this species during construction.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.

B-5a Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, desert pupfish, desert tortoise, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko. Although the State listed bald eagle has low potential to occur along this alternative, it has recently begun nesting at nearby Lake Henshaw after years of absence, so it is addressed in Impact B-7I.

This alternative would impact or has the potential to impact the following listed or highly sensitive species and their habitats: least Bell's vireo, southwestern willow flycatcher, golden eagle, bald eagle, QCB, arroyo toad, and SKR. Each of these species is addressed individually below (see Impacts B-7D, B-7E, B-7H, B-7I, B-7J, B-7K, and B-7L, respectively).

This alternative has the potential to impact the non-listed, sensitive ferruginous hawk, tri-colored blackbird, yellow warbler, and Cooper's hawk and the 37 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.23.3) should they be present.

Ferruginous Hawk. The ferruginous hawk was observed in two locations near MP SYAU-5.5 (Appendix 8F, Figure Ap.8F-4). These locations would not be directly impacted by this alternative, and it is not likely to significantly impact this species since it is an uncommon winter visitor that does not nest in San Diego County (Unitt, 2004).

Tri-Colored Blackbird. The tri-colored blackbird was observed at MP SYAU-5 (Appendix 8F, Figure Ap.8F-4). This alternative would not impact the location where this species was observed since the transmission line would be underground in SR79. However, it would cause significant indirect noise impacts that would affect tri-colored blackbird breeding if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Yellow Warbler. Six yellow warblers were observed near the area between MPs SYAU-0 and SYAU-1. This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow warbler breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Cooper's Hawk. One Cooper's hawk was observed near MP SYAU-0. This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would

affect Cooper's hawk breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within pre-determined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-16); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo was not found during a USFWS protocol survey at MP SYAU 6.0. The least Bell's vireo is assumed to be present along this alternative at MP SYAU-1 due to survey limitations (see Appendix 8B). Approximately 1.2 acres of habitat assumed to be occupied by the least Bell's vireo would be impacted by construction of this alternative (0.4 acres of temporary disturbance and 0.8 acres of permanent impact; Appendix 8F, Figure Ap.8F-4). The pre-construction survey required in Mitigation Measure B-7e would conclusively define all the impacts to the least Bell's vireo where it is assumed to be present from construction of this alternative. The requirements in Mitigation Measure

B-7e may be reduced based on the results of this survey. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the least Bell's vireo is typically available and regularly provided in San Diego County.

Additionally, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo-occupied habitat or to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the vireo or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.
- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Santa Ysabel SR79 All Underground Alternative, the required mitigation for the least Bell's vireo includes 0.4 acres of on-site restoration and 3.2 acres of acquisition and preservation of least Bell's vireo occupied habitat.

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

The southwestern willow flycatcher was not found during a USFWS protocol survey at MP SYAU 6.0. The southwestern willow flycatcher is assumed to be present along this alternative at MP SYAU-1 due to survey limitations (see Appendix 8B). Approximately 1.2 acres of habitat assumed to be occupied by the southwestern willow flycatcher would be impacted by construction of this alternative (0.4 acres of temporary disturbance and 0.8 acres of permanent impact; Appendix 8F, Figure Ap.8F-4). The pre-construction survey required in Mitigation Measure B-7e would conclusively define all the impacts to the southwestern willow flycatcher where it is assumed to be present from construction of this alternative. The requirements in Mitigation Measure B-7e may be reduced based on the results of this survey. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the southwestern willow flycatcher is typically available and regularly provided in San Diego County.

Additionally, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to southwestern willow flycatcher-occupied habitat or to southwestern willow flycatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise).

Any direct impact to the southwestern willow flycatcher or its occupied habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7e. Any impact to southwestern willow flycatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.
- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Santa Ysabel SR79 All Underground Alternative, the required mitigation for the southwestern willow flycatcher includes 0.4 acres of on-site restoration and 3.2 acres of acquisition and preservation of southwestern willow flycatcher occupied habitat.

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class II)

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Impact B-12 below) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criterion 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g. (result in the abandonment of migratory bird nests and/or eggs), and 1.h (take golden eagles, eagle eggs, or any part of an eagle). Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly traveled road or a utility corridor that already contains large structures, or if the project is underground (Bittner, 2007). This alternative does not occur immediately adjacent to SR78 or SR79, and the existing ROW 69 kV distribution line poles to the east are not considered large structures, but this alternative is underground within 4,000 feet of eagle nest areas as described below.

There is one golden eagle nest area that occurs less than 2,000 feet from this alternative where it is underground and another golden eagle nest area that occurs within 4,000 feet of this alternative where it

is underground. The specific locations of these nests areas are not disclosed in this EIR/EIS, nor are the MPs within 2,000 and 4,000 feet, respectively, of these nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. The nest locations, for purposes of this document, were provided by the Wildlife Research Institute (Bittner, 2007). Impacts to both eagle pairs would be significant but mitigable to less than significant levels (Class II) because the project would be underground within 4,000 feet of the nest areas. Implementation of Mitigation Measure B-7h is required to compensate for impacts to the golden eagle.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 in Impact B-10 below.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (No Impact)

One bald eagle pair nests at Lake Henshaw, and the nest area for this bald eagle pair is more than 4,000 feet from the Proposed Project and even farther west of this alternative (Bittner, 2007). Human activity within 4,000 feet of a nest area is considered significant; since the nest area is greater than 4,000 feet from this alternative, it would have no impact on the bald eagle, so no mitigation is required.

Impacts/mitigation relating to bald eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.

B-1c Conduct biological monitoring.

- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

The arroyo toad is assumed to be present along this alternative at MPs SYAU-1 and SYAU-6 due to survey limitations (see Appendix 8B). Impacts to the arroyo toad or its occupied breeding or burrowing habitat from habitat removal or disturbance from construction (e.g., crushing of toads with construction equipment) of this alternative where the toad is assumed to occur include: 0.2 acres of temporary disturbance to riparian breeding habitat and 0.3 acres of permanent impacts to riparian breeding habitat as well as 2.7 acres of temporary disturbance to upland burrowing habitat and 9.2 acres of permanent impact to upland burrowing habitat. The pre-construction survey required in Mitigation Measure B-7j would conclusively define if there would be impacts to the arroyo toad in the areas of assumed toad presence from construction (i.e., if appropriate climatic conditions are present to encounter arroyo toads). The requirements in Mitigation Measure B-7j may be reduced based on the results of this survey. It is expected that adequate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the arroyo toad is typically available and regularly provided in San Diego County.. These impacts would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7j.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-16.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-16.
- B-7j** Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Santa Ysabel SR79 All Underground Alternative, the required mitigation for arroyo toad occupied habitat includes 2.9 acres of on-site restoration and 22.4 acres of off-site acquisition and preservation of occupied toad habitat consisting of 1.3 acres of breeding habitat and 21.1 acres of upland burrowing habitat.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (No Impact)

The SKR is assumed to be present along this alternative at MPs SYAU-4 through SYAU 4.5 due to survey limitations (see Appendix 8B); however, this alternative would occur underground in SR79 through the assumed occupied habitat, so no impacts to the habitat or SKR would occur.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. Furthermore, at least one of the watercourses along this alternative would require a horizontal directional drill to install this underground utility. This drill would minimize impacts to the aboveground riparian vegetation and any existing water flow.

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 in the first 1,100 feet of this alternative would not physically obstruct wildlife movement; wildlife could move under and around the towers. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative would install 230 kV overhead transmission structures for its initial 1,100 feet (the rest of the 8.9 miles would be underground), so the golden eagle and bald eagle are not expected to be impacted by collision with this alternative.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley. There is almost no evidence for Santa Ysabel Valley being a migration route. It is not a corridor linking the desert and coastal slopes (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

This alternative is essentially an underground alternative that would only install 230 kV transmission structures in its initial 1,100 feet, so it is not likely to cause increased predation of listed and sensitive species by nesting ravens (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.e. through 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo and southwestern willow flycatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. Furthermore, maintenance activities would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-7h and B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, arroyo toad and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12b and B-12c.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a** Prepare and implement a Weed Control Plan.
- B-7h** Implement appropriate avoidance/minimization strategies for eagle nests.
- B-12a** Conduct maintenance activities outside the general avian breeding season.
- B-12b** Conduct maintenance when arroyo toads are least active.
- B-12c** Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.23.4 Mesa Grande Alternative

This alternative to a one-mile portion of the proposed overhead 230 kV route was proposed by the landowner and also by SDG&E in order to reduce the visibility of the overhead line west of Mesa Grande Road. It would diverge from the proposed route at MP 102.2, and rejoin it before MP 104.

Environmental Setting

The Mesa Grande Alternative is located in the South Coast bioregion (CERES, 2003). This alternative is 1.8 miles long and would replace 2.1 miles of the Proposed Project. The route would diverge from the Proposed Project at approximately MP 101.5 and would rejoin the Proposed Project at MP 103.5, on the south side of Mesa Grande Road. The predominant vegetation communities along the route are non-native grassland and Engelmann oak woodland. The communities listed in Table D.2-17 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of jurisdictional areas at this time is unknown. However, based on the vegetation communities identified during mapping along this alternative, it appears that there are no wetlands. Additionally, the hydrology section of this EIR/EIS (Section D.12.16.4) states that there are no watercourse crossings with this alternative; there may still be jurisdictional, non-wetland waters present.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, this alternative does not occur within any special habitat management area.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. A rare plant survey was not conducted for this alternative in 2007 due to lack of permission to access (see Impact B-5 below and Appendix B).

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDB or USFWS records. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Orcutt's brodiaea
- San Bernardino aster

- Delicate clarkia
- San Diego gumplant
- Southern skullcap
- San Diego milk-vetch

Special Status Wildlife Species. The highly sensitive golden eagle is known to nest in the vicinity of this alternative (Bittner, 2007). The SKR is assumed to be present along this alternative based on the presence of potential habitat and lack of permission to access (see Impact B-7L below and Appendix 8B).

Additionally, the listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species.

Two non-listed, sensitive wildlife species, ferruginous hawk and prairie falcon, were observed near this alternative, and the following 36 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Large-blotched salamander
- Western spadefoot toad
- Coast Range newt
- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Tri-colored blackbird
- Grasshopper sparrow
- Bell's sage sparrow
- Northern harrier
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Pallid San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- Yuma myotis
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Mesa Grande Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for

impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)

- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I)

Construction of the Mesa Grande Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-17). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-17 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Mesa Grande Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-17. Impacts to Vegetation Communities and Required Mitigation –Mesa Grande Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.01	0	0.00	0.07	0	0.00	0.00	0.00
Subtotal	0.01	—	0.00	0.07	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Coastal sage scrub–inland form	0.19	1.5:1	0.29	0.20	1:1	0.20	0.00	0.29
Subtotal	0.19	—	0.29	0.20	—	0.20	0.00	0.29
Grasslands and Meadows								
Non-native grassland	6.56	1:1	6.56	11.25	1:1	11.25	0.00	6.56
Subtotal	6.56	—	6.56	11.25	—	11.25	0.00	6.56
Chaparrals								
Northern mixed chaparral	1.43	1:1	1.43	4.43	1:1	4.43	0.00	1.43
Subtotal	1.43	—	1.43	4.43	—	4.43	0.00	1.43
Woodlands and Forests								
Coast live oak woodland	0.07	3:1	0.21	0.00	3:1	0.00	0.00	0.21
Engelmann oak woodland	2.45	3:1	7.35	2.92	3:1	2.92	5.84	13.19
Subtotal	2.52	—	7.56	2.92	—	2.92	5.84	13.40
Riparian Scrubs								
Southern willow scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Southern coast live oak riparian forest	0.02	3:1	0.06	0.04	2:1	0.04	0.04	0.10
Subtotal	0.02	—	0.06	0.04	—	0.04	0.04	0.10
GRAND TOTAL	10.73	—	15.90	18.91	—	18.84	5.88	21.78

Vegetation Management (Loss of Trees). SDG&E has estimated that zero non-native trees and up to approximately 365 native trees (4 elderberry and 361 oak trees) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of the this alternative. The loss of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);

- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of zero non-native trees and up to approximately 214 native oak trees. The trimming of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-17.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of jurisdictional areas at this time is unknown. However, based on the vegetation communities identified during mapping along this alternative, it appears that there are no wetlands. Additionally, the hydrology section of this EIR/EIS (Section D.12.16.4) states that there are no watercourse crossings with this alternative; there may still be jurisdictional, non-wetland waters present.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-17.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent

grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Orcutt's brodiaea, delicate clarkia, southern skullcap, San Bernardino aster, San Diego gumplant, and San Diego milk-vetch. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-17.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-17.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, arroyo toad, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko. Although the State listed bald eagle has low potential to occur along this alternative, it has recently begun nesting at nearby Lake Henshaw after years of absence, so it is addressed in Impact B-7I.

This alternative would impact or has the potential to impact the following listed or highly sensitive species and their habitats: golden eagle, bald eagle, QCB, and SKR. Each of these species is addressed individually below (see Impacts B-7H, B-7I, B-7J, and B-7L, respectively).

This alternative has the potential to impact the non-listed, sensitive ferruginous hawk and prairie falcon, and the 36 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.23.4) should they be present.

Ferruginous Hawk. The ferruginous hawk was observed southeast of MP MG-1.8 (Appendix 8AF-5). This alternative is not likely to significantly impact this species since it is an uncommon winter visitor that does not nest in San Diego County (Unitt, 2004).

Prairie Falcon. The prairie falcon was observed southeast of MP MG-1.8 (Appendix 8AF-5) and is San Diego County's scarcest breeding bird. It nests on cliffs or ledges and forages in open desert or grassland. It is most numerous in winter, especially in valleys such as Warner and Santa Ysabel. No breeding of this species has been reported in the vicinity of the Mesa Grande Alternative (Unitt, 2004). Therefore, this alternative is not likely to significantly impact this species.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate,

sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-17); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-17.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-17.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat (Class I)

The golden eagle is very sensitive to human activity, especially in the vicinity of its nesting area(s), and even distant construction activity (or maintenance activity; see Impact B-12 below) could cause abandonment of a nest, subsequent reproductive failure, and continuing decline of the species. These impacts would be significant according to Significance Criterion 1.e. (substantial adverse effect on the breeding success of the golden eagle), 1.f. (directly or indirectly cause the mortality of a special status species), 1.g. (result in the abandonment of migratory bird nests and/or eggs), and 1.h (take golden eagles, eagle eggs, or any part of an eagle). Human activity within 4,000 feet of a nest site is considered significant and not mitigable to less than significant levels (Class I). Exceptions to this are if the activity within 4,000 feet of the nest site (without direct line-of-sight and activity is below the nest site) occurs where there is already an existing disturbance such as a highly traveled road or a utility corridor that already contains large structures, or if the project is underground (Bittner, 2007). This alternative does not occur immediately adjacent to SR78 or SR79 or an existing utility corridor with large structures, and this alternative is not underground, so these exceptions do not apply to this alternative.

There is one golden eagle nest area that occurs less than 2,000 feet from this alternative and another golden eagle nest area that occurs within 4,000 feet of this alternative. The specific locations of these nests areas are not disclosed in this EIR/EIS, nor are the MPs within 2,000 and 4,000 feet, respectively, of these nest areas in order to protect the golden eagle. SDG&E will be made aware of the MPs subject to mitigation in an unpublished document. The nest locations, for purposes of this document, were provided by the Wildlife Research Institute (Bittner, 2007). Impacts to both eagle pairs would be significant and not mitigable to less than significant levels (Class I) because of the distance between the nest areas and the project (less than 4,000 feet). Implementation of Mitigation Measure B-7h is required to, at least in part, compensate for impacts to the golden eagle pairs.

Impacts/mitigation relating to golden eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Mitigation Measure for Impact B-7H: Direct or indirect loss of golden eagle or direct loss of habitat

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

Impact B-7I: Direct or indirect loss of bald eagle or direct loss of habitat (No Impact)

One bald eagle pair nests at Lake Henshaw, and the nest area for this bald eagle pair is more than 4,000 feet from the Proposed Project and even farther west of this alternative (Bittner, 2007). Human activity within 4,000 feet of a nest area is considered significant; since the nest area is greater than 4,000 feet from this alternative, it would have no impact on the bald eagle, so no mitigation is required.

Impacts/mitigation relating to bald eagles and electrocution/collision with transmission towers/lines is discussed in Section D.2.14 and in Impact B-10 below.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-17.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-17.

B-7i Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

The SKR is assumed to be present along this alternative at MPs MG 0.5 through MG 0.9 and MPs MG 1.1 through MG 1.7 due to access limitations (see Section D.2.1.1 and Appendices 8B and 8C). Direct and indirect impacts to the SKR and its assumed occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). Impacts to SKR habitat include 14.4 acres of temporary disturbance and 9.3 acres of permanent impacts. The pre-construction survey required in Mitigation Measure B-7k would conclusively define all the impacts to the SKR in the areas of assumed SKR presence from construction of this alternative. The requirements in Mitigation Measure B-7k may be reduced based on the results of this survey. These impacts would be significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-17.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-17.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7k** Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Mesa Grande Alternative, the required mitigation for the SKR includes 14.4 acres of on-site restoration and 33 acres of acquisition and preservation of occupied habitat.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative would install large transmission structures, so the golden eagle and bald eagle are not expected to be impacted by collision with this alternative.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley. There is almost no evidence for Santa Ysabel Valley being a migration route. It is not a corridor linking the desert and coastal slopes (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission

line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.e. through 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts to breeding eagles (1.e.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation commu-

nities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the golden eagle if they would occur within 4,000 feet of an active golden eagle nest. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7h.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-7h Implement appropriate avoidance/minimization strategies for eagle nests.

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.24 Inland Valley Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Inland Valley Link: the CNF Existing 69 kV Route Alternative, the Oak Hollow Road Underground Alternative, the San Vicente Road Transition Station Alternative, and the Chuck Wagon Road Alternative.

D.2.24.1 CNF Existing 69 kV Route Alternative

This 0.5-mile alternative segment would start at MP 111.3 where the proposed 230 kV and existing 69 kV transmission lines would be routed west for 0.5 miles and then south for approximately 0.5 miles to avoid Cleveland National Forest (CNF). The alternative would remain in the existing 69 kV ROW heading southwest through Cleveland National Forest to rejoin the proposed route at MP 111.8. This

alternative would be 0.5 miles shorter than the Proposed Project and the existing 69 kV transmission line would not need to be relocated out of the existing ROW.

Environmental Setting

The CNF Existing 69 kV Route Alternative is located in the South Coast bioregion (CERES, 2003). The alternative is 1.3 miles long and 0.5 miles shorter than the Proposed Project. The predominant vegetation communities along this route are Diegan coastal sage, non-native grassland, and Engelmann oak woodland. The communities listed in Table D.2-18 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown, although emergent wetland that was identified during vegetation mapping is present along this alternative that is usually wetland. There is one crossing of a drainage with this alternative (see Section D.12.17.1); there may be additional crossings with the access roads. These watercourses, based on the vegetation communities present, are likely jurisdictional, non-wetland waters.

Overview of Special Habitat Management Areas. Unlike the segment of the Proposed Project that this alternative would replace, this alternative travels through the Cleveland National Forest (see Section E.1.2.1 for a discussion of the Cleveland National Forest Land Management Plan).

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed along this alternative in 2007.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USDA Forest Service records. Nuttall's scrub oak is an evergreen shrub that would have been observed during the special status plant survey. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

- Orcutt's brodiaea
- San Bernardino aster
- Delicate clarkia
- San Diego gumplant
- Southern skullcap
- San Diego milk-vetch
- Nuttall's scrub oak

Special Status Wildlife Species. No special status wildlife species were observed along this alternative. The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species. The highly sensitive golden eagle is not known to nest in the vicinity of this alternative (Bittner, 2007).

The following 37 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USDA Forest Service records.

- Large-blotched salamander
- Western spadefoot toad
- Coast Range newt
- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Southern California rufous-crowned sparrow
- Grasshopper sparrow
- Bell's sage sparrow
- Northern harrier
- White-tailed kite
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Pallid San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Management Indicator Species. The National Forest Management Act of 1982 requires that the USDA Forest Service address Management Indicator Species (MIS) during the development of forest plans (USDA, 2005). One MIS, Engelmann oak, occurs along this alternative route. Three other MIS, song sparrow, mountain lion, and mule deer, have moderate to high potential to occur along this route. See Section E.1.1.1 for a discussion of these species.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the CNF Existing 69 kV Route Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)

- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I)

Construction of the CNF Existing 69 kV Route Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-18). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities. The full text of the mitigation measures appears in Appendix 12.

Table D.2-18 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the CNF Existing 69 kV Route Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-18. Impacts to Vegetation Communities and Required Mitigation – CNF Existing 69 kV Route Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Disturbed habitat	0.57	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	0.57	—	0.00	0.00	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub	2.46	1.5:1	3.69	0.41	1:1	0.41	0.00	3.69
Coastal sage scrub–inland form	0.21	1.5:1	0.32	0.03	1:1	0.03	0.00	0.32
Coastal sage-chaparral scrub	0.98	1.5:1	1.47	0.55	1:1	0.55	0.00	1.47
Subtotal	3.65	—	5.48	0.99	—	0.99	0.00	5.48
Grasslands and Meadows								
Non-native grassland	0.71	1:1	0.71	0.17	1:1	0.17	0.00	0.71
Non-native grassland – disturbed	<0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	0.71	—	0.71	0.17	—	0.17	0.00	0.71
Woodlands and Forests								
Engelmann oak woodland	0.83	3:1	2.49	0.07	3:1	0.07	0.14	2.63
Subtotal	0.83	—	2.49	0.07	—	0.07	0.14	2.63
Herbaceous Wetlands, Freshwater, and Streams								
Freshwater marsh	0.01	3:1	0.03	0.00	2:1	0.00	0.00	0.03
Emergent wetland	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.01	—	0.03	0.00	—	0.00	0.00	0.03
Riparian Scrubs								
Southern willow scrub	0.02	3:1	0.06	0.00	2:1	0.00	0.00	0.06
Subtotal	0.02	—	0.06	0.00	—	0.00	0.00	0.06
GRAND TOTAL	5.79	—	8.77	1.23	—	1.23	0.14	8.91

Vegetation Management (Loss of Trees). SDG&E has estimated that zero non-native trees and up to approximately 24 native trees (1 elderberry and 23 oak trees) would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. The removal of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);

- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E stated that this alternative would require trimming of zero non-native trees and up to approximately 14 native oak trees. Trimming of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-18.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown, although emergent wetland that was identified during vegetation mapping is present along this alternative that is usually wetland. There is one crossing of a drainage with this alternative (see Section D.12.17.1); there may be additional crossings with the access roads. These watercourses, based on the vegetation communities present, are likely jurisdictional, non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-18.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent

grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No special status plant species were observed during the rare plant surveys for this alternative in 2007; however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USDA Forest Service records: Orcutt's brodiaea, delicate clarkia, southern skullcap, San Bernardino aster, San Diego gumplant, and San Diego milk-vetch. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-18.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-18.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, arroyo toad, SKR, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative would impact or has the potential to impact the listed QCB as addressed below in Impact B-7J.

This alternative has the potential to impact the 37 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.24.1) should they be present.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within pre-determined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-18); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-18.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-18.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-18.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-18.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley. Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a **Utilize collision-reducing techniques in installation of transmission lines.** There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or

more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.24.2 Oak Hollow Road Underground Alternative

The purpose of this alternative would be to extend the proposed underground to the east of Mount Gower County Open Space Preserve so the line would be underground through the valley area. The alternative would require 0.6 miles of additional underground 230 kV transmission line, and the existing 69 kV would remain overhead.

Environmental Setting

The Oak Hollow Road Underground Alternative is located in the South Coast bioregion (CERES, 2003). The alternative is 0.6 miles long and would replace 0.6 miles of the Proposed Project. The predominant vegetation communities along this route are disturbed habitat (an existing dirt access road) and southern mixed chaparral-disturbed. The communities listed in Table D.2-19 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. There is one crossing of a drainage with this alternative (see Section D.12.17.2). This drainage, based on the vegetation communities that were identified during vegetation mapping (mule fat scrub and southern cottonwood-willow riparian forest), likely contains jurisdictional wetland.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, this alternative travels through portions of the Mount Gower Open Space Preserve.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, it travels through coastal California gnatcatcher designated critical habitat.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed along this alternative in 2007.

No listed plant species have potential to occur along this alternative based the habitats present and/or documented CNDDDB or USFWS records. These non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records: Parry's tetracoccus and San Diego marsh-elder. Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their sensitivity status, see Table D.2-3.

Special Status Wildlife Species. One special status wildlife species was observed along this alternative in 2007: western spadefoot toad. A USFWS protocol survey for the coastal California gnatcatcher was not conducted since the potential for the species to occur is low. A USFWS protocol survey conducted for the least Bell's vireo was negative (i.e., the species was not found). The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species. The highly sensitive golden eagle is not known to nest in the vicinity of this alternative (Bittner, 2007).

The following 24 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Southern California rufous-crowned sparrow
- Bell's sage sparrow
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- San Diego desert woodrat

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Oak Hollow Road Underground Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation; Class III for non-sensitive vegetation; No Impact vegetation management and type conversion)

Construction of the Oak Hollow Road Underground Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as an access road) impacts to vegetation communities (see Table D.2-19). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to disturbed habitat, developed, and intensive agriculture would be adverse but less than significant (Class III), and no mitigation is required.

Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-19 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Oak Hollow Road Underground Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-19. Impacts to Vegetation Communities and Required Mitigation – Oak Hollow Road Underground Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.54	0	0.00	0.00	0	0.00	0.00	0.00
Disturbed habitat	1.50	0	0.00	0.17	0	0.00	0.00	0.00
Intensive agriculture – dairies, nurseries, chicken ranches	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	2.04	—	0.00	0.17	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub-burned	0.03	1.5:1	0.05	0.04	1:1	0.04	0.00	0.05
Diegan coastal sage scrub-disturbed	0.05	1.5:1	0.08	0.00	1:1	0.00	0.00	0.08
Coastal sage-chaparral scrub	2.56	1.5:1	3.84	1.38	1:1	1.38	0.00	3.84
Subtotal	2.64	—	3.97	1.42	—	1.42	0.00	3.97
Grasslands and Meadows								
Non-native grassland	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Chaparrals								
Southern mixed chaparral	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Southern mixed chaparral – burned	0.01	1:1	0.01	0.21	1:1	0.21	0.00	0.01
Southern mixed chaparral – disturbed	0.59	1:1	0.59	0.74	1:1	0.74	0.00	0.59
Subtotal	0.60	—	0.60	0.95	—	0.95	0.00	0.60
Riparian Scrubs								
Mule fat scrub – disturbed	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Woodlands and Forests								
Engelmann oak woodland	0.00	3:1	0.00	0.00	3:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Riparian woodland – disturbed	0.04	3:1	0.12	0.02	2:1	0.02	0.02	0.14
Southern coast live oak riparian forest	0.00	3:1	0.00	0.05	2:1	0.05	0.05	0.05

Table D.2-19. Impacts to Vegetation Communities and Required Mitigation – Oak Hollow Road Underground Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Southern cottonwood-willow riparian forest	0.01	3:1	0.03	0.02	2:1	0.02	0.02	0.05
Subtotal	0.05	—	0.15	0.09	—	0.09	0.09	0.24
GRAND TOTAL	5.33	—	4.72	2.63	—	2.46	0.09	4.81

Vegetation Management (Loss of Trees). This alternative occurs completely underground, so no vegetation management (i.e., removal of trees or tree trimming) is required to maintain proper clearance between vegetation and transmission lines (No Impact).

Type Conversion. Fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. See Section D.2.5 for further discussion. While this alternative occurs underground, eliminating the risk of a line-related fire, there remains a risk of fire starting during construction of the underground segment itself. However, because construction would occur within and immediately adjacent to roads, there would be little risk of it causing a fire that could lead to type conversion and this impact is less than significant (Class III).

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-19.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. There is one crossing of a drainage with this alternative (see Section D.12.17.2). This drainage, based on the vegetation communities that were identified during vegetation mapping (mule fat scrub and southern cottonwood-willow riparian forest), likely contains jurisdictional wetland.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-19.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No special status plant species were observed during the rare plant survey for this alternative in 2007; however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Parry's tetracoccus and San Diego marsh-elder. Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb; both would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their sensitivity status, see Table D.2-3.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation

measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-19.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-19.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, arroyo toad, SKR, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative would impact or has the potential to impact the listed QCB as addressed below in Impact B-7J. This alternative would impact coastal California gnatcatcher designated critical habitat as addressed below in Impact B-7M.

This alternative has the potential to impact the western spadefoot toad and the 24 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.24.2) should they be present.

Western Spadefoot Toad. Two western spadefoot toads were observed along this alternative (Appendix 8G, Figure Ap.8G-2. This species could be directly impacted (i.e., crushed or buried) during construction if the toad were to be present on the existing dirt road or in the adjacent riparian habitat. Construction would temporarily disturb and permanently impact the riparian habitats occupied by this toad (see Table D.2-19).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-19); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-19.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-19.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alter-

native must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-19.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-19.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

The designated critical habitat for the gnatcatcher along this alternative was not surveyed because the habitat had not recovered enough from the 2003 Cedar Fire to support the gnatcatcher, so the gnatcatcher is assumed to be absent at this time. Impacts to coastal California gnatcatcher designated critical habitat, however, include 1.2 acres of temporary disturbance and 2.2 acres of permanent impact from construction. Impacts to designated critical habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species). Any direct impact to gnatcatcher critical habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7i. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the coastal California gnatcatcher is typically available and regularly provided in San Diego County.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

- B-7i** Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Oak Hollow Road Underground Alternative, the required mitigation for the loss of unoccupied designated gnatcatcher critical habitat includes 1.2 acres of on-site restoration and 4.4 acres off-site acquisition and preservation of designated critical habitat for the gnatcatcher.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect

the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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, this alternative would be underground and would not obstruct wildlife movement (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact. Furthermore, the entire alternative would be underground, so listed or sensitive bird species would not collide with this alternative (No Impact).

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

This alternative would be all underground, so it would not cause increased predation of listed and sensitive species by ravens that nest on transmission towers (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.24.3 San Vicente Road Transition Alternative

The alternative would move the transition structure from its proposed location along San Vicente Road (MP 121.9) approximately 0.3 miles west to MP 122.2. The underground line would follow San Vicente Road within a 60-foot ROW for an additional 2,100 feet and would cross under an existing Creelman–Los Coches 69 kV transmission line, before it would turn north and would travel through open space for approximately 200 feet to the overhead transition point.

Environmental Setting

The San Vicente Road Transition Alternative is located in the South Coast bioregion (CERES, 2003). The alternative is 0.7 miles long and would replace 0.7 miles of the Proposed Project. The underground portion of this route (approximately 0.5 miles) would occur under San Vicente Road. The predominant vegetation communities along this route are northern mixed chaparral-disturbed, coast live oak woodland, and southern coast live oak riparian forest. The communities listed in Table D.2-20 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. There is one crossing of a drainage with this alternative (see Section D.12.17.3). This drainage, based on the vegetation community that was identified during vegetation mapping (southern coast live oak riparian forest), may contain jurisdictional wetland and would, at least, likely be jurisdictional non-wetland waters.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, this alternative (i.e., the approximately 0.2-mile overhead portion) travels through Barnett Ranch Open Space Preserve.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, this alternative (i.e., the approximately 0.5-mile underground portion) travels through coastal California gnatcatcher designated critical habitat.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed along this alternative in 2007.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records.

- Orcutt's brodiaea
- San Diego marsh-elder
- Parry's tetracoccus
- Delicate clarkia

Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb; both would have been observed during the special status plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. One non-listed, sensitive wildlife species, San Diego black-tailed jack-rabbit, was observed along this alternative. Although this alternative occurs in designated critical habitat for the coastal California gnatcatcher, no potential gnatcatcher habitat occurs in the critical habitat area in the PSA, and a very small amount occurs in the PSA outside of the critical habitat area, so a

USFWS protocol survey for the gnatcatcher was not conducted since the potential for the species to occur is low. The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species. The highly sensitive golden eagle is not known to nest in the vicinity of this alternative (Bittner, 2007).

The following 24 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Western spadefoot toad
- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Southern California rufous-crowned sparrow
- Bell's sage sparrow
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Western mastiff bat
- Small-footed myotis
- Long-eared myotis
- San Diego desert woodrat

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the San Vicente Road Transition Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the San Vicente Road Transition Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-20). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-20 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the San Vicente Road Transition Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-20. Impacts to Vegetation Communities and Required Mitigation – San Vicente Road Transition Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.04	0	0.00	0.01	0	0.00	0.00	0.00
Subtotal	0.04	—	0.00	0.01	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub	0.10	1.5:1	0.15	0.28	1:1	0.28	0.00	0.15
Diegan coastal sage scrub–disturbed	0.00	1.5:1	0.00	0.00	1:1	0.00	0.00	0.00
Coastal sage scrub–inland form	0.44	1.5:1	0.66	0.15	1:1	0.15	0.00	0.66
Subtotal	0.54	—	0.81	0.43	—	0.43	0.00	0.81
Grasslands and Meadows								
Non-native grassland	0.33	1:1	0.33	0.36	1:1	0.36	0.00	0.33
Subtotal	0.33	—	0.33	0.36	—	0.36	0.00	0.33
Chaparrals								
Northern mixed chaparral – disturbed	0.08	1:1	0.08	0.23	1:1	0.23	0.00	0.08
Subtotal	0.08	—	0.08	0.23	—	0.23	0.00	0.08
Woodlands and Forests								
Coast live oak woodland	0.13	3:1	0.39	0.49	3:1	0.49	0.98	1.37
Subtotal	0.13	—	0.39	0.49	—	0.49	0.98	1.37
Riparian Forests and Woodlands								
Southern coast live oak riparian forest	0.10	3:1	0.30	0.09	2:1	0.09	0.09	0.39
Subtotal	0.10	—	0.30	0.09	—	0.09	0.09	0.39
GRAND TOTAL	1.22	—	1.91	1.61		1.60	1.07	2.98

Vegetation Management (Loss of Trees). SDG&E has estimated that zero non-native trees and up to approximately eight native oak trees would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. The removal of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);

- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E stated that this alternative would require trimming of zero non-native trees and up to approximately two native oak trees. Trimming of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-20.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. There is one crossing of a drainage with this alternative (see Section D.12.17.3). This drainage, based on the vegetation community that was identified during vegetation mapping (southern coast live oak riparian forest), may contain jurisdictional wetland and would, at least, likely be jurisdictional non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-20.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent

grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No special status plant species were observed during the rare plant survey for this alternative in 2007; however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Orcutt's brodiaea, Parry's tetracoccus, San Diego marsh-elder, and delicate clarkia. Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb; both would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-20.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-20.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, arroyo toad, SKR, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative would impact or has the potential to impact the listed QCB as addressed below in Impact B-7J. This alternative would impact coastal California gnatcatcher designated critical habitat as addressed in Impact B-7M below.

This alternative has the potential to impact the San Diego black-tailed jackrabbit and the 24 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.24.3) should they be present.

San Diego Black-Tailed Jackrabbit. The San Diego black-tailed jackrabbit was observed in northern mixed chaparral-disturbed along the overhead portion of this alternative (Appendix 8G, Figure Ap.8G-3). This species would be affected by the removal of vegetation and habitat modification.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-20); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would

normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-20.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-20.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-20.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-20.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

The designated critical habitat for the gnatcatcher from approximately SV-0 through MP SV-0.4 was not surveyed because the habitat had not recovered enough from the 2003 Cedar Fire to support the gnatcatcher, so the gnatcatcher is assumed to be absent at this time. Impacts to coastal California gnatcatcher designated critical habitat, however, include 0.1 acres of temporary disturbance and 0.2 acres of permanent impact from construction. Impacts to designated critical habitat would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species). Any direct impact to gnatcatcher critical habitat would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7I. It is expected that appropriate mitigation land would be available to satisfy the mitigation requirement because of the small number of acres needed and because this type of mitigation for the coastal California gnatcatcher is typically available and regularly provided in San Diego County.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

B-7I **Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.** For the San Vicente Road Transition Alternative, the required mitigation for the loss of unoccupied designated gnatcatcher critical habitat includes 0.1 acres of on-site restoration and 0.4 acres off-site acquisition and preservation of designated critical habitat for the gnatcatcher.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

The underground portion of the alternative occurs within an existing paved road (San Vicente Road) and would, therefore, not affect wildlife movement. 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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through Sep-

tember 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.24.4 Chuck Wagon Road Alternative

This alternative would diverge from the proposed route in San Vicente Boulevard, turning south in Chuck Wagon Road approximately 0.2 miles east of the proposed transition point at MP 121.7. It would continue south for approximately 1.6 miles before passing under the existing Creelman–Los Coches 69 kV transmission line ROW. At this point, the route would transition to overhead and turn west for approximately 1.2 miles to rejoin the proposed route at MP 125.6.

Environmental Setting

The Chuck Wagon Road Alternative is located in the South Coast bioregion (CERES, 2003). The alternative is approximately three miles long and would replace approximately 3.5 miles of the Proposed Project. The predominant vegetation communities along this route are southern mixed chaparral, non-native grassland, Diegan coastal sage scrub, coast live oak woodland, and southern coast live oak riparian forest (Appendix 8G, Figure Ap.8G-4). The communities listed in Table D.2-21 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: mule fat scrub and southern coast live oak riparian forest. Furthermore, there are nine watercourse crossings, including Daney Canyon, with this alternative (see Table D.12-18). These watercourses could be jurisdictional wetlands or non-wetland waters.

Overview of Special Habitat Management Areas. Unlike the segment of the Proposed Project that this alternative would replace, this alternative avoids Barnett Ranch Open Space Preserve.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, it also travels through coastal California gnatcatcher designated critical habitat.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed along this alternative in 2007; however, there were access restrictions, and the entire alternative could not be surveyed for plants.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records.

- San Diego thorn-mint
- San Diego marsh-elder
- Orcutt's brodiaea
- Delicate clarkia
- Parry's tetracoccus

Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb; both would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. A USFWS protocol survey for the coastal California gnatcatcher conducted for this alternative was negative (i.e., the species was not found). The listed least Bell's vireo, southwestern willow flycatcher, and arroyo toad are assumed present along this alternative due to the presence of potentially suitable habitat and survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). The listed QCB has moderate potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species. The highly sensitive golden eagle is not known to nest in the vicinity of this alternative (Bittner, 2007).

The following five non-listed, sensitive wildlife species were observed along or near this alternative.

- Coast (San Diego) horned lizard
- Southern California rufous-crowned sparrow
- Yellow warbler
- San Diego black-tailed jackrabbit
- Yellow-breasted chat

The following 22 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Western spadefoot toad
- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- Bell's sage sparrow
- White-tailed kite
- California horned lark
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Western mastiff bat
- Small-footed myotis
- Long-eared myotis
- San Diego desert woodrat

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Chuck Wagon Road Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Chuck Wagon Road Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-21). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to disturbed habitat and developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitiga-

tion Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities.

Table D.2-21 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Chuck Wagon Road Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-21. Impacts to Vegetation Communities and Required Mitigation – Chuck Wagon Road Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts			Total Offsite Mitigation	
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration		Offsite Mitigation
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Disturbed habitat	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Developed	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub	0.00	1.5:1	0.00	0.00	1:1	0.00	0.00	0.00
Diegan coastal sage scrub – disturbed	0.00	1.5:1	0.00	0.00	1:1	0.00	0.00	0.00
Coastal sage-chaparral scrub	0.34	1.5:1	0.51	1.02	1:1	1.02	0.00	0.51
Subtotal	0.34	—	0.51	1.02	—	1.02	0.00	0.51
Grasslands and Meadows								
Non-native grassland	0.85	1:1	0.85	0.00	1:1	0.00	0.00	0.85
Subtotal	0.85	—	0.85	0.00	—	0.00	0.00	0.85
Chaparrals								
Southern mixed chaparral – burned	1.60	1:1	1.60	1.46	1:1	1.46	0.00	1.60
Southern mixed chaparral – disturbed	2.79	1:1	2.79	2.10	1:1	2.10	0.00	2.79
Subtotal	4.39	—	4.39	3.56	—	3.56	0.00	4.39
Woodlands and Forests								
Coast live oak woodland	0.25	3:1	0.75	0.00	3:1	0.00	0.00	0.75
Subtotal	0.25	—	0.75	0.00	—	0.00	0.00	0.75
Riparian Scrubs								
Mule fat scrub – disturbed	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Southern coast live oak riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
GRAND TOTAL	5.83	—	6.50	4.58	—	4.58	0.00	6.50

Vegetation Management (Loss of Trees). SDG&E has estimated that zero non-native trees and up to approximately 13 native oak trees would be removed to maintain proper clearance between vegetation and the transmission lines along the entire length of this alternative. The removal of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a sig-

nificant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

SDG&E has stated that this alternative would require trimming of zero non-native trees and up to approximately three native oak trees. The trimming of a native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 for how construction activities (including tree trimming) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act.

Trimming up to 30 percent of a native tree's crown would diminish the tree's value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of this large number of native trees is considered significant impacts that would not be mitigable to less than significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called "type conversion" and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type

conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-21.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along this alternative may be jurisdictional wetland: mule fat scrub and southern coast live oak riparian forest. These vegetation communities would not be directly impacted by this alternative (see Table D.2-21). Furthermore, there are nine watercourse crossings, including Daney Canyon, with this alternative (see Table D.12-18). These watercourses could be jurisdictional wetlands or non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-21.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. No special status plant species were observed during the rare plant survey for this alternative in 2007; however, there were access restrictions, and the entire alternative could not be surveyed. As with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: San Diego thorn-mint, Orcutt's brodiaea, Parry's tetracoccus, San Diego marsh-elder, and delicate clarkia. Parry's tetracoccus is a shrub, and San Diego marsh-elder is a perennial herb; both would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation

Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-21.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-21.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, desert pupfish, desert tortoise, golden eagle, bald eagle, Stephens' kangaroo rat, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative would impact or has the potential to impact the following listed species and their habitats: least Bell's vireo, southwestern willow flycatcher, QCB, and arroyo toad. Each of these species is addressed individually below (see Impacts B-7D, B-7E, B-7J, and B-7K).

This alternative has the potential to impact these five non-listed, sensitive species: coast (San Diego) horned lizard, yellow warbler, yellow-breasted chat, southern California rufous-crowned sparrow, and San Diego black-tailed jackrabbit that were observed in 2007. It also has the potential to impact the 22 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.24.4) should they be present.

Coast (San Diego) Horned Lizard. The coast (San Diego) horned lizard was observed in non-native grassland near MP CWR-1 (Appendix 8G, Figure Ap.8G-4). This alternative could impact this species directly if a vehicle crushed it, and would be affected by the removal of vegetation and habitat modification.

Yellow Warbler. The yellow warbler was observed in coast live oak woodland near MP CWR-0.5 (Appendix 8G, Figure Ap.8G-4). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow warbler breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Yellow-Breasted Chat. The yellow-breasted chat was observed in southern coast live oak riparian forest southwest of MP CWR-1 (Appendix 8G, Figure Ap.8G-4). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow-breasted chat breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Southern California Rufous-Crowned Sparrow. The southern California rufous-crowned sparrow was observed near MP CWR-0.5 (Appendix 8G, Figure Ap.8G-4). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect rufous-crowned sparrow breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

San Diego Black-Tailed Jackrabbit. The San Diego black-tailed jackrabbit was observed in disturbed habitat near MP CWR-0.5 (Appendix 8G, Figure Ap.8G-4). This species would be affected by the removal of vegetation and habitat modification.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-21); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-21.

B-1c Conduct biological monitoring.

- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-21.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo is assumed to be present along this alternative between MPs CWR-0.5 and CWR-1.8 due to survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). No least Bell's vireo habitat would be directly affected by construction of this alternative because the transmission line would occur underground within an existing roadway in the vicinity of the vireo habitat. However, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measure for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

- B-7e** Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat (Class II)

The southwestern willow flycatcher is assumed to be present along this alternative between MPs CWR-0.5 and CWR-1.8 due to survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). No southwestern willow flycatcher habitat would be directly affected by construction of this alternative because the transmission line would occur underground within an existing roadway in the vicinity of the flycatcher habitat. However, southwestern willow flycatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to southwestern willow flycatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to flycatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measure for Impact B-7E: Direct or indirect loss of southwestern willow flycatcher or direct loss of habitat

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-21.

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-21.

B-7i Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat (Class II)

The arroyo toad is assumed to be present along this alternative between MPs CWR-0.5 and CWR-1.8 due to survey limitations (see Section D.2.1.1 and Appendices 8B and 8C). Although no toad riparian breeding habitat or upland burrowing habitat would be directly affected by construction of this alternative that occurs underground in an existing roadway where the toad is assumed present, construction could cause harassment or mortality of the arroyo toad should it occur on the dirt road. The pre-construction survey required in Mitigation Measure B-7j would conclusively define if the arroyo toad is present (i.e., if appropriate climatic conditions are present to encounter arroyo toads). Any direct or indirect impact to an arroyo toad would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-7j.

Mitigation Measures for Impact B-7K: Direct or indirect loss of arroyo toad or direct loss of habitat

B-1c Conduct biological monitoring.

B-7j Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

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 underground portion of this alternative occurs within an existing roadway and would, therefore, not affect wildlife movement. During project operation, the widely spaced towers of the overhead portion of this alternative would not physically obstruct wildlife movement; wildlife could move under and around the towers. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along

this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo and southwestern willow flycatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, arroyo toad and QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-12b and B-12c.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

- B-3a Prepare and implement a Weed Control Plan.**
- B-12a Conduct maintenance activities outside the general avian breeding season.**
- B-12b Conduct maintenance when arroyo toads are least active.**
- B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.**

D.2.25 Coastal Link Alternatives Impacts and Mitigation Measures

Four alternatives are considered within the Coastal Link: the Pomerado Road to Miramar Area North Alternative, the Los Peñasquitos Canyon Preserve and Mercy Road Alternative, the Black Mountain to Park Village Road Underground Alternative, and the Coastal Link System Upgrade Alternative.

D.2.25.1 Pomerado Road to Miramar Area North Alternative

This alternative would be underground with the exception of the east and west ends where the line is overhead within existing SDG&E transmission ROWs. This alternative would exit the Sycamore Substation at MCAS Miramar overhead westerly within an existing ROW toward Pomerado Road. The line would transition to underground beneath Pomerado Road in the vicinity of Legacy Road, then continuing underground in Miramar Road, Kearny Villa Road, Black Mountain Road, Activity Road, Camino Ruiz, Miralani Drive, Arjons Drive, Trade Place, Camino Santa Fe, Carroll Road/Carroll Canyon Road and Scranton Road. At the western end, the line would transition to overhead and would be located within the existing 230 kV ROW heading northward into the Peñasquitos Substation.

Environmental Setting

This 12.8-mile alternative is located in the South Coast bioregion (CERES, 2003). The majority of this alternative is underground with the exception of the west end where the line is overhead within existing ROW. This alternative would exit the Sycamore Substation at MCAS Miramar overhead westerly within an existing, developed ROW toward Pomerado Road. The line would cross Pomerado Road just north of Legacy Road and would transition underground. The route then travels underground in paved roadways until approximately MP PM-10.5 where it transitions overhead and travels northwest for approximately two miles in existing developed and undeveloped ROW on existing towers to the Peñasquitos Substation. The predominant vegetation communities along this alternative are developed and eucalyptus woodland. Native or naturalized vegetation occurs primarily in the existing ROW southeast of the Peñasquitos Substation. The predominant vegetation communities in this area are Diegan coastal sage scrub, non-native grassland, and disturbed wetland (associated with Poway Creek). The communities listed in Table D.2-22 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the overhead portion of this alternative may be jurisdictional wetland: disturbed wetland, freshwater marsh, southern willow scrub, and southern riparian forest. Furthermore, there are five natural watercourse crossings, including Poway Creek, with this alternative (see Table D.12-19). These watercourses could be jurisdictional wetlands or non-wetland waters.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, this alternative travels through Los Peñasquitos Canyon Preserve.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat occurs along this route.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed along the underground portion of this alternative in 2007: Nuttall's scrub oak. One non-listed, sensitive plant species was observed along the overhead portion of this alternative in 2007: San Diego barrel cactus.

The following listed or non-listed, sensitive plant species have moderate to high potential to occur along the overhead portion of this alternative and/or at the staging area east of Interstate 15 based on the habitats present and/or documented CNDDDB or USFWS records. These species have low potential to occur adjacent to the paved roadways, where this alternative would occur underground, due to the limited available habitat and the level of urban disturbance associated with the roadways.

- Del Mar manzanita
- California adolphia
- Orcutt's brodiaea
- San Diego marsh-elder
- San Diego button-celery
- Coulter's goldfields
- Willowy monardella

Del Mar manzanita and California adolphia are shrubs, and San Diego marsh-elder is a perennial herb; all three would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. Two listed species were observed along or near the overhead portion of this alternative: least Bell's vireo and coastal California gnatcatcher. A USFWS protocol survey for the southwestern willow flycatcher was negative (i.e., the species were not found). A USFWS protocol wet season sampling survey for San Diego fairy shrimp and Riverside fairy shrimp was conducted, and it was also negative. However, the results of the required follow-up dry season sampling and hatching survey for fairy shrimp is not yet complete, so at this time, San Diego fairy shrimp and Riverside fairy shrimp are assumed to be present. See Impact B-7N below.

Five non-listed, sensitive wildlife species were observed along or near this alternative, primarily along or near the overhead portion:

- White-tailed kite
- Yellow-breasted chat
- Northern harrier
- Southern California rufous-crowned sparrow
- Yellow warbler

The following 25 non-listed, sensitive wildlife species have moderate to high potential to occur, particularly along the overhead portion of this alternative, based on the habitats present and/or documented CNDDDB or USFWS records.

- Western spadefoot toad
- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coast patch-nosed snake
- Coronado skink
- Coast (San Diego) horned lizard
- Two-striped garter snake
- Cooper's hawk
- Bell's sage sparrow
- California horned lark
- Loggerhead shrike
- Pallid bat
- Northwestern San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Long-eared myotis
- Yuma myotis
- Big free-tailed bat
- San Diego desert woodrat
- Southern grasshopper mouse
- American badger

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Pomerado Road to Miramar Area North Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation and type conversion; Class III for non-sensitive vegetation; No Impact vegetation management)

Construction of the Pomerado Road to Miramar Area North Alternative would cause both temporary (during construction from vegetation clearing for a pull site and staging areas) and permanent (displacement of vegetation by a permanent access road) impacts to vegetation communities (see Table D.2-22). Construction activities would also result in the alteration of soil conditions, including the loss of native

seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to eucalyptus woodland, disturbed habitat, non-native vegetation, and developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities. The full text of the mitigation measures appears in Appendix 12.

Table D.2-22 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Pomerado Road to Miramar Area North Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-22. Impacts to Vegetation Communities and Required Mitigation – Pomerado Road to Miramar Area North Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts			Total Offsite Mitigation	
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration		Offsite Mitigation
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Eucalyptus woodland	0.19	0	0.00	1.17	0	0.00	0.00	0.00
Disturbed habitat	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Non-native vegetation	0.00	0	0.00	0.00	0	0.00	0.00	0.00
Developed	0.20	0	0.00	2.39	0	0.00	0.00	0.00
Subtotal	0.39	—	0.00	3.56	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Diegan coastal sage scrub	0.00	1.5:1	0.00	0.79	1:1	0.79	0.00	0.00
Diegan coastal sage scrub – disturbed	0.17	1.5:1	0.26	0.20	1:1	0.20	0.00	0.26
Coastal sage-chaparral scrub	0.00	1.5:1	0.00	0.00	1:1	0.00	0.00	0.00

Table D.2-22. Impacts to Vegetation Communities and Required Mitigation – Pomerado Road to Miramar Area North Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Subtotal	0.17	—	0.26	0.99	—	0.99	0.00	0.26
Grasslands and Meadows								
Non-native grassland	0.00	1:1	0.00	8.22	1:1	8.22	0.00	0.00
Subtotal	0.00	—	0.00	8.22	—	8.22	0.00	0.00
Chaparrals								
Southern mixed chaparral-disturbed	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Chamise chaparral	0.00	1:1	0.00	0.00	1:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Woodlands and Forests								
Coast live oak woodland	0.00	3:1	0.00	0.00	3:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Herbaceous Wetlands, Freshwater, and Streams								
Disturbed wetland	0.00	2:1	0.00	0.00	2:1	0.00	0.00	0.00
Freshwater marsh	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Emergent wetland	0.00	2:1	0.00	0.02	2:1	0.02	0.02	0.02
Subtotal	0.00	—	0.00	0.02	—	0.02	0.02	0.02
Riparian Scrubs								
Mule fat scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Mule fat scrub-disturbed	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern willow scrub	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Subtotal	0.00	—	0.00	0.00	—	0.00	0.00	0.00
Riparian Forests and Woodlands								
Southern riparian forest	0.00	3:1	0.00	0.00	2:1	0.00	0.00	0.00
Southern coast live oak riparian forest	0.00	3:1	0.00	0.76	2:1	0.76	0.76	0.76
Subtotal	0.00	—	0.00	0.76	—	0.76	0.76	0.76
GRAND TOTAL	0.56	—	0.26	13.55	—	9.99	0.78	1.04

Vegetation Management (Loss of Trees). SDG&E made no estimates as to how many trees would be removed or trimmed as part of vegetation management for this alternative. However, only the western end of this alternative (approximately two miles) would be overhead (in existing ROW); the remainder of the alternative would be underground in existing paved roadways. There are no native woodland or forest communities along the overhead portion of this alternative, and where a native tree such as a coast live oak, would be likely to occur would be along Poway Creek that would be spanned by the transmission lines. Therefore, it is anticipated that this alternative would not require the removal or trimming of trees to maintain proper clearance between vegetation and transmission lines (No Impact).

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species.

Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-22.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation communities that were identified during vegetation mapping along the overhead portion of this alternative may be jurisdictional wetland: disturbed wetland, freshwater marsh, emergent wetland, mule fat scrub, southern willow scrub, southern riparian forest, and southern coast live oak riparian forest. Emergent wetland and southern coast live oak riparian forest would be directly impacted by this alternative (see Table D.2-22). Furthermore, there are five natural watercourse crossings, including Poway Creek, with this alternative (see Table D.12-19). These watercourses could be jurisdictional wetlands or non-wetland waters.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5,

BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c **Conduct biological monitoring.**

B-2a **Provide restoration/compensation for impacted jurisdictional areas.** See Table D.2-22.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. Nuttall's scrub oak and San Diego barrel cactus were the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8H, Figures Ap.8H-1 and Ap.8H-2); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: Del Mar manzanita, Orcutt's brodiaea, San Diego button-celery, willowy monardella, California adolphia, San Diego marsh-elder, and Coulter's goldfields. Del Mar manzanita and California adolphia are shrubs, and San Diego marsh-elder is a perennial herb; all three would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Nuttall's Scrub Oak. Nuttall's scrub oak was observed in four locations near MP PM-1.5 (2 individuals) and MP PM-9 (12 individuals; Appendix 8H, Figures Ap.8H-1 and Ap.8H-2). This alternative would not impact these plants because the alternative is underground in existing roadways; the plants occur in the PSA adjacent to the roadways.

San Diego Barrel Cactus. One San Diego barrel cactus was observed near MP PM 12.5 (Appendix 8H, Figure Ap.8H-2). This plant was observed at the edge of the PSA and would not be impacted by construction of this alternative.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wild-life/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-22.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-22.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area

may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, QCB, arroyo toad, Stephens' kangaroo rat, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative has the potential to impact the listed least Bell's vireo and coastal California gnatcatcher as discussed in Impacts B-7D and B-7M, respectively. It also has the potential to impact the non-listed, sensitive white-tailed kite, northern harrier, yellow warbler, yellow-breasted chat, southern California rufous-crowned sparrow, and the 25 non-listed, sensitive wildlife species with moderate to high potential to occur (listed at the beginning of D.2.25.1) should they be present.

White-Tailed Kite. The white-tailed kite was observed near MP PM-9 (Appendix 8H, Figure Ap.8H-2). This alternative would not impact this species at this location since it was not nesting there, and the alternative would occur underground in the paved roadway.

Northern Harrier. The northern harrier was observed near MP PM-12.5 (Appendix 8H, Figure Ap.8H-2). This species could possibly breed where it was observed along this overhead portion of this alternative. Construction of this alternative would impact this species if it occurred at or near a nest location (this species nests on the ground; see Impact B-8).

Yellow Warbler. The yellow warbler was observed in three locations: east and west of MP PM-12 and near MP PM-9.5 (Appendix 8H, Figure Ap.8H-2). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow warbler breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Yellow-Breasted Chat. The yellow-breasted chat was observed in three locations: one east and one west of MP PM-12 and one just south of MP PM-11 in Diegan coastal sage scrub disturbed (Appendix 8H, Figure Ap.8H-2). The latter individual was likely in migration since sage scrub is not its breeding habitat. This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow-breasted chat breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Southern California Rufous-Crowned Sparrow. The southern California rufous-crowned sparrow was observed in one location at approximately MP PM-12.5 (Appendix 8H, Figure Ap.8H-2). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect rufous-crowned sparrow breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping

excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-22); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-22.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-22.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo was observed at two locations, east and west of MP PM-12, near this alternative in Poway Creek. No least Bell's vireo habitat would be directly affected by construction of this alternative because the transmission line would occur on existing towers in existing ROW in the vicinity of the vireo habitat. However, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measure for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

No occupied coastal California gnatcatcher habitat would be directly affected by construction of this alternative because the transmission line would occur on existing towers in existing ROW in the vicinity of the occupied gnatcatcher habitat. However, coastal California gnatcatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]).

Any impact to coastal California gnatcatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to coastal California gnatcatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7I.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

B-7I Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat (Class II)

No vernal pools are present along this alternative; the fairy shrimp species has potential to occur in water-holding basins on dirt roads in the existing ROW for the overhead portion of this alternative. A USFWS protocol wet season survey for San Diego fairy shrimp and Riverside fairy shrimp was negative (i.e., the species were not found), although the required follow-up dry season sampling did locate fairy shrimp cysts that belong to the San Diego fairy shrimp genus (i.e., *Branchinecta*), and therefore, could belong to San Diego fairy shrimp. No cysts belonging to the Riverside fairy shrimp genus (i.e., *Streptocephalus*), were found. A hatching of the *Branchinecta* cysts to determine whether or not they belong to San Diego fairy shrimp is currently underway. So, for purposes of this analysis, in the absence of definitive survey results, it is assumed that San Diego fairy shrimp is present. If it is not present, then the mitigation required below would not be required.

Impacts that could occur to fairy shrimp include direct construction impacts from grading or vegetation removal that any water-holding basins that support fairy shrimp, as well as indirect impacts to fairy shrimp caused by alterations of the watersheds of basins by even slight topographic changes or increases in sedimentation. For example a dirt pile placed in a watershed could prevent water from flowing into a basin, and erosion of the dirt pile could increase the sediment load of that basin. Direct and indirect impacts to fairy shrimp and its occupied habitat from habitat removal or disturbance would be significant according to Significance Criterion 1.a. which states that the project would have a substantial adverse effect through any impact to one or more individuals of a federal or State listed species. These

impacts are significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1b, B-1c, and B-2a.

Mitigation Measures for Impact B-7N: Direct or indirect loss of San Diego fairy shrimp (and/or Riverside fairy shrimp) or direct loss of habitat

- B-1b** **Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat.**
- B-1c** **Conduct biological monitoring.**
- B-2a** **Provide restoration/compensation for impacted jurisdictional areas.**

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

The underground portion of the alternative occurs within existing paved roadways and would, therefore, not affect wildlife movement. Due to the intermittent locations of construction activity and its temporary nature for the overhead portion of this alternative, wildlife would not be physically prevented from moving around project equipment in the transmission corridor. Furthermore, during project operation, the widely spaced towers would not physically obstruct wildlife movement; wildlife could move under and around the towers (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would

impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative. Furthermore, since transmission towers already exist where the overhead portion of this alternative would occur, an incremental increase in such predation by nesting ravens, should it occur, would be adverse and less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo and coastal California gnatcatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.25.2 Los Peñasquitos Canyon Preserve–Mercy Road Alternative

This alternative route would bypass the Chicarita Substation and connect to existing ROW along Scripps Poway Parkway in the vicinity of Ivy Hill Drive. The line would then transition to underground and follow Scripps Poway Parkway/Mercy Road, Mercy Road, Black Mountain Road, and finally Park Village Drive, where the alternative route would rejoin the proposed route.

Environmental Setting

The Los Peñasquitos Canyon Preserve–Mercy Road Alternative is located in the South Coast bioregion (CERES, 2003). The alternative is 3.6 miles long and would replace 3.7 miles of the Proposed Project. The entire alternative would be underground in existing, paved roadways with transition structures at the eastern and western ends where the line transitions to overhead structures. The predominant vegetation community along this route is developed (paved roadways). Vegetation along the edges of the roadways consists of Diegan coastal sage scrub, southern mixed chaparral, coast live oak woodland, and southern riparian forest (at Poway Creek; Appendix 8H, Figure Ap.8H-3). The communities that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. Surface water resources along this alternative consist of Poway Creek and one unnamed watercourse (see Table D.12-20). Southern riparian forest, that was identified in Poway Creek during vegetation mapping, is most likely jurisdictional wetland.

Overview of Special Habitat Management Areas. This alternative does not travel through any special habitat management area, except where the route is underground in Black Mountain Road; Black Mountain Road crosses Los Peñasquitos Canyon Preserve at its eastern end.

Designated Critical Habitat. No designated critical habitat is located along this route.

Special Status Plant Species. No listed plant species were observed along this alternative in 2007. One non-listed, sensitive plant species was observed along this alternative in 2007: California adolphia.

The following listed or non-listed, sensitive plant species have potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records. However, the potential is low due to the limited available habitat and the level of urban disturbance associated with the roadways.

- San Diego ambrosia
- Del Mar manzanita*
- San Diego thorn-mint
- San Diego barrel cactus*
- Nuttall's scrub oak*
- Summer holly*
- San Diego goldenstar
- Wart-stemmed ceanothus*
- San Diego sand aster
- Del Mar Mesa sand aster
- San Diego marsh-elder*

Those species followed by asterisks are either evergreen shrub, stem succulent, or perennial herb that would have been observed during the rare plant survey if present. For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. Two listed wildlife species were observed along this alternative in 2007: least Bell's vireo and coastal California gnatcatcher. A USFWS protocol survey for the southwestern willow flycatcher along this alternative was negative (i.e., the species was not found). No other listed wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

Two non-listed, sensitive wildlife species were observed along this alternative: yellow warbler and Cooper's hawk. The following 21 non-listed, sensitive wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- Coronado skink
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Southern California rufous-crowned sparrow
- White-tailed kite
- Yellow-breasted chat
- Pallid bat
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Townsend's big-eared bat
- Big free-tailed bat
- Western mastiff bat
- San Diego black-tailed jackrabbit
- Small-footed myotis
- Yuma myotis
- San Diego desert woodrat
- Southern grasshopper mouse

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Los Peñasquitos Canyon Preserve–Mercy Road Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)

- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (No Impact sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Los Peñasquitos Canyon Preserve–Mercy Road Alternative would not cause impacts to native vegetation because the entire alternative occurs underground in existing paved roadways. Impacts to this developed land would be adverse but less than significant (Class III), and no mitigation is required. Even so, the following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Vegetation Management (Loss of Trees). This alternative occurs completely underground in existing paved roadways, so no vegetation management (i.e., removal of trees or tree trimming) is required to maintain proper clearance between vegetation and transmission lines (No Impact).

Type Conversion. Fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. See Section D.2.5 for further discussion. Since this alternative occurs underground, there would be no risk of it causing a fire that could lead to type conversion (No Impact).

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final route selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown, although this alternative occurs underground in existing paved roadways, so impacts to jurisdictional areas are unlikely. Still, surface water resources along this alternative consist of Poway Creek and one unnamed watercourse (see Table D.12-20), and southern riparian forest, that was identified in Poway Creek during vegetation mapping, is most likely jurisdictional wetland. There could be indirect impacts to potential jurisdictional areas during construction (e.g., from sedimentation) that would degrade surface water quality.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts

to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (which substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (No Impact)

Listed or sensitive (special status) plant species impacts would not result from construction of this alternative that would occur completely within existing paved roadways. One non-listed, sensitive plant species was found in the PSA: California adolphia. However, as with the Proposed Project, the results of the special status plant survey is inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. The following special status plant species have low to moderate potential to occur based on the habitats present and/or documented CNDDDB or USFWS records.

- San Diego ambrosia
- San Diego thorn-mint
- San Diego goldenstar
- San Diego sand aster
- Del Mar Mesa sand aster

For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

California Adolphia. Four California adolphia were observed — one each at four locations between MPs LPCM-1 and LPCM-3 (Appendix 8H, Figure Ap.8H-3). This alternative would not impact this species because it occurs in the PSA but outside of the paved roadway where all construction would occur. With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present in the PSA for this alternative. However, none would be impacted by construction because it would all occur within existing paved roadway.

Still, the following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class III construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from indirect, temporary habitat modification from construction activity. Individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, QCB, arroyo toad, Stephens' kangaroo rat, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative has the potential to indirectly impact the listed least Bell's vireo and coastal California gnatcatcher as discussed in Impacts B-7D and B-7M, respectively. It also has the potential to indirectly impact the non-listed, sensitive yellow warbler and Cooper's hawk, and the 21 non-listed, sensitive wildlife species with moderate to high potential to occur (listed at the beginning of D.2.25.2) should they be present.

Yellow Warbler. Two yellow warblers were observed near MP LPCM-2.5 in southern riparian forest in Poway Creek (Appendix 8H, Figure Ap.8H-3). This alternative would not directly impact this species or its habitat. It would cause significant indirect noise impacts that would affect yellow warbler breeding, however, if construction were to occur adjacent to the habitat during the general avian breeding season (see Impact B-8).

Cooper's Hawk. The Cooper's hawk was observed near MP LPCM-1.5 (Appendix 8H, Figure Ap.8H-3). This alternative would not directly impact this species at this location since it was not nesting there, and the alternative would occur underground in the paved roadway. This alternative would impact the Cooper's hawk if it nests nearby and significant, indirect construction noise impacts its breeding (see Impact B-8).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations

to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. With implementation of the APMs, the impacts to non-listed, sensitive wildlife would be adverse but less than significant (Class III), and no mitigation is required.

Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat (Class II)

The least Bell's vireo was observed near MP LPCM-2.5 in southern riparian forest in Poway Creek (Appendix 8H, Figure Ap.8H-3). Construction of this alternative would occur within existing roadways, and no vireo habitat would be directly affected.

However, least Bell's vireo breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). Any impact to least Bell's vireo breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to vireo breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7e.

Mitigation Measures for Impact B-7D: Direct or indirect loss of least Bell's vireo or direct loss of habitat

B-7e Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

Four coastal California gnatcatchers were observed—one each at four locations between MPs LPCM-1 and LPCM-3 (Appendix 8H, Figure Ap.8H-3). Construction of this alternative would occur within existing roadways, and no gnatcatcher habitat would be directly affected.

However, gnatcatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). Any impact to coastal California gnatcatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to gnatcatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7l.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

B-7I Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement since they would occur within existing paved roadways (No Impact). The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges (such as the Black Mountain Road bridge over Poway Creek); in other man-made structures; and in trees (typically snags or large trees with cavities that may occur in Poway Creek). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact. Furthermore, the entire alternative would be underground in existing, paved roadways except for transition structures at the eastern and western ends where the line would transition to overhead structures. Listed or sensitive bird species are not anticipated to collide with the structures proposed for this alternative (No Impact).

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

This alternative would install only two transition structures (one at each end of the alternative), so it is not likely to cause increased predation of listed and sensitive species by nesting ravens (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the least Bell's vireo and coastal California gnatcatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of their nesting territories during their breeding seasons. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.25.3 Black Mountain to Park Village Road Underground Alternative

This alternative would deviate from the Proposed Project alignment where the route approaches Black Mountain Road. Under this alternative, the line would remain underground but would be located underneath Black Mountain Road and would turn west onto Park Village Drive, following the project alignment into the Peñasquitos Substation via the Los Peñasquitos Canyon Preserve.

Environmental Setting

The Black Mountain to Park Village Road Underground Alternative is located in the South Coast bioregion (CERES, 2003). It is 1.1 miles long and would replace 0.7 miles of the Proposed Project. This alternative would deviate from the Proposed Project alignment where the line approaches Black Mountain Road. It would then turn west under Park Village Drive until it met up with the Proposed Project again near MP 144.5. This alternative would have transition structures at each end where the line transitions to overhead. The predominant vegetation community along this alternative is developed (paved roadways) with adjacent strips of Diegan coastal sage scrub and non-native vegetation. The communities that are found along this alternative route are described in detail in Section D.2.1.2.2. According to the hydrology study for this alternative (see Section D.12.18.3), there are no watercourses crossed by this alternative. There is also no wetland vegetation present based on the vegetation mapping done for this alternative.

Overview of Special Habitat Management Areas. Similar to the segment of the Proposed Project that this alternative would replace, this alternative does not travel through any special habitat management area.

Designated Critical Habitat. Similar to the segment of the Proposed Project that this alternative would replace, no designated critical habitat is located along this route.

Special Status Plant Species. No listed or non-listed, sensitive plant species were observed along this alternative in 2007. One non-listed, sensitive plant species, California adolphia, has moderate to high potential to occur based on observations along a nearby alternative. However, California adolphia is a shrub that would have been observed during the 2007 rare plant survey if present. No other listed or non-listed, sensitive plant species have potential to occur due to the limited available habitat and the level of urban disturbance associated with the roadways.

Special Status Wildlife Species. One listed wildlife species, coastal California gnatcatcher, was observed in the PSA of this alternative in 2007. No other listed wildlife species have moderate to high potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

The following 12 non-listed, sensitive wildlife species have low to moderate potential to occur along this alternative based on the habitats present and/or documented CNDDDB or USFWS records. No

others have moderate to high potential to due to the limited available habitat and the level of urban disturbance associated with the roadways.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- Coronado skink
- Coast (San Diego) horned lizard
- Southern California rufous-crowned sparrow
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Big free-tailed bat
- San Diego black-tailed jackrabbit
- San Diego desert woodrat
- Southern grasshopper mouse

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Black Mountain to Park Village Road Underground Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds)

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (No Impact sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Black Mountain to Park Village Road Underground Alternative would not cause impacts to native vegetation because the entire alternative occurs underground in existing paved roadways. Impacts to this developed land would be adverse but less than significant (Class III), and no mitigation is required. Even so, the following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by

mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Vegetation Management (Loss of Trees). This alternative occurs completely underground in existing paved roadways, so no vegetation management (i.e., removal of trees or tree trimming) is required to maintain proper clearance between vegetation and transmission lines (No Impact).

Type Conversion. Fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. See Section D.2.5 for further discussion. Since this alternative occurs underground, there would be no risk of it causing a fire that could lead to type conversion (No Impact).

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (No Impact)

According to the hydrology study for this alternative (see Section D.12.18.3), there are no watercourses crossed by this alternative. There is also no wetland vegetation present based on the vegetation mapping done for this alternative. Therefore, there would be no impacts to jurisdictional waters or wetlands with this alternative (No Impact).

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (No Impact)

No listed or non-listed, sensitive plant species were observed along this alternative in 2007. One non-listed, sensitive plant species, California adolphia, has moderate to high potential to occur in the PSA based on observations along a nearby alternative. However, California adolphia is a shrub that would have been observed if present, and it would not occur within the existing roadways where construction would take place. No other listed or non-listed, sensitive plant species have potential to occur due to the limited available habitat and the level of urban disturbance associated with the roadways. Therefore, this alternative would not impact any listed or sensitive plants or habitat for listed or sensitive plants (No Impact).

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class III construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive (special status) wildlife species impacts would result from indirect, temporary habitat modification from construction activity. Individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell’s vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, QCB, arroyo toad, Stephens’ kangaroo rat, San Diego and Riverside fairy shrimp, and bare-foot banded gecko.

This alternative has the potential to indirectly impact the coastal California gnatcatcher as discussed in Impact B-7M below. It also has the potential to indirectly impact the non-listed, sensitive wildlife species with moderate to high potential to occur (listed at the beginning of D.2.25.3) should they be present.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within pre-determined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. With implementation of the APMs, the impacts to non-listed, sensitive wildlife would be adverse but less than significant (Class III), and no mitigation is required.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

The coastal California gnatcatcher was observed in Diegan coastal sage scrub south of MP BMPV-0. No gnatcatcher-occupied habitat would be impacted by this alternative since all construction would occur within existing paved roadway. However, gnatcatcher breeding can be affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). Any impact to coastal California gnatcatcher breeding would be significant according to Significance Criterion 1.a. (substantial adverse effect through any impact to one or more individuals of a federal or State listed species), Significance Criterion 1.g. (substantial adverse effect through activities that result in the killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs), and Significance Criterion 4.d. (adversely affect wildlife through an increase in noise). Any impact to gnatcatcher breeding from excessive noise would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7I.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

B-7I Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact)

Project activities and features would not significantly impact or restrict general wildlife movement since they would occur within existing paved roadways, and no bat nursery colonies are expected to occur along this alternative. Bat nursery colonies are typically located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities) that are not present along this alternative. Therefore, this alternative would not impact general wildlife movement or native wildlife nursery sites (No Impact).

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No Impact)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact. Furthermore, the entire alternative would be underground in existing, paved roadways (No Impact).

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

This alternative would install only two transition structures (one at each end of the alternative), so it is not likely to cause increased predation of listed and sensitive species by nesting ravens (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the coastal California gnatcatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of its nesting territory during its

breeding season. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.25.4 Coastal Link System Upgrade Alternative

The Coastal Link System Upgrade Alternative would be a system modification to install a third 230/69 kV transformer at the existing Sycamore Canyon Substation. Expansion of the Sycamore Canyon Substation would occur within the existing substation easement. Additionally, SDG&E would either (a) install a new 230/138 kV transformer at the existing Encina Substation or (b) upgrade (reconductor) the existing Sycamore Canyon-Chicarita 138 kV circuit using 34 existing wood frame structures.

Environmental Setting

The Coastal Link System Upgrade Alternative would be a system modification to install a third 230/69 kV transformer at the existing Sycamore Canyon Substation. Expansion of the Sycamore Canyon Substation would occur within the existing easement of the substation. SDG&E would provide overload mitigation by upgrading three circuits: a.) reconductor the existing Sycamore Canyon Substation–Pomerado Substation 69 kV circuit on existing structures; b.) reconductor the existing Pomerado Substation–Poway Substation 69 kV circuit on existing structures; and c.) reconductor the existing Sycamore Canyon Substation–Chicarita Substation 138 kV circuit using 34 existing wood frame structures. The entire alternative would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW. No vegetation would be removed. This alternative would avoid construction of the Proposed Project’s 230 kV transmission line from Sycamore Canyon Substation to Peñasquitos Substation.

The Coastal Link System Upgrade Alternative is located in the South Coast bioregion (CERES, 2003). The predominant vegetation communities in the PSA of this alternative are coastal sage-chaparral scrub, developed, southern mixed chaparral-granitic, and Diegan coastal sage scrub. Patches of non-native grassland, southern coast live oak riparian forest, southern willow scrub, and mule fat scrub are also present. These are described in detail in Section D.2.1.2.2. The vegetation between the Sycamore Canyon and Chicarita Substations was mapped during on-the-ground surveys. The vegetation between the Poway and Sycamore Substations was mapped via aerial photograph interpretation. This alternative would not result in adverse effects to jurisdictional waters and wetlands since it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW.

Overview of Special Habitat Management Areas. This alternative does not travel through any special habitat management area.

Designated Critical Habitat. No designated critical habitat is located along this route.

Special Status Plant Species. No listed plant species were observed in the PSA for the portion of this alternative surveyed in 2007 (i.e., where the alternative follows the Proposed Project from the

Sycamore Canyon Substation to the Chicarita Substation). Three non-listed, sensitive plant species were observed in the PSA, however: California adolphia, San Diego barrel cactus, and San Diego sand aster.

The following listed or non-listed, sensitive plant species have potential to occur in the vicinity of this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- San Diego ambrosia
- Del Mar manzanita
- San Diego thorn-mint
- San Diego barrel cactus*
- Nuttall's scrub oak
- Summer holly
- Decumbent goldenbush
- Robinson's pepper-grass
- San Diego goldenstar
- Wart-stemmed ceanothus
- San Diego sand aster*
- Del Mar Mesa sand aster
- San Diego marsh-elder
- California adolphia*
- Variegated dudleya

* Observed where the alternative follows the Proposed Project from the Sycamore Canyon Substation to the Chicarita Substation. Has potential to occur between the Poway and Sycamore Canyon Substations.

For more specific information about the special status plant species and their listing or sensitivity status, see Table D.2-3.

Special Status Wildlife Species. One listed wildlife species, coastal California gnatcatcher, was observed in the PSA of the portion of this alternative near I-15 surveyed in 2007 (i.e., where the alternative follows the Proposed Project from the Sycamore Canyon Substation to the Chicarita Substation). The coastal California gnatcatcher has high potential to occur between the Poway and Sycamore Canyon Substations.

USFWS protocol surveys for the least Bell's vireo and southwestern willow flycatcher were conducted in potential habitat for these species in the PSA where the alternative follows the Proposed Project from the Sycamore Canyon Substation to the Chicarita Substation, and none was found. Based on aerial photograph interpretation of the vegetation between the Poway and Sycamore Canyon Substations, it appears that no potential habitat for these two species is present in that area.

No other listed wildlife species have moderate to high potential to occur in the vicinity of this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

The following non-listed, sensitive wildlife species have moderate to high potential to occur in the vicinity of this alternative based on the habitats present and/or documented CNDDDB or USFWS records.

- Silvery legless lizard
- Belding's orange-throated whiptail
- Red-diamond rattlesnake
- Coronado skink
- Coast (San Diego) horned lizard
- Coast patch-nosed snake
- Two-striped garter snake
- Cooper's hawk
- White-tailed kite
- Yellow-breasted chat
- Yellow warbler
- Dulzura pocket mouse
- Northwestern San Diego pocket mouse
- Townsend's big-eared bat
- Big free-tailed bat
- Western mastiff bat
- Yellow bat
- Pallid bat
- Mexican long-tongued bat
- Small-footed myotis
- Yuma myotis
- San Diego desert woodrat

- Southern California rufous-crowned sparrow
- Southern grasshopper mouse
- San Diego black-tailed jackrabbit

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Coastal Link System Upgrade Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required where applicable.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II).

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I type conversion; Class III for non-sensitive vegetation; No Impact vegetation management)

This alternative would not result in the loss of native vegetation since it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW. Impacts to developed land and/or disturbed habitat would be adverse but less than significant (Class III) because these communities are not considered sensitive. No mitigation is required.

Vegetation Management (Loss of Trees). This alternative involves reconductoring on existing structures in existing ROW, so no vegetation management (i.e., removal of trees or tree trimming) would be required to maintain proper clearance between vegetation and transmission lines for this alternative (No Impact).

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is

uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (No Impact)

This alternative would not result in adverse effects to jurisdictional waters and wetlands since it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW (No Impact).

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (No Impact)

Listed or sensitive plant species impacts result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. This alternative would not result in the direct or indirect loss of listed or sensitive plants or habitat for such plants since it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW. There would be no temporary or permanent grading or vegetation clearing (No Impact).

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class III construction impacts to non-listed, sensitive species; Class II for coastal California gnatcatcher)

Listed or sensitive (special status) wildlife species impacts result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing. An explanation of known locations of individuals is provided in Section D.2.11. There would be no temporary or permanent grading or vegetation clearing for construction of this alternative; it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW.

Individuals near the construction area, however, may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, golden eagle, bald eagle, QCB, arroyo toad, Stephens' kangaroo rat, San Diego and Riverside fairy shrimp, and barefoot banded gecko.

This alternative has the potential to significantly affect the coastal California gnatcatcher as discussed in Impact B-7M. It also has the potential to significantly affect the non-listed, sensitive wildlife species with moderate to high potential to occur (listed at the beginning of D.2.25.4) should they be present.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-16, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting vehicle movement to existing roads and work to within predetermined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

With implementation of the APMs, this alternative would not have a substantial adverse effect on the non-listed, sensitive wildlife species with potential to occur and their habitats. The potential impacts to these species with implementation of the APMs would be adverse but less than significant (Class III), and no mitigation is required.

Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat (Class II)

The coastal California gnatcatcher was observed in the PSA of the surveyed portion of this alternative near I-15 in 2007 (i.e., where the alternative follows the Proposed Project from the Sycamore Canyon Substation to the Chicarita Substation). The coastal California gnatcatcher has high potential to occur between the Poway and Sycamore Canyon Substations.

Loss of coastal California gnatcatcher-occupied habitat would be significant; however, there would be no grading or vegetation clearing for construction of this alternative; it would be constructed utilizing existing access roads, developed land, and/or disturbed habitat within existing ROW, so gnatcatcher-occupied habitat, or habitat with potential to support gnatcatchers, would not be lost.

However, gnatcatcher breeding can be significantly affected by excessive construction noise (considered to be 60 dB(A) Leq at the edge of occupied habitat by the USFWS [USFWS, 2007c; American Institute of Physics, 2005]). Excessive noise impacts to gnatcatcher breeding would be significant according to Significance Criterion 4.d. (adversely affect wildlife through an increase in noise) but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-7I.

Mitigation Measure for Impact B-7M: Direct or indirect loss of coastal California gnatcatcher or direct loss of habitat

B-7I Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact)

Construction and operational activities associated with the Coastal Link System Upgrade Alternative would not affect general wildlife movement since they would occur within existing ROW, and the activities would be temporary and at intermittent locations. Furthermore, the following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed. Therefore, construction or operational activities associated with this alternative would not affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (No Impact).

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class III for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007). Therefore, this alternative does not occur in a highly utilized avian flight path.

This alternative would occur on existing structures in existing ROW that already contain 69 or 138 kV transmission lines. Therefore, this alternative would incrementally increase the potential for birds to collide with transmission lines in these areas. For non-sensitive species or species that migrate during the day, this impact would be incrementally adverse and less than significant (Class III), and no mitigation is required.

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs).

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (No Impact)

No new transmission structures that could support raven nests would be installed with this alternative. Therefore, this alternative would not provide new opportunities for raven nesting (No Impact).

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and the coastal California gnatcatcher; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat—see Mitigation Measure B-3a). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact the coastal California gnatcatcher if the noise threshold (i.e., 60 dB[A] Leq hourly) is met or exceeded at the edge of its nesting territory during its breeding season. This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measures for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

D.2.26 Top of the World Substation Alternative Impacts and Mitigation Measures

The substation site would be located approximately one mile west of the proposed Central East Substation on Vista Irrigation District land. The transmission line routes into the substation would follow the Proposed Project route to approximately MP 92.7, then the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the substation the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95.

Environmental Setting

The Top of the World Substation Alternative is located in the South Coast bioregion (CERES, 2003). This substation site would be located approximately one mile west of the proposed Central East Substation. The transmission line routes into the substation would follow the Proposed Project route to the point where the line to the proposed Central East Substation site is proposed to jog southeast (at approximately MP 92.7). At this point, the alternative 500 kV route would turn west for 1.1 miles to enter the alternative site. Exiting the alternative substation, the line would travel southwest for 400 feet and then west and north-northwest to rejoin the Proposed Project around MP 95. Approximately three miles of new access roads with an impact area of approximately 16 acres would be required between the alternative substation site and Highway S2. An impact area of approximately 99 acres would be required for construction of this alternative substation. The predominant vegetation communities at this substation site and along the transmission line corridors and access roads are chaparrals, non-native grassland, coastal sage scrub-inland form, and wildflower field-burned (Appendix 8I, Figure Ap.8I-1). The communities listed in Table D.2-23 that are found along this alternative route are described in detail in Section D.2.1.2.2. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation community that was identified during vegetation mapping along the incoming transmission line route associated with this alternative may be jurisdictional wetland: southern coast live oak riparian forest-burned. Although no watercourses are located at the substation site according to the hydrology study (see Section D.12.19), there appear to be (based on aerial photography) at least two drainages on the substation site that could be jurisdictional waters, and it is likely (based on aerial photography and topography) that other jurisdictional waters would be crossed by the transmission line routes and access roads associated with this substation alternative.

Vegetation Communities Not Described in Section D.2.1.2.2. The following vegetation community occurs with this alternative that does not occur along the Proposed Project route or any other previously described route.

42300 Wildflower Field. Wildflower field is an herb-dominated vegetation community that varies greatly in species composition from site to site. Species composition also varies from year to year based on annual rainfall and temperature regime. It usually occurs on drier sites with low-nutrient soils and is associated with grasslands or oak woodlands, which occur nearby on more mesic and higher nutrient sites. Some of the native wildflowers that were observed in wildflower field include thistle sage (*Salvia carduacea*), woolly-star (*Eriastrum* sp.), wreath-plant (*Stephanomeria* sp.), and showy penstemon (*Penstemon spectabilis*).

Overview of Special Habitat Management Areas. Similar to the Central East Substation, this substation would not occur in any special habitat management area.

Designated Critical Habitat. Unlike the Central East Substation, this alternative would not occur in designated critical habitat for the southwestern willow flycatcher.

Special Status Plant Species. No listed plant species were observed for this alternative in 2007, and none have moderate to high potential to occur. Two non-listed, sensitive plant species were observed for this alternative in 2007: San Diego sunflower and delicate clarkia.

The following non-listed, sensitive plant species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records. For more specific information about the special status plant species and their sensitivity status, see Table D.2-3.

- Southern skullcap
- San Diego milk-vetch
- San Bernardino aster

Special Status Wildlife Species. The listed SKR was observed at the substation site and along the transmission lines. Also, the highly sensitive golden eagle was observed near the substation site, but it is not known to nest in the vicinity of this alternative (Bittner, 2007). The listed QCB has moderate to high potential to occur along this alternative based on the habitats present and its location in USFWS protocol Survey Area 2 for the species.

Three non-listed, sensitive wildlife species were observed at or near this alternative.

- Coast (San Diego) horned lizard
- American badger
- San Diego black-tailed jackrabbit

The following 34 non-listed, sensitive wildlife species have moderate to high potential to occur based on the habitats present and/or documented CNDDDB or USFWS records.

- Large-blotched salamander
- Western spadefoot toad
- Silvery legless lizard
- Belding's orange-throated whiptail
- Coastal rosy boa
- Red-diamond rattlesnake
- San Diego ringneck snake
- Coronado skink
- San Diego mountain kingsnake
- Coast patch-nosed snake
- Two-striped garter snake
- Sharp-shinned hawk (wintering)
- Cooper's hawk
- White-tailed kite
- Southern California rufous-crowned sparrow
- Grasshopper sparrow
- Northern harrier
- California horned lark
- Prairie falcon
- Loggerhead shrike
- Pallid bat
- Dulzura pocket mouse
- Pallid San Diego pocket mouse
- Townsend's big-eared bat
- Western mastiff bat
- Small-footed myotis
- Long-eared myotis
- Fringed myotis
- Long-legged myotis
- San Diego desert woodrat
- Southern grasshopper mouse
- Jacumba little pocket mouse

- Bell's sage sparrow
- Ringtail

For more specific information about the special status wildlife species and their listing or sensitivity status, see Table D.2-4.

Environmental Impacts and Mitigation Measures

This section presents a discussion of impacts and mitigation measures for the Top of the World Substation Alternative as a result of construction, operation, and maintenance of the project.

The following impacts would occur with this alternative, and impact significance would be the same as for the Proposed Project; the mitigation measures addressed for each impact would also be required.

- Impact B-3 (Construction activities would result in the introduction of invasive, non-native, or noxious plant species; Class II), Mitigation Measure B-1a (Provide restoration/compensation for impacted sensitive vegetation communities), Mitigation Measure B-2a (Provide restoration/compensation for impacted jurisdictional areas), and Mitigation Measure B-3a (Prepare and implement a Weed Control Plan)
- Impact B-4 (Construction activities would create dust that would result in degradation of vegetation; Class III)
- Impact B-6 (Construction activities, including the use of access roads, would result in disturbance to wildlife and result in wildlife mortality; Class III)
- Impact B-8 (Construction activities would result in a potential loss of nesting birds (violation of the Migratory Bird Treaty Act; Class II), Mitigation Measure B-8a (Conduct pre-construction surveys and monitoring for breeding birds))

Impacts and the required mitigation measures that differ from the Proposed Project are addressed below.

Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation (Class I for sensitive vegetation, vegetation management, and type conversion; Class III for non-sensitive vegetation)

Construction of the Top of the World Substation Alternative would cause both temporary (during construction from vegetation clearing) and permanent (displacement of vegetation with project features such as towers and permanent access roads) impacts to vegetation communities (see Table D.2-23). Construction activities would also result in the alteration of soil conditions, including the loss of native seed banks and changes in topography and drainage, such that the ability of a site to support native vegetation after construction is impaired.

The following APMs, as set forth in Table D.2-5, would be implemented to avoid or minimize impacts to vegetation communities: BIO-APM-1 and 2, BIO-APM-4 through BIO-APM-6, BIO-APM-17, BIO-APM-20, BIO-APM-23, and BIO-APM-25. These APMs include avoiding or compensating impacts to sensitive vegetation communities, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, minimizing impacts by mowing vegetation or leaving it in place instead of clearing it (where possible), conserving and reusing sensitive habitat topsoil, and revegetating with appropriate seed mixes.

Even with implementation of the APMs, however, impacts to sensitive vegetation communities would be significant according to Significance Criterion 2.a. (substantial adverse effect on a riparian habitat or

other sensitive natural community by temporarily or permanently removing it during construction, grading, clearing, or other activities). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

These impacts are not mitigable to less than significant levels (Class I) because adequate mitigation land may not be available to compensate for the impacts. Impacts to developed would be adverse but less than significant (Class III), and no mitigation is required. Implementation of Mitigation Measures B-1a and B-1c is required to, at least in part, compensate for impacts to sensitive vegetation communities. The full text of the mitigation measures appears in Appendix 12.

Table D.2-23 presents the impacts to vegetation communities, mitigation ratios, and mitigation acreages for the Top of the World Substation Alternative. The mitigation ratios for this alternative are the same as those for the Proposed Project, based on the rationale described in Section D.2.5.1.

Table D.2-23. Impacts to Vegetation Communities and Required Mitigation – Top of the World Substation Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Non-Native Vegetation, Developed Areas, and Disturbed Habitat								
Developed	0.01	0	0.00	0.00	0	0.00	0.00	0.00
Subtotal	0.01	—	0.00	0.00	—	0.00	0.00	0.00
Coastal and Montane Scrub Habitats								
Coastal sage scrub-inland form	0.26	1.5:1	0.39	0.23	1:1	0.23	0.00	0.39
Coastal sage scrub-inland form-burned	0.96	1.5:1	1.44	0.03	1:1	0.03	0.00	1.44
Subtotal	1.22	—	1.83	0.26	—	0.26	0.00	1.83
Grasslands and Meadows								
Non-native grassland	39.50	1:1	39.50	0.39	1:1	0.39	0.00	39.50
Wildflower field-burned	0.49	2:1	0.98	0.03	1:1	0.03	0.00	0.98
Subtotal	39.99	—	40.48	0.42	—	0.42	0.00	40.48
Chaparrals								
Northern mixed chaparral-burned	24.38	1:1	24.38	4.77	1:1	4.77	0.00	24.38
Northern mixed chaparral-granitic	25.49	1:1	25.49	0.23	1:1	0.23	0.00	25.49
Chamise chaparral	0.44	1:1	0.44	0.20	1:1	0.20	0.00	0.44
Chamise chaparral-burned	9.90	1:1	9.90	5.77	1:1	5.77	0.00	9.90
Red shank chaparral	3.83	1:1	3.83	0.00	1:1	0.00	0.00	3.83
Red shank chaparral-burned	6.95	1:1	6.95	0.01	1:1	0.01	0.00	6.95
Subtotal	70.99	—	70.99	10.98	—	10.98	0.00	70.99
Herbaceous Wetlands, Freshwater, and Streams								
Non-vegetated channel	0.00	1:1	0.00	0.07	1:1	0.07	0.00	0.00
Subtotal	0.00	—	0.00	0.07	—	0.07	0.00	0.00

Table D.2-23. Impacts to Vegetation Communities and Required Mitigation – Top of the World Substation Alternative

Vegetation Communities	Permanent Impacts			Temporary Impacts				Total Offsite Mitigation
	Impact	Ratio	Offsite Mitigation	Impact	Ratio	Onsite Restoration	Offsite Mitigation	
Woodlands and Forests								
Coast live oak woodland	0.42	3:1	1.26	0.00	3:1	0.00	0.00	1.26
Subtotal	0.42	—	1.26	0.00	—	0.00	0.00	1.26
GRAND TOTAL	112.63	—	114.56	11.73	—	11.73	0.00	114.56

Vegetation Management (Loss of Trees). SDG&E did not provide estimates as to the number trees would be removed or trimmed as part of vegetation management for the transmission line segment associated with this substation alternative. However, majority of the vegetation loss resulting from this alternative would be from substation and access road construction, and the data for that loss is presented in Table D.2-23. There are several native woodland and forest communities present at the substation site and along the transmission line route (see Table D.2-23) that support trees that would likely require either removal or trimming. Non-native trees or shrubs may be present as well. The loss or trimming of non-native trees or shrubs would usually be an adverse but less than significant impact (Class III) because they are non-native and they typically do not support special status wildlife species. However, removal or trimming of a non-native tree or shrub that contains an active bird nest would be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II).

Likewise, removal or trimming of a native tree or shrub that contains an active bird nest would also be a violation of the Migratory Bird Treaty Act and a significant impact, but one that is mitigable to less than significant levels (Class II). See discussion in Impact B-8 (Construction activities would result in a potential loss of nesting birds [violation of the Migratory Bird Treaty Act]; Section D.2.12) for how construction activities (including tree/shrub removal) would result in a potential loss of nesting birds and violation of the Migratory Bird Treaty Act. The loss of native trees and shrubs would be a significant impact (Class I) for these reasons:

- it can have a substantial adverse effect on candidate, sensitive, or special status species (Significance Criterion 1);
- it can have a substantial adverse effect on riparian habitat or other sensitive natural community (Significance Criterion 2);
- it can have a substantial adverse effect on federally protected water quality or wetlands (Significance Criterion 3);
- it can interfere with wildlife movement or the use of native wildlife nursery sites (Significance Criterion 4); and
- it can conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Significance Criterion 5; see discussion in Section D.16).

Additionally, trimming up to 30 percent of a native tree’s crown would diminish the tree’s value as wildlife habitat and could cause harm to the tree leading to its decline or death. Therefore, native tree trimming would be significant according to Significance Criteria 1, 2, 4, and 5 listed above. The loss and trimming of native trees is considered significant impacts that would not be mitigable to less than

significant levels (Class I) because adequate mitigation land required by Mitigation Measure B-1a for restoration and/or acquisition may not be available. However, Mitigation Measure B-1a is required to reduce the impacts to the greatest extent possible.

Type Conversion. As discussed in Section D.15, the construction and operation of new transmission lines in areas with high fire risk could cause wildfires, and could reduce the effectiveness of fire fighting efforts. Fires cause direct loss of vegetation communities, wildlife habitat, and wildlife species. Although periodic fires are part of the natural ecosystem, fires burning too frequently can have significant long-term ecological effects such as degradation of habitat (temporal loss of habitat and non-native plant species invasion) and loss of special status species. The biodiversity of San Diego County is uniquely adapted to low rainfall, rugged topography, and wildfires. However, fires have become more frequent with growth in the human population, creating a situation in which vegetation communities (and, therefore, habitats for plant and animal species) are changed dramatically and may not recover. This change in vegetation community is called “type conversion” and can occur to any native vegetation community. When burned too frequently, vegetation communities are often taken over by highly flammable, weedy, non-native plant species that burn even more often and provide minimal habitat value for native plant and animal species, especially those of special status. For example, the coastal California gnatcatcher is dependent primarily on coastal sage scrub vegetation which, if burned too many times, can convert to non-native grassland or disturbed habitat that would preclude its use by the gnatcatcher. If the project were to cause a fire, or inhibit fighting of fires, and this leads to type conversion of sensitive vegetation communities, the impact would be significant (Class I) according to Significance Criterion 1 (substantial adverse effect through habitat modification on any species identified as candidate, sensitive, or special status) and/or Significance Criterion 2 (substantial adverse effect on a riparian habitat or other sensitive natural community).

Extensive mitigation for fire risk is presented in Section D.15. However, not all fires can be prevented. Although future fires may not cause type conversion in all instances, the impact must be considered significant because of the severity of potential habitat loss. This impact is not mitigable to less than significant levels (Class I). Implementation of the vegetation management program (described above) would reduce the fire risk of the project, although not to a less than significant level.

Mitigation Measures for Impact B-1: Construction activities would result in temporary and permanent losses of native vegetation

B-1a Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-23.

B-1c Conduct biological monitoring.

Impact B-2: Construction activities would result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality (Class II)

A formal delineation for the project will be conducted for the final site selected that includes project-specific features and final engineering. Then, impacts to jurisdictional areas can be clearly defined, and SDG&E can apply for permits from the ACOE, RWQCB, and CDFG. Since a formal delineation has not yet been conducted, the precise presence and extent of waters and wetlands at this time is unknown. However, the following vegetation community that was identified during vegetation mapping along the incoming transmission line route associated with this alternative may be jurisdictional: non-vegetated channel. This potential jurisdictional area would be directly impacted by this alternative (see Table

D.2-23). Although no watercourses are located at the substation site according to the hydrology study (see Section D.12.19), there appear to be (based on aerial photography) at least two drainages on the substation site that could be jurisdictional waters, and it is likely (based on aerial photography and topography) that other jurisdictional waters would be crossed by the transmission line routes and access roads associated with this substation alternative.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to jurisdictional waters and wetlands: BIO-APM-1 and BIO-APM-2, BIO-APM-4, BIO-APM-5, BIO-APM-16, and BIO-APM-18. These APMs include avoiding or compensating impacts to jurisdictional waters and wetlands, personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, avoiding clear-cut tree removals in riparian areas if possible, building streambed crossings at right angles to streambeds, and restricting the length of access roads that parallel streambeds.

Even with implementation of the APMs, this alternative could have a significant impact on regulated jurisdictional areas according to Significance Criterion 3.a. (substantial adverse effect on water quality or wetlands as defined by the ACOE and/or CDFG). The types of impacts that could occur are described in Section D.2.6. The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence. These impacts would be considered significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measures B-1c and B-2a.

Mitigation Measures for Impact B-2: Construction activities result in adverse effects to jurisdictional waters and wetlands through vegetation removal, placement of fill, erosion, sedimentation, and degradation of water quality

B-1c Conduct biological monitoring.

B-2a Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-23.

Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants (Class I)

Listed or sensitive (special status) plant species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. The types of impacts that could occur and an explanation of known locations of individuals are described in Section D.2.9. San Diego gumplant and delicate clarkia were the only special status (non-listed, sensitive) plant species observed along this alternative in 2007 (Appendix 8I, Figure Ap.8I-1); however, as with the Proposed Project, the results of the surveys are inconclusive because the poor rainfall conditions may have prevented special status plants from germinating or resprouting so they could not be observed. These special status plant species have moderate to high potential to occur along the alternative based on the habitats present and/or documented CNDDDB or USFWS records: southern skullcap, San Bernardino aster, and San Diego milk-vetch. For more specific information about the special status plant species and their sensitivity status, see Table D.2-3.

San Diego Sunflower. One San Diego sunflower was observed at Tower CAA2. Two individual San Diego sunflowers were observed along a proposed access road north of the substation site, and one San

Diego sunflower was observed between Towers TOP208 and TOP209. The former three individuals would be removed by vegetation clearing during construction. The latter individual between towers would not be affected by construction.

Delicate Clarkia. Fifty individuals of delicate clarkia were observed at the eastern laydown area. These 50 individuals would be removed by vegetation clearing during construction of this alternative.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent significant impacts to listed or sensitive plants or their habitats: BIO-APM-1 through 6, BIO-APM-8, BIO-APM-13, BIO-APM-18, and BIO-APM-22. These APMs include detailed surveys, avoidance or relocation/restoration or compensation (acquisition and preservation of land), personnel training, restricting work to within predetermined limits of construction, limiting construction of access roads, complying with wildlife/habitat protection regulations, clearly delineating plant population boundaries, notifying the Wildlife Agencies when such plants are to be removed in the work area, prohibiting the collection of plants, designing structures and access roads to avoid or minimize impacts, and salvaging plants where avoidance is not feasible.

Even with implementation of the APMs, the impacts would be significant according to Significance Criterion 1.a. (any impact to one or more individuals of a species that is federal or State listed as endangered or threatened) and Significance Criterion 1.b. (any impact that would affect the number or range or regional long-term survival of a sensitive or special status plant species). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

With the exceptionally dry weather conditions in 2007, the assumption is made that all special status plant species with potential to occur are present and impacted by this alternative. Since it is not possible to adequately assess the amount of impact to the special status plant species, the impacts are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-5a is required to, at least in part, compensate for impacts to special status plant species.

Mitigation Measures for Impact B-5: Construction activities would result in direct or indirect loss of listed or sensitive plants or a direct loss of habitat for listed or sensitive plants

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-23.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-23.
- B-5a** Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife (Class I construction impacts to non-listed, sensitive species. Other impact classes depend on species; see individual discussions)

Listed or sensitive wildlife (special status) species impacts would result from direct or indirect loss of known locations of individuals or direct loss of potential habitat as a result of temporary or permanent grading or vegetation clearing during construction of this alternative. An explanation of known locations of individuals is provided in Section D.2.11. In addition, individuals near the construction area may temporarily abandon their territories due to disturbance from noise and human activity. The following species that are addressed for the Proposed Project are not addressed for this alternative because either they do not occur, or they have low potential to occur in the alternative study area: FTHL, Peninsular bighorn sheep, burrowing owl, least Bell's vireo, southwestern willow flycatcher, desert pupfish, desert tortoise, bald eagle, arroyo toad, coastal California gnatcatcher, San Diego and Riverside fairy shrimp, and barefoot banded gecko. Although the highly sensitive golden eagle was observed near the substation site, it is not known to nest in the vicinity of this alternative (Bittner, 2007), so it would not be impacted (see Section D.2.11, Impact B-7H for the SRPL Proposed Project and Impact B-10, below, for rationale).

This alternative would impact or has the potential to impact these species and their habitats: QCB and SKR. Each of these species is addressed individually below (see Impacts B-7J and B-7L, respectively).

This alternative has the potential to impact the non-listed, sensitive Coast (San Diego) horned lizard, San Diego black-tailed jackrabbit, and American badger as well as the 34 non-listed, sensitive wildlife species with moderate to high potential to occur along this alternative (listed at the beginning of D.2.26) should they be present.

Coast (San Diego) Horned Lizard. The coast (San Diego) horned lizard was observed on the Top of the World Substation Alternative site (Appendix 8I, Figure Ap.8I-1). This alternative would impact this species directly during grading operations (it could be crushed/buried) and through habitat loss.

San Diego Black-Tailed Jackrabbit. The San Diego black-tailed jackrabbit was observed on the Top of the World Substation Alternative site (Appendix 8I, Figure Ap.8I-1). This alternative would impact this species directly during grading operations (it would be forced to flee) and through habitat loss.

American Badger. American badger burrows were observed on the Top of the World Substation Alternative site (Appendix 8I, Figure Ap.8I-1). This alternative would impact this species directly during grading operations (it could be crushed/buried) and through habitat loss.

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife: BIO-APM-2 through BIO-APM-4, BIO-APM-7, BIO-APM-14, BIO-APM-16, BIO-APM-24, BIO-APM-26, BIO-APM-27, and BIO-APM-29. These APMs include personnel training, restricting work to within pre-determined limits of construction, prohibiting litter, identifying environmentally sensitive tree trimming locations, inspecting trenches/excavations twice daily and removing of trapped animals, covering construction holes/trenches overnight and inspecting them for wildlife prior to filling, sloping excavations to provide a wildlife escape route, removing raptor nests when inactive, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Even with implementation of the APMs, the alternative would have a substantial adverse effect on listed and sensitive wildlife species and their habitats according to Significance Criterion 1 (substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS). The impacts would be significant because the APMs are not specific enough or do not provide enough mitigation to adequately compensate for the impacts. The measures in the APMs shall still apply except where the mitigation measures are more specific or more restrictive than the APM requirements. In those instances, the mitigation measures take precedence.

Most of the non-listed, sensitive species' habitats are sensitive vegetation communities (Table D.2-23); the mitigation for the loss of the sensitive vegetation communities (Mitigation Measure B-1a) would normally compensate for the potential loss of these sensitive species and their habitats. However, since adequate land required by Mitigation Measure B-1a may not be available, the impacts to non-listed, sensitive wildlife species are considered significant and not mitigable to less than significant levels (Class I). Implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7a is required to compensate, at least in part, for impacts to non-listed, sensitive wildlife species and their habitats.

Mitigation Measures for Impact B-7: Construction activities would result in direct or indirect loss of listed or sensitive wildlife or a direct loss of habitat for listed or sensitive wildlife

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-23.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-23.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).

Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat (Class I)

Surveys for the QCB were not conducted for this alternative because the 2007 flight season was not preceded by adequate rainfall, and the survey results would not have been conclusive. The USFWS protocol (2002a) states, "Butterfly surveys may not be considered credible if... unfavorable weather such as drought limits quino checkerspot butterfly detectability." Without presence/absence data for the species, a precise impact determination cannot be adequately made.

This entire alternative occurs within USFWS protocol Survey Area 2, an area in which protocol surveys are required in suitable QCB habitat. While it is unlikely that this alternative would impact much (if any) QCB-occupied habitat within Survey Area 2, with the lack of definitive survey data, this alternative must be assumed to have a significant impact on this species according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed as endangered or threatened). Since adequate land required by Mitigation Measure B-7i may not be available, the impacts are considered significant and not mitigable to less than significant levels (Class I). However, implementation of Mitigation Measures B-1a, B-1c, B-2a, and B-7i is required to, at least in part, compensate for impacts to the QCB.

Mitigation Measures for Impact B-7J: Direct or indirect loss of quino checkerspot butterfly or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-23.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-23.
- B-7i** Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies.

Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat (Class I)

The SKR was found at the Top of the World Substation Alternative site and throughout much of the surrounding area (Appendix 8I, Figure Ap.8I-1). It is also assumed present at the eastern end of the transmission line leading into the substation due to access limitations (see Section D.2.1.1 and Appendix 8C). Direct and indirect impacts to the SKR and its assumed occupied habitat from habitat removal or disturbance (e.g., vehicles crushing burrows) from construction of this alternative would be significant according to Significance Criterion 1.a. (substantial adverse effect, either directly or indirectly, on one or more individuals of a federal or State listed species). Impacts to SKR habitat include 5.1 acres of temporary disturbance and 84.7 acres of permanent impacts. The pre-construction survey required in Mitigation Measure B-7k would conclusively define all the impacts to the SKR in the areas of assumed SKR presence from construction of this alternative. The requirements in Mitigation Measure B-7k may be reduced based on the results of this survey. These impacts are significant and not mitigable to less than significant levels (Class I) because adequate mitigation land for the SKR may not be available to compensate for the impacts. However, implementation of Mitigation Measures B-1a, B-1c, B-2a, B-7a, and B-7k is required to, at least in part, minimize impacts to the SKR.

Mitigation Measures for Impact B-7L: Direct or indirect loss of Stephens' kangaroo rat or direct loss of habitat

- B-1a** Provide restoration/compensation for impacted sensitive vegetation communities. See Table D.2-23.
- B-1c** Conduct biological monitoring.
- B-2a** Provide restoration/compensation for impacted jurisdictional areas. See Table D.2-23.
- B-7a** Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals).
- B-7k** Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. For the Top of the World Substation Alternative, the required mitigation for impacts to SKR include 5.1 acres of on-site restoration and 174.5 acres of off-site acquisition and preservation of occupied habitat.

Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites (Class II for bat colonies; No Impact linkages, wildlife movement corridors, or fish movement)

Project activities and features would not significantly impact or restrict general wildlife movement. Vehicle traffic associated with project construction activities would be kept to a minimum volume and speed to prevent mortality of wildlife species that may be moving about (BIO-APM-3). Culverts and

rocks would be used for access to cross drainages so as not to cut off water flow and adversely affect the movement of fish (BIO-APM-5), and structures would be located to span high value wildlife habitats (BIO-APM-18).

The following APMs, as set forth in Table D.2-5, would be implemented to minimize or prevent potential adverse effects to linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites: BIO-APM-2, BIO-APM-3, BIO-APM-5, BIO-APM-18, and BIO-APM-29. These APMs include personnel training, restricting work to within predetermined limits of construction, building roads at right angles to streambeds, designing structures and access roads to avoid or minimize impacts, reducing construction night lighting, and keeping vehicle traffic to minimum volume and speed.

Due to the intermittent locations of construction activity and its temporary nature for the transmission lines and the access roads, wildlife would not be 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. Additionally, the creation of permanent access roads may, in some cases, make wildlife movement through otherwise dense vegetation easier. Although the substation would encompass 37 acres and the laydown area would encompass 15 acres, these sites are confined to specific areas (i.e., they are not spread out linearly), and they do not occur in canyons that may direct wildlife movement. Therefore, this alternative is not expected to impact wildlife movement (No Impact).

Even with implementation of the APMs, bat nursery colonies would still be significantly impacted by the project if humans approach an active nursery colony, if entrances to nursery colony sites become blocked, if construction involves blasting or drilling that causes substantial vibration of the earth/rock surrounding an active nursery colony, or if a structure such as a bridge is disturbed by construction. These colonies could be located in rock crevices, caves, or culverts; inside/under bridges; in other man-made structures; and in trees (typically snags or large trees with cavities). A bat nursery colony site is where pregnant female bats assemble (or one bat if it's of a solitary species) to give birth and raise their pups. The impacts to bat nursery colonies would still be significant because the APMs would not adequately compensate for the impacts. Wherever the mitigation measure set forth below is more specific or restrictive than the APMs, the mitigation measure takes precedence. The impacts to bat nursery colonies would be significant according to Significance Criterion 4 which states that the project would impede the use of native wildlife nursery sites. This impact is significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-9a.

Mitigation Measure for Impact B-9: Construction or operational activities would adversely affect linkages or wildlife movement corridors, the movement of fish, and/or native wildlife nursery sites

B-9a Survey for bat nursery colonies.

Impact B-10: Presence of transmission lines would result in electrocution of, and/or collisions by, listed or sensitive bird species (No impact for electrocution; Class I for collision for listed species; Class II for collision for non-sensitive species or daytime migration)

The risk of electrocution, along with associated BIO-APM-21, is the same for this alternative as for the Proposed Project in Section D.2.14: No Impact.

The primary issue with respect to birds and transmission projects is birds colliding with the transmission towers or lines in migration, especially in spring migration when strong winds and storms are more likely to force the birds to fly at relatively low altitudes. According to the local eagle expert (Bittner, 2007), eagles do not tend to be collision victims, except on the smaller distribution lines, because their eyesight is so acute. This alternative would install large transmission structures, so the golden eagle is not expected to be impacted by collision with this alternative.

Mortality as a result of collision with the project features would be greatest where the movements of migrating birds are the most concentrated. Bird migration happens all along the east side of San Diego County's mountains but is most concentrated in the canyons and valleys that lead from southeast to northwest, such as Grapevine Canyon and San Felipe Valley (Unitt, 2007; i.e., from MP 50 through 88 of the Proposed Project). This alternative occurs west of MP 89, so it does in a highly utilized avian flight path. Additionally, impacts to raptors and other avian species from collisions with substation facilities have not been historical issues at SDG&E substations throughout San Diego County (Pandion Systems, Inc., 2006).

However, since most birds migrate at night, there is no way to know how many birds and what species of birds could actually be impacted by collision with this alternative. There is no way to know because much of the migration occurs at night when it cannot be seen, and birds that collide with transmission line features and fall to the ground are often taken away by predators/scavengers before morning. Therefore, as with the Proposed Project, it is assumed that some migrating species could be federal or State listed or of other special status, and their mortality would be a significant impact that is not mitigable to less than significant levels (Class I) according to Significance Criterion 1.a. (impact one or more individuals of a species that is federal or State listed), Significance Criterion 1.f. (directly or indirectly cause the mortality of candidate, sensitive, or special status wildlife), and Significance Criterion 1.g. (killing of migratory birds or destruction or abandonment of migratory bird nests and/or eggs). Also, like the Proposed Project, for non-sensitive species or species that migrate during the day, collision would be significant according to Significance Criteria 1.f. and 1.g. but would be mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-10a.

Mitigation Measure for Impact B-10: Presence of transmission lines may result in electrocution of, and/or collisions by, listed or sensitive bird species collide with transmission lines

B-10a Utilize collision-reducing techniques in installation of transmission lines. There is no highly utilized avian flight path along this alternative; therefore, no marking of the overhead lines is required. All other mitigation that is required in Mitigation Measure B-10a, not related to the installation of markers, shall be implemented, however.

Impact B-11: Presence of transmission lines would result in increased predation of listed and sensitive wildlife species by ravens that nest on transmission towers (Class III)

Common ravens have been documented to prey on the desert tortoise and the FTHL (Liebezeit et al., 2002; Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003) that do not occur along this alternative. The common raven has not been documented to prey on any other listed or sensitive wildlife along the Proposed Project route (Liebezeit et al., 2002), which would include this alternative, although the predation may still occur on a limited basis and would be adverse but less than significant (Class III). No mitigation is required.

Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality (Class II for special status wildlife and nesting birds; Class III for non-sensitive wildlife)

The following APMs would be implemented to minimize or prevent disturbance to wildlife and wildlife mortality during project maintenance: BIO-APM-3, BIO-APM-4, BIO-APM-6, BIO-APM-7, BIO-APM-9, BIO-APM-10 through BIO-APM-13, and BIO-APM-16. These APMs include restricting work to within existing access roads; observing a 15-mile-per hour speed limit on dirt roads; complying with regulations protecting wildlife and its habitat; prohibiting litter; conducting a pre-activity survey prior to brush clearing around project facilities (if it has been two years since the last clearing); prohibiting harm to, and feeding of, wildlife; and identifying environmentally sensitive tree trimming locations.

With implementation of the APMs, impacts to non-sensitive wildlife from project maintenance would be adverse but less than significant (Class III). No mitigation is required.

Even with implementation of the APMs, disturbance to wildlife and potential wildlife mortality would be significant according to Significance Criteria 1.a., 1.f., 1.g., and 2.b. that include any impacts to one or more listed species (1.a.); impacts that directly/indirectly cause the mortality of candidate, sensitive, or special status species (1.f.); violation of the Migratory Bird Treaty Act (1.g.), and substantial adverse effect on riparian or other sensitive vegetation communities if weed species are introduced (2.b.; this impact would degrade wildlife habitat). The types of impacts that would occur from maintenance are described in Section D.2.16. The impacts would still be significant because the APMs do not include specific mitigation that would adequately compensate for the impacts. Wherever the mitigation measures set forth below are more specific or restrictive than the APMs, the mitigation measures take precedence.

Impacts to non-listed, sensitive wildlife species from maintenance activities (see Section D.2.16) would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would impact nesting birds (violation of Migratory Bird Treaty Act) if vegetation is cleared during the general avian breeding season (February 15 through September 15) or the raptor breeding season (January 1 through September 15). This impact would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Maintenance activities (see Section D.2.16) would cause disturbance to, and possible mortality of, QCB. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12c.

Impacts to SKR from maintenance would occur from brush clearing if it damages burrows or if vehicles crush burrows on dirt access roads. These impacts would be significant but mitigable to less than significant levels (Class II) with implementation of Mitigation Measure B-12a.

Mitigation Measure for Impact B-12: Maintenance activities would result in disturbance to wildlife and wildlife mortality

B-3a Prepare and implement a Weed Control Plan.

B-12a Conduct maintenance activities outside the general avian breeding season.

B-12c Maintain access roads and clear vegetation in quino checkerspot butterfly habitat.

D.2.27 Mitigation Monitoring, Compliance, and Reporting Table

Table D.2-24 presents the mitigation monitoring, compliance and reporting table for Biological Resources. Mitigation measures not originating in this section do not appear in the table; they appear only in the mitigation monitoring, compliance and reporting table for the section in which they were originally recommended. For a summary of all impacts and their respective mitigation measures, please see the Impact Summary Tables at the end of the Executive Summary.

Sections D.2.18 and D.2.19 recommend mitigation measures for the projects described under Future Transmission System Expansion and Connected Actions/Indirect Effects. Those mitigation measures are presented for consideration by the agencies that will issue permits for construction of the connected and future projects. Because those projects would not be constructed as a result of approval of the Sunrise Powerlink Project, the recommended mitigation measures are not included in this mitigation monitoring table.

Table D.2-24. Mitigation Monitoring Program – Biological Resources

MITIGATION MEASURE	
	<p>B-1a: Provide restoration/compensation for impacted sensitive vegetation communities. Surface-disturbing components of the project shall be located in previously disturbed areas or where habitat quality is poor to the extent possible, and disturbance of vegetation and soils shall be minimized. If avoidance of sensitive vegetation communities is not feasible due, for example, to physical or safety constraints, the applicant shall restore temporarily impacted areas to pre-construction conditions following construction (or emergency repairs) and shall permanently block off all public access to them, and/or shall purchase/dedicate suitable habitat for preservation to off-set permanently impacted areas. Restoration of some vegetation communities in temporarily impacted areas may not be possible if those areas are subject to vegetation management to maintain proper clearance between transmission lines and vegetation. In those instances, the mitigation shall consist of off-site acquisition and preservation of the vegetation community instead. Restoration involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.) and monitoring the restored area for a period five years. Restoration in ABDSP shall be maintained and monitored for a minimum of five years. The success of the restoration is usually based on how the habitat compares with similar, nearby, undisturbed habitat. Any restoration efforts would be subject to a Habitat Restoration Plan approved by the CPUC, BLM, Wildlife Agencies, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). Mitigation ratios and mitigation acreages for construction within authorized limits are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). The mitigation ratios also apply to impacts from emergency repairs.</p> <p>All limits of construction shall be delineated with orange construction fencing. During and after construction, entrances to access roads shall be gated 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.</p> <p>Any impacts associated with unauthorized activity (e.g., exceeding approved construction footprints) shall be mitigated at a 5:1 ratio (5.5:1 in FTHL MA). Restoration of the unauthorized impacts shall be credited at a 1:1 ratio (i.e., mitigated by in-place habitat restoration); the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.</p> <p>Areas to be restored shall include all areas temporarily impacted by construction, such as tower construction sites, laydown/staging areas, temporary access and spur roads, and existing tower locations where towers are removed. Where on-site restoration is planned, the applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Habitat Restoration Plan, for restoring temporarily impacted sensitive</p>

Table D.2-24. Mitigation Monitoring Program – Biological Resources

vegetation communities, to be approved by the CPUC, Wildlife Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration). The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. This Habitat Restoration Plan must be approved in writing by the above-listed agencies prior to the initiation of any vegetation disturbing activities. Hydroseeding, drill seeding, or an otherwise proven restoration technique shall be utilized on all disturbed surfaces using a locally endemic native seed mix approved by the CPUC, Wildlife Agencies, BLM, State Parks (for ABDSP restoration), and USDA Forest Service (for National Forest land restoration). The Habitat Restoration Plan shall incorporate the measures identified in the May 25, 2006 Memorandum of Understanding among Edison Electric Institute, USDA Forest Service, BLM, USFWS, National Park Service, and the Environmental Protection Agency (Edison Electric Institute, et al., 2006) where applicable. The MOU discusses vegetation management along ROWs for electrical transmission and distribution facilities on federal lands. The major provisions of the MOU include reducing soil erosion and water quality impacts; promoting local ecotypes in revegetation projects; planting native species and protecting rare species; and reducing the introduction of non-native, invasive or noxious plant species to the ROWs. The MOU can be viewed online at http://www.eei.org/industry_issues/environment/land/vegetation_management/EEI_MOU_FINAL_5-25-06.pdf.

The following habitat restoration requirements are not included in the MOU described above. The restoration of habitat shall be maintained and monitored for five years after installation by an experienced, licensed Habitat Restoration Contractor, or until established success criteria identified in the Restoration Plan (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met. Maintenance and monitoring for restoration in ABDSP shall be for a minimum of five years, even if established success criteria are met before the end of five years. Maintenance and monitoring shall be conducted following a prescribed schedule to assess progress and identify potential problems with the restoration. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken by an experienced, licensed Habitat Restoration Contractor during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established success criteria after the maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. For areas where habitat restoration cannot meet mitigation requirements, off-site purchase and dedication of habitat shall be provided at the mitigation ratios provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives) or as otherwise required by the Wildlife Agencies or ABDSP (supersedes the mitigation ratios in BIO-APM-1).

Tree Mitigation. Mitigation for loss of native trees or native tree trimming shall be provided by 1) acquiring and preserving habitat within which the trees occur and/or 2) restoring (i.e., planting) trees on land that would not be subject to vegetation clearing (either in the applicant's ROW and/or on land acquired and preserved). Any land to be used for this mitigation shall be approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies.

For habitat acquisition and preservation, the mitigation ratios shall follow those in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). For example, removal of coast live oak trees (that occur in coast live oak woodland) shall require mitigation at a 3:1 ratio based on the permanent impact to the summed acreage of all individual coast live oak trees impacted. Therefore, if the total acreage of all individual coast live oak trees in coast live oak woodland impacted is 10 acres, then 30 acres of coast live oak woodland shall be acquired and preserved. For all trimmed native trees, the ratio shall be 1:1.

For restoration (planting trees), these guidelines, based on recommendations from the CDFG, shall be followed.

Native trees that are removed shall be replaced in-kind as follows.

- Trees less than five inches diameter at breast height (DBH) shall be replaced at 3:1

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	<ul style="list-style-type: none"> • Trees between five and 12 inches DBH shall be replaced at 5:1 • Trees between 12 and 36 inches shall be replaced at 10:1 • Trees greater than 36 inches shall be replaced at 20:1 <p>Native trees that are trimmed shall be replaced in-kind as follows.</p> <ul style="list-style-type: none"> • Trees less than 12 inches DBH shall be replaced at 2:1 • Trees greater than 12 inches DBH shall be replaced at 5:1 <p>All restoration shall be maintained and monitored for a minimum of 10 years. The restoration shall be directed according to a Habitat Restoration Plan approved by the CPUC, BLM, State Parks (for ABDSP restoration), USDA Forest Service (for National Forest land restoration), and the Wildlife Agencies.</p> <p>Mitigation Parcels/Habitat Management Plans. All off-site mitigation parcels shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for impacts to ABDSP), and USDA Forest Service (for alternatives with impacts to National Forest lands) and must be acquired prior to the initiation of vegetation disturbing activities. A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired off-site mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any vegetation disturbing activities. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all mitigation parcels; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	All areas disturbed by construction activities.
Monitoring/Reporting Action	BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. CPUC/BLM biological monitor shall confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for mitigation lands in ABDSP), and USDA Forest Service (for mitigation lands on USFS land).
Timing	Prior to, during and after construction.
MITIGATION MEASURE	B-1b: Implement appropriate avoidance/minimization/compensation strategies for vernal pools and fairy shrimp habitat. Direct impacts to vernal pools and water-holding basins (aka road pools) shall be avoided where the absence of fairy shrimp has not been proven by

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USFWS protocol wet/dry sampling and/or where the absence of vernal pool indicator species has not been proven. Indirect impacts to vernal pool watersheds shall also be avoided. Temporary and permanent access roads shall not enter vernal pools or water holding basin areas unless absolutely necessary. Where not avoided, the following mitigation shall be implemented.

Prior to construction, a qualified biologist (to be approved by the CPUC, BLM, and Wildlife Agencies; see Mitigation Measure B-1c) shall clearly stake and flag all vernal pools and potential water-holding basins that occur in proximity to the project that are not within the impact zone. In addition to vehicles being restricted from the staked and flagged areas, crewmembers on foot shall also avoid these areas. The qualified biologist shall conduct a pre-construction training session for the construction crew to inform them of the constraints. The qualified biologist shall ensure compliance with this mitigation measure by being present during all construction activities in areas with vernal pools and water-holding basins.

Access roads, including those used during maintenance activities, containing water-holding basins shall be used only when the water-holding basins are completely dry. If access roads must be used while any portion of the depressions within the roads are wet, metal plating or bridging shall be placed over the depressions to prevent alteration of the depression topography and hydrology, and to prevent impacts to fairy shrimp (where the absence of fairy shrimp has not been proven). This bridging or plating shall not be left in place for more than three weeks. Any bridging or plating shall be considered a direct impact to fairy shrimp (where not proven absent) and shall be mitigated in accordance with this mitigation measure as follows.

Permanent impacts to vernal shall be mitigated in the form of vernal pool habitat restoration at a 2:1 ratio outside the impact zone. Temporary impacts to vernal pools shall be mitigated at a 2:1 ratio in the form of 1:1 on-site habitat restoration and 1:1 vernal pool habitat restoration outside the impact zone.

Permanent impacts to occupied fairy shrimp habitat shall be mitigated in the form of vernal pool habitat restoration at a 2:1 ratio outside the impact zone. Temporary impacts to occupied fairy shrimp habitat shall be mitigated at a 2:1 ratio in the form of 1:1 on-site habitat restoration and 1:1 vernal pool habitat restoration outside the impact zone.

Unauthorized impacts to vernal pools or occupied fairy shrimp habitat shall be mitigated at a 5:1 ratio. Restoration of the unauthorized impacts shall be credited at a 1:1 ratio; the remaining 4:1 shall be mitigated in the form of vernal pool restoration outside the impact zone.

The location selected for vernal pool restoration shall be located in the project region, be appropriate for vernal pool restoration, and be acceptable to the CPUC, BLM, and the Wildlife Agencies. The applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Mitigation Plan to be approved in writing by the CPUC, BLM, and the Wildlife Agencies. This Mitigation Plan, including the specific location and methods of the restoration efforts (e.g., removal of non-native plant species, use of salvaged vernal pool soils), must be approved in writing prior to the initiation of any activities which will impact (directly or indirectly) vernal pools or water-holding basins. The applicant shall work with the CPUC, BLM, and the Wildlife Agencies until a plan is approved by all.

The restoration of vernal pool habitat shall include the salvage of vernal pool/water-holding basin soils that would be impacted and that likely contain fairy shrimp cysts. The soils shall be used in the restoration of vernal pool habitat. The restored vernal pool habitat shall be maintained and monitored for five years after installation, or until established success criteria identified in the Mitigation Plan (e.g., specified percent cover of native and non-native species, species diversity, and species composition as compared with undisturbed reference pools) are met. If the mitigation fails to meet the established success criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, and the Wildlife Agencies.

A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, and the Wildlife Agencies for all vernal pool habitat restoration areas. The Habitat Management Plan must be approved in writing by the CPUC, BLM, and Wildlife Agencies prior to the initiation of any activities which may impact (directly or indirectly) vernal pools or water-holding basins. The applicant shall work with the CPUC, BLM, and Wildlife Agencies until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and

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	<p>in-perpetuity management of all vernal pool habitat restoration areas. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all restoration areas approved by the CPUC, BLM, and Wildlife Agencies; • Baseline biological data for all restoration areas; • Designation of a land management entity approved by the CPUC, BLM, and Wildlife Agencies to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, and Wildlife Agencies.
Location	All locations near vernal pools and water holding basins with potential to support fairy shrimp for which negative protocol surveys have not been conducted.
Monitoring/Reporting Action	BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. CPUC/BLM biological monitor shall: oversee construction monitoring to ensure vernal pool impacts are avoided or minimized, and ensure that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Project will avoid or minimize direct indirect impacts to vernal pools fairy shrimp habitat; habitat restoration plans are implemented and meet success criteria; and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS and CDFG.
Timing	Prior to, during and after construction.
MITIGATION MEASURE	<p>B-1c: Conduct biological monitoring. Monitoring shall be provided by a qualified biologist approved by the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies to ensure that all impacts occur within designated limits. Monitoring entails communicating with contractors, taking daily notes, and ensuring that the requirements of the APMs and mitigation measures are being met by being present during construction activities. The qualified biologist shall conduct monitoring for any area subject to disturbance from construction activities (or access roads used during maintenance activities in the case of vernal pools/water-holding basins; see Mitigation Measure B-1b). The applicant, its contractors and subcontractors, and their respective project personnel, shall refer all environmental issues, including wildlife relocation, sick or dead wildlife, hazardous waste, or questions about environmental impacts to the qualified biologist. Experts in wildlife handling (e.g., Project Wildlife) may need to be brought in by the qualified biologist for assistance with wildlife relocations.</p> <p>The qualified biologist shall have the authority to issue stop work orders if any part of the mitigation measures or APMs are being violated. The qualified biologist shall immediately notify the CPUC, BLM, State Parks (for monitoring in ABDSP), USDA Forest Service (for alternatives that require monitoring on National Forest lands), and the Wildlife Agencies of any significant events discovered during the monitoring. Reinitiation of work following a stop work order shall only occur when the CPUC, BLM, State Parks (for impacts in ABDSP), USDA Forest Service (for alternatives with impacts on National Forest lands), and the Wildlife Agencies are satisfied that the impacts have been fully documented, that compensation for these impacts shall be made, and that any additional protection measures they deem necessary shall be undertaken.</p>
Location	Entire project area.
Monitoring/Reporting Action	CPUC/BLM biological monitor shall oversee monitoring and ensure compliance with APMs and mitigation measures.
Effectiveness Criteria	Successful avoidance of unforeseen impacts and compliance with APMs and mitigation measures.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP land), and USDA Forest Service (for USFS land).

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Timing	Prior to and during construction.
MITIGATION MEASURE	<p>B-2a: Provide restoration/compensation for impacted jurisdictional areas. Impacts to areas under the jurisdiction of the ACOE, RWQCB, and CDFG shall be avoided to the extent feasible. Where avoidance of jurisdictional areas is not feasible (including for emergency repairs), the applicant shall provide the necessary mitigation required as part of wetland permitting by creation/restoration/preservation of suitable jurisdictional habitat along with adequate buffers to protect the function and values of jurisdictional area mitigation. The location(s) of the mitigation would be determined in consultation with the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation in ABDSP), USDA Forest Service (for alternatives with mitigation on National Forest lands), ACOE, RWQCB, and CDFG, as part of the wetland permitting process. It is anticipated that the sites would be in close proximity to the impacts or in the same watershed. A jurisdictional delineation and impact assessment shall be prepared based on the final alignment and final engineering plans when they are complete. Mitigation ratios would range from 1:1 up to 4:1 and would depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. The width of wetland buffers would also depend on the sensitivity of the jurisdictional habitat and on the requirements of the wetland permitting agencies. Recommended mitigation ratios for vegetation communities that generally occur in jurisdictional areas are provided in Table D.2-7 for the Proposed Project (see Impacts to Vegetation Communities and Required Mitigation tables in alternatives sections for the alternatives). It is anticipated that at least a 1:1 ratio of the mitigation would include creation of jurisdictional habitat so there would be no net loss of jurisdictional habitat. For example, permanent impacts to emergent wetland would require a 2:1 mitigation ratio. Half (or 1:1) of the mitigation acreage would have to consist of created emergent wetland in an appropriate location to be preserved, and the other half (1:1) would require acquisition and preservation of already-existing emergent wetland (or other wetland community acceptable to the permitting agencies — ACOE, RWQCB, and CDFG). It is also anticipated that a 1:1 ratio would be required for impacts to jurisdictional non-wetland Waters of the U.S. in the form of wetland enhancement, restoration, or creation as determined in consultation with the permitting agencies. Wetland permits shall be obtained from the ACOE, RWQCB, and CDFG prior to initiating construction in jurisdictional areas.</p> <p>All limits of construction shall be delineated with orange construction fencing. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete. During and after construction, entrances to access roads shall be gated 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.</p> <p>Any impacts associated with unauthorized activity (e.g., exceeding approved construction footprints) shall be mitigated as follows, unless otherwise directed by the ACOE, RWQCB, and CDFG: restoration of the unauthorized impacts shall be credited at a 1:1 ratio; the remaining 4:1 (or 4.5:1 in FTHL MA) shall be acquired off site.</p> <p>The applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for restoration in ABDSP), and USDA Forest Service (for alternatives with restoration on National Forest lands). The Habitat Restoration Specialist shall prepare and implement a Wetland Mitigation Plan to be approved in writing by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for ABDSP mitigation), and USDA Forest Service (for alternatives with mitigation on National Forest lands). The applicant shall work with the above-listed agencies until a plan is approved by all. The mitigation of habitat shall be maintained and monitored for five years after installation, or until established success criteria (specified percent cover of native and non-native species, species diversity, and species composition as compared with an undisturbed reference site) are met, to assess progress and identify potential problems with the mitigation. Remedial action (e.g., additional planting, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the mitigation. If the mitigation fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, ACOE, RWQCB, CDFG, State Parks (for ABDSP restoration), and USDA Forest Service (for alternatives with restoration on National Forest lands).</p> <p>A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM,</p>

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	<p>ACOE, RWQCB, CDFG, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) for all acquired off-site mitigation parcels. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact jurisdictional areas. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired, off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all mitigation parcels; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	All locations with impacts to jurisdictional areas.
Monitoring/Reporting Action	BLM, CPUC, and wetland permitting agencies shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans. BLM/CPUC biological monitor to confirm that proposed habitat restoration mitigation plans are implemented.
Effectiveness Criteria	Habitat restoration plans are implemented and meet success criteria. Long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, ACOE, RWQCB, State Parks (for mitigation lands in ABDSP), and USDA Forest Service (for mitigation lands on USFS land).
Timing	Prior to, during, and after construction.
MITIGATION MEASURE	<p>B-3a: Prepare and implement a Weed Control Plan. The applicant shall prepare and implement a comprehensive, adaptive Weed Control Plan for pre-construction and long-term invasive weed abatement. Where the applicant owns the ROW property, the Weed Control Plan shall include specific weed abatement methods, practices and treatment timing developed in consultation with the San Diego County Agriculture Commissioner's Office and the California Invasive Plant Council (Cal-IPC). On the ROW easement lands administered by public agencies (BLM, USDA Forest Service (for alternatives routes within Cleveland National Forest lands), Wildlife Agencies, and State Parks (ABDSP) the Weed Control Plan shall incorporate all appropriate and legal agency-stipulated regulations. The Weed Control Plan shall be submitted to the ROW land-holding public agencies 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 for the implementation of the Weed Control Plan. Prior to implementation, the applicant shall work with the landowners to obtain authorization of the weed control treatment that is required.</p> <p>The Weed Control Plan shall include the following:</p> <ul style="list-style-type: none"> • A pre-construction weed inventory shall be conducted by surveying the entire ROW and areas immediately adjacent to the ROW as well as at all ancillary facilities associated with the project for weed populations that: 1) are considered by the San Diego County Agriculture Commissioner as being a priority for control and 2) aid and promote the spread of

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	<p>wildfires (such as cheatgrass [<i>Bromus tectorum</i>], Saharan mustard [<i>Brassica tournefortii</i>] and medusa head [<i>Taeniatherum caput-medusae</i>]). These populations shall be mapped and described according to density and area covered. These plant species shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with the San Diego County Agriculture Commissioner's Office.</p> <ul style="list-style-type: none"> • A pre-construction weed inventory shall also be conducted by surveying areas that will be directly impacted by the project for weed populations that are rated High or Moderate for negative ecological impact in the California Invasive Plant Inventory Database (Cal-IPC, 2006). These plant species shall be treated prior to construction according to control methods and practices for invasive weed populations designed in consultation with Cal-IPC. • Weed control treatments shall include all legally permitted chemical, manual and mechanical methods applied with the authorization of the San Diego County Agriculture Commissioner and the ROW easement land-holding agencies where appropriate. 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) and implemented by a Licensed Qualified Applicator. Where manual and/or mechanical methods are used, disposal of the plant debris will follow the regulations set by the San Diego County Agriculture Commissioner. The timing of the weed control treatment shall be determined for each plant species in consultation with the PCA, the San Diego County Agriculture Commissioner, and Cal-IPC with the goal of controlling populations before they start producing seeds. <p>For the lifespan of the project, long-term measures to control the introduction and spread of noxious weeds in the project area shall be taken as follows.</p> <ul style="list-style-type: none"> — From the time construction begins until two years after construction is complete, annual surveying for new invasive weed populations and the monitoring of identified and treated populations shall be required in the survey areas described above. After this time, surveying for new invasive weed populations and monitoring of identified and treated populations shall be required at an interval of every two years. However, the treatment of weeds shall occur on a minimum annual basis. — During project construction and operation/maintenance, all seeds and straw materials shall be certified weed free, and all gravel and fill material shall be certified weed free by the San Diego County Agriculture Commissioner's Office. • During project construction and operation/maintenance, vehicles and all equipment shall be washed (including wheels, undercarriages, and bumpers) before and after entering all project areas. In addition, tools such as chainsaws, hand clippers, pruners, etc. shall be washed before and after entering all project areas. All washing shall take place where rinse water is collected and disposed of in either a sanitary sewer or landfill. 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, BLM, USDA Forest Service (for alternative routes within Cleveland National Forest lands), Wildlife Agencies and State Parks (for weeds in ABDSP) for inspection at any time and shall be submitted to the CPUC on a monthly basis.
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor to confirm preparation and implementation of a weed control plan.
Effectiveness Criteria	Weed control plan prepared and successfully implemented.
Responsible Agency	BLM, CPUC, and ROW land-holding agencies (BLM, State Parks for ABDSP, USDA Forest Services for USFS lands).
Timing	Prior to, during and after construction.
MITIGATION MEASURE	<p>B-5a: Conduct rare plant surveys, and implement appropriate avoidance/minimization/compensation strategies. A qualified biologist shall survey for special status plants in the spring prior to initiating construction activities in a given area. A report of special status plants observed shall be prepared and submitted for approval by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies prior to activities which may impact the plant resources.</p> <p>All special status plant populations shall be staked or flagged by a qualified biologist approved</p>

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by the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies. All stakes, flagging, or fencing shall be removed no later than 30 days after construction is complete.

Impacts to federal or State listed plant species shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through salvage and relocation (salvage and relocation for plants in ABDSP shall be determined in consultation with, and approval of, State Parks) via a restoration program and/or off-site acquisition and preservation of habitat containing the plant at a 2:1 ratio. Avoidance may not be feasible due to physical or safety constraints. The CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies shall decide whether the applicant can restore rare plant populations or shall acquire habitat with rare plant populations off site (locations to be approved by the CPUC, BLM, State Parks [for activities in ABDSP], USDA Forest Service [for alternatives with activities on National Forest lands], and the Wildlife Agencies). A qualified biologist shall prepare a Restoration Plan that shall indicate where restoration would take place. The restoration plan shall also identify the goals of the restoration, responsible parties, methods of restoration implementation, maintenance and monitoring requirements, final success criteria, and contingency measures. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service (for alternatives with restoration on National Forest lands) until a plan is approved by all.

Impacts to moderately sensitive plant species (i.e., BLM Sensitive, USDA Forest Service Sensitive, CNPS List 1 and 2 species) shall first be avoided where feasible, and, where not feasible, impacts shall be compensated through reseeded (with locally collected seed stock) or relocation to temporarily disturbed areas (reseeded and relocation of plants in ABDSP shall be determined by State Parks). Avoidance may not be feasible due to physical or safety constraints. Mitigation Measure B-1a would also provide habitat-based mitigation for these impacts.

Where reseeded or salvage and relocation is required, the applicant shall identify a qualified Habitat Restoration Specialist to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies. The Habitat Restoration Specialist shall prepare and implement a Restoration Plan for reseeded or salvaging and relocating special status plant species to be approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies in writing prior to impacting the plant resources. The applicant shall work with the above-listed agencies until a plan is approved by all. The reseeded or relocation of plants shall be maintained and monitored for five years after installation, or until established success criteria are met, to assess progress and identify potential problems with the mitigation. Remedial action (e.g., additional seeding, weeding, erosion control, use of container stock, supplemental watering, etc.) shall be taken during the maintenance and monitoring period if necessary to ensure the success of the restoration. If the restoration fails to meet the established performance criteria after the five-year maintenance and monitoring period, maintenance and monitoring shall extend beyond the five-year period until the criteria are met or unless otherwise approved by the CPUC, BLM, State Parks (for restoration in ABDSP), USDA Forest Service (for alternatives with restoration on National Forest lands), and the Wildlife Agencies.

A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact special status plant resources. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired off-site mitigation parcels. The Habitat Management Plan shall include, but shall not be limited to:

- Legal descriptions of all off-site mitigation parcels approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands);

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	<ul style="list-style-type: none"> • Baseline biological data for all mitigation parcels; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Entire project area.
Monitoring/Reporting Action	BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation. BLM/CPUC biological monitor shall oversee surveys and monitoring and ensure compliance with APMs and mitigation measures, and confirm that habitat restoration plans are implemented.
Effectiveness Criteria	Successful avoidance or restoration/relocation of sensitive plants, purchase of appropriate mitigation lands, and provision of long-term habitat management for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP), and USDA Forest Service (for USFS land).
Timing	Prior to, during and after construction.
MITIGATION MEASURE	B-7a: Cover all steep-walled trenches or excavations used during construction to prevent the entrapment of wildlife (e.g., reptiles and small mammals). BIO-APM-14 shall be modified to ensure that all steep-walled trenches or excavations used during construction shall be covered at all times except when being actively utilized. If the trenches or excavations cannot be covered, exclusion fencing (i.e., silt fencing) shall be installed around the trench or excavation, or it shall be covered to prevent entrapment of wildlife. Open trenches, or other excavations that could entrap wildlife shall be inspected by the qualified biologist (see Mitigation Measure B-1c) a minimum of three times per day and immediately before backfilling. Furthermore, employees and contractors shall look under vehicles and equipment for the presence of wildlife before movement. If wildlife is observed, no vehicles or equipment would be moved until the animal has left voluntarily or is removed by the qualified biologist. Should a dead or injured listed species be found in a trench or excavation or anywhere in the construction zone or along an access road, the qualified biologist shall contact the CPUC, BLM, State Parks (for activities in ABDSP), USDA Forest Service (for alternatives with activities on National Forest lands), and the Wildlife Agencies within 48 hours of the finding. The qualified biologist shall report the species found, the location of the finding, the cause of death (if known), and shall submit a photograph and any other pertinent information.
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with APMs and mitigation measures.
Effectiveness Criteria	Steep-walled trenches or excavations are covered at all times except when being actively utilized, or exclusion fencing is installed around the trench or excavation.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State Parks (for ABDSP land), and USDA Forest Service (for USFS land).
Timing	During construction.
MITIGATION MEASURE	B-7b: Implement avoidance/mitigation/compensation according to the Flat-Tailed Horned Lizard Rangelwide Management Strategy. Mitigation for impacts to the FTHL shall follow all applicable measures in the Flat-Tailed Horned Lizard Rangelwide Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003). This mitigation includes, but is not limited to, locating impacts outside of MAs, delineating work limits, using existing

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	<p>roads, biological monitoring, and worker education.</p> <p>According to the Flat-Tailed Horned Lizard Rangeland Management Strategy (Flat-Tailed Horned Lizard Interagency Coordinating Committee, 2003), compensation for FTHL habitat impacts could involve purchase of FTHL habitat and/or monetary compensation as determined by the Flat-Tailed Horned Lizard Interagency Coordinating Committee. Impacts shall be mitigated at a 1:1 ratio for habitat outside a MA, although the ratios required for impacts to many of the desert vegetation communities for this project are actually higher due to their sensitivity. Furthermore, mitigation inside a MA shall be at a 3.5:1 ratio for temporary impacts and a 5.5:1 ratio for permanent impacts (some ratios for disturbed habitat, developed land, or agriculture, for example, are slightly lower). Any FTHL habitat acquired shall be approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP).</p> <p>A Habitat Management Plan shall be prepared by a biologist approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) for all acquired FTHL habitat. The Habitat Management Plan must be approved in writing by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the FTHL or its habitat. The applicant shall work with the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired FTHL habitat. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired FTHL habitat approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP); • Baseline biological data for all acquired FTHL habitat; • Designation of a land management entity approved by the Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to Flat-Tailed Horned Lizard Interagency Coordinating Committee, CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
Location	FTHL MAs and where potential FTHL habitat occurs.
Monitoring/Reporting Action	BLM and CPUC shall ensure that required purchase of mitigation land and provision of long-term management occurs. BLM/CPUC biological monitor shall ensure that applicable measures in the FTHL Rangeland Management Strategy are implemented.
Effectiveness Criteria	Direct impacts to the flat-tailed horned lizard are minimized. Compensatory mitigation for impacts to FTHL is implemented, including purchase of habitat and provision of long-term management for mitigation sites.
Responsible Agency	BLM, CPUC, and Flat-Tailed Horned Lizard Interagency Coordinating Committee.
Timing	Prior to, during and after construction.
MITIGATION MEASURE	<p>B-7c: Minimize impacts to Peninsular bighorn sheep and provide compensation for loss of critical habitat. With regard to timing of activities, construction and maintenance activities in bighorn sheep habitat shall be limited to outside the lambing season and the period of greatest water need. The lambing season is February through August. The period of greatest water need is May through September.</p> <p>To help reconnect PBS subpopulations and at least partially offset impacts to the overall pop-</p>

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	<p>ulation of PBS caused by the project, the applicant shall:</p> <ul style="list-style-type: none"> • fund construction of an overpass or tunnel to facilitate PBS movement across SR78 at a location determined by the USFWS (in coordination with State Parks and CDFG); • fund removal of tamarisk and fences and install and maintain water sources at locations determined by the USFWS (in coordination with State Parks and CDFG); and • fund a minimum 10-year-long program to monitor the effects of the project on PBS behavior, movements, and dispersal in the project corridor (ten years is needed to measure the influence of the project while factoring in rainfall cycles, vegetative productivity, and drought). This program would be implemented by the Wildlife Agencies and State Parks following construction. <p>Furthermore, the applicant shall provide compensation for direct loss of critical habitat at a 5:1 ratio for permanent impacts and at a 3:1 ratio (including a combination of on-site restoration and off-site purchase) for temporary impacts of PBS critical habitat or other habitat acceptable to the Wildlife Agencies, BLM, and State Parks.</p> <p>A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and State Parks for all acquired PBS habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) PBS or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired PBS habitat. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired PBS habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP); • Baseline biological data for all acquired PBS habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
Location	Where bighorn sheep or designated bighorn sheep critical habitat occur.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with APMs and bighorn sheep impact minimization measures. BLM and CPUC shall ensure that funding is provided for bighorn sheep studies and crossing mitigation; and that habitat acquisition and long-term management of mitigation sites is implemented.
Effectiveness Criteria	Successful avoidance/minimization of bighorn sheep impacts, and implementation of funding for studies and a wildlife crossing, habitat acquisition and long-term management for mitigation parcels.
Responsible Agency	BLM, CPUC, USFWS, CDFG, and State Parks.
Timing	Prior to, during and after construction.
MITIGATION MEASURE	B-7d: Conduct burrowing owl surveys, and implement appropriate avoidance/minimization/compensation strategies. A survey shall be conducted within 30 days prior to the initiation of construction by a qualified biologist to determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond. In addition, the burrowing owl shall be looked for opportunistically as part of other surveys and monitoring required during project construction. If the burrowing owl is absent, then no mitigation is required.

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- If the burrowing owl is present, no disturbance shall occur within 50 meters (approximately 160 ft) of occupied burrows from September 1 through January 31 or within 75 meters (approximately 250 ft) of occupied burrows from February 1 through August 31 (CDFG, 1995).
 - Passive relocation of owls shall be implemented prior to construction only at the direction of the CDFG and only if the above-described occupied burrow disturbance absolutely cannot be avoided (e.g., due to physical or safety constraints). Relocation of owls shall only be implemented during the non-breeding season (September 1 through January 31; CDFG, 1995). Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 meters from the impact zone and that are within or contiguous to a minimum of 6.5 acres of preserved (or acquired and preserved if not already preserved) foraging habitat for each relocated owl (single owl or owl pair). Passive relocation is accomplished by first creating two artificial burrows in contiguous, preserved foraging habitat (if no natural burrows exist) for each occupied burrow that would be impacted; and second, installing one-way doors on occupied burrow entrances so owls can leave the burrow but not re-enter it. Following passive relocation, the area of impact and the preserved foraging habitat with alternate burrows are surveyed daily for one week to confirm owl use of alternate burrows before excavation of burrows in the impact zone. All passive relocation shall be conducted by a biologist approved by the CDFG. If the alternate burrows are not used by the relocated owls, then the applicant shall work with the CDFG to provide alternate mitigation for burrowing owls. If the alternate burrows are used, no other mitigation shall be required.
 - If it is not possible to preserve contiguous habitat on which to provide alternate burrows (e.g., on private land), and occupied owl burrows would be directly impacted, then the owls shall be passively relocated without the creation of alternate burrows prior to construction (relocation should only be implemented during the non-breeding season [September 1 through January 31]). The loss of occupied owl habitat shall be mitigated by acquiring and preserving other occupied habitat elsewhere (as explained below) per the Staff Report on Burrowing Owl Mitigation (CDFG, 1995) and the Burrowing Owl Survey Protocol and Mitigation Guidelines (The Burrowing Owl Consortium, 1993), or as otherwise determined in consultation with the CDFG.
 - Impacted occupied habitat shall be mitigated by 1) acquiring and preserving occupied habitat at a rate of 1.5 times 6.5 acres (or 9.75 acres) per pair or single bird impacted, or 2) acquiring and preserving unoccupied habitat contiguous with currently occupied habitat at a rate of two times 6.5 acres (or 13 acres) per pair or single bird impacted, or 3) acquiring and preserving suitable unoccupied habitat at a rate of three times 6.5 acres (or 19.5 acres) per pair or single bird impacted. All acquired habitat shall be acceptable to the CDFG and shall be protected and managed for the burrowing owl in perpetuity.
 - The survey required within 30 days prior to the initiation of construction will determine the presence or absence of the burrowing owl in the construction zone plus 250 feet beyond and whether or not the mitigation needs to be revised.
 - A Habitat Management Plan shall be prepared by a biologist approved by the CPUC, BLM, CDFG, and State Parks (for land in ABDSP) for all acquired burrowing owl habitat. The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and State Parks (for land in ABDSP) prior to the initiation of any activities which may impact (directly or indirectly) the burrowing owl or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and State Parks until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired burrowing owl habitat. The Habitat Management Plan shall include, but shall not be limited to:
 - Legal descriptions of all acquired burrowing owl habitat approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP);
 - Baseline biological data for all acquired burrowing owl habitat;
 - Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP) to provide in-perpetuity management;
 - A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan;
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	<ul style="list-style-type: none"> — Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and — Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and State Parks (for mitigation parcels to be part of ABDSP).
Location	Where occupied burrowing owl habitat occurs.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and monitoring and ensure compliance with APMs and mitigation measures. If necessary, BLM and CPUC shall approve habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Avoidance of occupied burrows and surrounding foraging area, successful passive relocation, and/or replacement of occupied habitat that is managed in perpetuity.
Responsible Agency	BLM, CPUC, USFWS, and CDFG.
Timing	Prior to, during and after construction.
MITIGATION MEASURE	<p>B-7e: Conduct least Bell's vireo and southwestern willow flycatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. All grading or brushing taking place within riparian habitats of the least Bell's vireo or southwestern willow flycatcher during construction shall be conducted from September 16 (October 1 in ABDSP) through March 14, which is outside the least Bell's vireo and southwestern willow flycatcher breeding seasons.</p> <p>When conducting all other construction activities during the breeding season of March 15 through September 15 (September 30 in ABDSP) within 500 feet (USFWS, 2007b) of habitat in which least Bell's vireos and/or southwestern willow flycatchers are known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for least Bell's vireos and southwestern willow flycatchers within one week prior to initiating activities in an area.</p> <p>If least Bell's vireos or southwestern willow flycatchers are present, a permitted biologist shall survey for nesting vireos and flycatchers approximately once per week within 500 feet of the construction area (USFWS, 2007b), for the duration of the activity in that area during the breeding season.</p> <p>If/when an active nest is located, a 300-foot no-construction buffer zone (USFWS, 2007b) shall be established around each nest site. No construction shall take place within this buffer until the nest is no longer active unless there are physical or safety constraints. If construction must take place within the buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied vireo/flycatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies, State Parks (for activities in ABDSP), and USDA Forest Service (for activities on National Forest lands) to devise methods to reduce the noise and/or disturbance. 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 nesting birds and the activities, and working in other areas until the young have fledged. The permitted biologist shall monitor the nest daily until either activities are no longer within 300 feet of the nest, or the fledglings become independent of their nest.</p> <p>Mitigation for the loss of least Bell's vireo- or southwestern willow flycatcher-occupied habitat (or designated critical habitat for the flycatcher) shall be implemented as follows. Permanent impacts to occupied habitat and/or designated critical habitat shall include off-site acquisition and preservation of occupied habitat or designated critical habitat at a 3:1 ratio. Temporary impacts to occupied habitat or designated critical habitat shall include 1:1 on-site restoration and 2:1 off-site acquisition and preservation of occupied habitat and/or designated critical habitat.</p> <p>If a USFWS protocol, pre-construction survey, conducted in an area where presence of the vireo or flycatcher was assumed in this analysis (see Appendix 8B) determines that the species is absent, then the mitigation shall be reduced accordingly. Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).</p>

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	<p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the least Bell's vireo or southwestern willow flycatcher or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired vireo or flycatcher habitat. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired least Bell's vireo or southwestern willow flycatcher habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all least Bell's vireo or southwestern willow flycatcher habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Areas where the vireo or flycatcher occur or have potential to occur.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to nesting vireos and flycatchers are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, and CDFG.
Timing	Prior to, during, and after construction.
MITIGATION MEASURE	B-7f: Minimize potential impacts to desert pupfish habitat. The qualified biologist (see Mitigation Measure B-1c) shall be present to monitor construction adjacent to desert pupfish critical habitat. Monitoring entails communicating with contractors, taking daily notes, and ensuring that the requirements of the APMs and mitigation measures are being met to ensure that construction and maintenance activities avoid San Felipe Creek and that activities do not result in sedimentation of the creek. If an accident occurs and the creek is impacted, the qualified biologist shall immediately notify the CPUC, BLM, and Wildlife Agencies and shall stop work in the area of impact per Mitigation Measure B-1c. Reinitiation of work following a stop work order shall only occur per Mitigation Measure B-1c. The qualified biologist shall inform all construction and maintenance crews of the sensitivity of the pupfish habitat and the necessity to avoid impacts to it.
Location	San Felipe Creek.
Monitoring/Reporting Action	BLM/CPUC biological monitor to ensure compliance with APMs and avoidance measures.
Effectiveness Criteria	Successful avoidance of San Felipe Creek and impacts to desert pupfish.
Responsible Agency	BLM, CPUC, and USFWS.
Timing	During and after construction.

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MITIGATION MEASURE	<p>B-7g: Implement appropriate avoidance/minimization strategies for desert tortoise. To the extent possible, construction activities shall be scheduled when tortoises are inactive (November 1 – March 15). A clearance survey for the desert tortoise shall be conducted within 24 hours before construction ground disturbance and following the guidelines established by The Desert Tortoise Council (1999) as follows.</p> <ul style="list-style-type: none"> • Burrows within 100 feet of the construction zone shall be flagged by a person authorized by the USFWS to handle desert tortoises so that the qualified biologist (see Mitigation Measure B-1c) would be able to more easily locate them during construction. The qualified biologist shall be on site to monitor all construction that occurs in the vicinity of flagged burrows and to watch for desert tortoise. • All desert tortoise burrows or pallets in the construction area shall be excavated by the USFWS-authorized biologist. • Desert tortoises that are found above ground during construction and need to be moved from potential harm shall be placed in the shade of a shrub by the USFWS-authorized biologist. All desert tortoises removed from burrows shall be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. Tortoises shall not be placed more than 1,000 feet from where they were found. If an existing burrow is unavailable, the authorized biologist shall construct or direct the construction of a burrow of similar size, shape, depth, and orientation as the original burrow. Desert tortoises moved during inactive periods would be monitored for at least two days after placement in the new burrows to ensure their safety. The authorized biologist shall be allowed some judgment and discretion to ensure that the survival of the desert tortoise is likely. • If a tortoise is located in a construction or maintenance area and is not moving, adjacent activities would be halted until the authorized biologist is able to move it out of harm's way. • A worker bonus program shall be implemented that would reward construction/maintenance staff who spot a tortoise within the work area and, without touching or disturbing the animal, notify the authorized biologist for action. • Any routes of travel that require construction or modification, or any additional work areas, shall be surveyed for tortoises by the authorized biologist before modification or construction of the route or construction or use of a new work area. • Trench segments or other excavations shall be provided with tortoise escape ramps at one-mile intervals. All excavations shall be inspected for tortoises three times daily and before backfilling. • Any time a vehicle is parked, the ground around and under the vehicle shall be inspected for desert tortoises before the vehicle is moved. If a desert tortoise is observed, it shall be left to move on its own. If this does not occur within 15 minutes, the authorized biologist shall remove and relocate the tortoise. • Construction pipe, culverts, or similar structures with a diameter of three inches or greater that are stored on site for one or more nights shall be inspected for tortoises before the material is moved, buried, or capped. As an alternative, all such structures may be capped before being stored on the construction site. • All construction and maintenance activities in desert tortoise habitat shall be conducted between dawn and dusk. • GPS locations of tortoises will be reported to the CPUC, BLM, State Parks (if in ABDSP), and the Wildlife Agencies.
Location	Potential desert tortoise habitat.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee shall oversee surveys and monitoring and ensure compliance with APMs and desert tortoise avoidance/minimization/mitigation measures.
Effectiveness Criteria	Successful avoidance of impacts to the desert tortoise.
Responsible Agency	BLM, CPUC, and USFWS.
Timing	Prior to and during construction.

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MITIGATION MEASURE	B-7h: Implement appropriate avoidance/minimization strategies for eagle nests. No construction or maintenance activities shall occur within 4,000 feet of an eagle nest during the eagle breeding season (December through June).
Location	Within 4,000 feet of eagle nests
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure compliance with restrictions before and during construction. A qualified biologist shall ensure compliance during maintenance.
Effectiveness Criteria	Successful avoidance of indirect impacts to eagle nests.
Responsible Agency	BLM and CPUC.
Timing	Before, during and after construction
MITIGATION MEASURE	<p>B-7i: Conduct quino checkerspot butterfly surveys, and implement appropriate avoidance/minimization/compensation strategies. A biologist permitted by the USFWS shall determine suitable habitat areas (i.e., non-excluded areas per the 2002 USFWS protocol; USFWS, 2002b) within any designated USFWS QCB survey area (e.g., Survey Area 2) that would be impacted by project construction.</p> <p>A pre-construction, USFWS protocol presence/absence survey for the adult QCB shall be conducted within all suitable habitat for this species in the construction zone within any designated USFWS QCB survey area. The survey shall be conducted in a year where the QCB is readily observed at USFWS QCB-monitored reference sites to determine what areas are occupied by the QCB (i.e., any suitable habitat within 1 km of a current QCB sighting is considered occupied) and what areas are not occupied. The USFWS permitted biologist shall record the precise locations of QCB larval host plants within the construction zone (and 10 meters beyond) using GPS technology.</p> <p>If the protocol pre-construction survey is conclusive for determining absence of the QCB, then areas without the butterfly would not require mitigation.</p> <p>If the protocol pre-construction survey is not conclusive for determining QCB absence (due to limited detectability per the 2002 protocol, for example), or if a survey is not conducted, then all suitable habitat areas would be considered potentially occupied and would require mitigation as follows. If construction occurs outside the larvae and adult activity season (June 1 through October 15) and stays at least 10 meters away from all host plant locations, then no mitigation is required (USFWS, 2007d). If construction occurs between October 16 and May 31 or within 10 meters of host plant locations, then (1) temporary impacts to the habitat shall be mitigated through on-site restoration of temporarily disturbed areas and off-site acquisition and preservation of an equal sized area of QCB-occupied habitat (a 2:1 mitigation ratio) and (2) permanent impacts shall be mitigated through off-site acquisition and preservation of QCB-occupied habitat at a 2:1 ratio (i.e., two acres acquired for each acre lost). Any acquired habitat shall be approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation land to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). A USFWS permitted biologist shall be present during all construction activities in potentially occupied habitat to monitor and assist the construction crews to ensure impacts occur only as allowed. This same mitigation shall apply where the protocol pre-construction survey was conclusive for determining that the QCB is present.</p> <p>If host plant mapping is not possible during the pre-construction survey (e.g., drought prevents plant germination), then all suitable habitat (i.e., non-excluded habitat per the 2002 protocol) shall be considered occupied by the QCB and mitigated under the assumption that the QCB is present.</p> <p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the QCB or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired QCB habitat. The Habitat Management Plan shall include, but shall not be limited to:</p>

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	<ul style="list-style-type: none"> • Legal descriptions of all acquired QCB habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all QCB habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Where suitable quino checkerspot butterfly habitat occurs.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and quino checkerspot avoidance/minimization/mitigation measures. If required, BLM and CPUC shall approve habitat acquisition plans and long-term management plans.
Effectiveness Criteria	Successful avoidance of impacts to the quino checkerspot or impacts as allowed by the USFWS, and if necessary, implementation of mitigation land acquisition.
Responsible Agency	BLM, CPUC, and USFWS.
Timing	Prior to and during construction.
MITIGATION MEASURE	<p>B-7j: Conduct arroyo toad surveys, and implement appropriate avoidance/minimization/compensation strategies. A pre-construction, USFWS protocol survey shall be conducted for the toad in the construction zone (by a biologist permitted by the USFWS to handle the toad) where absence of the species has not been proven to conclusively define the impacts to occupied habitat. In the absence of this survey data, the mitigation acreages required below shall stand. Where the pre-construction survey determines the species is absent, the mitigation shall be reduced accordingly.</p> <p>The removal of toad riparian breeding habitat shall occur from October through December to minimize potential impacts to breeding adults (including potential sedimentation impacts to toad eggs) and dispersing juveniles.</p> <p>Where the toad is present (or assumed to be present if no pre-construction survey is conducted), the construction zone shall be fenced with exclusion fencing to prevent toad access to it. The fencing shall be a silt-screen type barrier comprised of a minimum 24-inch high fence with the remainder (minimum 12 inches) anchored firmly against the ground. The fence may be buried if necessary to exclude toad access. The fence locations shall be identified by a USFWS permitted biologist and adjusted as necessary. Exclusion fencing shall be monitored daily by a qualified biologist (see Mitigation Measure B-1c) and maintained in its original condition by construction personnel for the entire length of the construction period in toad habitat.</p> <p>Pre- and post-exclusion fencing surveys within the construction zone shall be conducted for arroyo toads by a biologist permitted by the USFWS to handle the toad. Prior to construction commencement, a minimum of three surveys shall be conducted by this biologist following installation of the fencing and prior to construction activities. One of these clearance surveys must take place no more than 24 hours prior to activity commencement. These surveys shall be conducted during appropriate climatic conditions and during the appropriate time of day or night to maximize the likelihood of encountering arroyo toads. If conditions are not appropriate for arroyo toad movement during surveys, the biologist may attempt to elicit a response from the toads during nights (i.e., at least one hour after sunset), provided that temperatures are above 50°F, by spraying the project area with water to simulate a rain event. After the three clearance surveys outlined above have been completed, daily surveys shall be conducted each</p>

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	<p>morning prior to the continuation of construction or maintenance activity. Any toads found shall be relocated to appropriate similar habitat outside project impact areas.</p> <p>Mitigation for the loss of arroyo toad-occupied habitat shall be implemented as follows. Permanent impacts to occupied, arroyo toad breeding habitat shall include off-site acquisition and preservation of occupied arroyo toad breeding habitat at a 3:1 ratio. Permanent impacts to occupied, upland burrowing habitat shall include off-site acquisition and preservation of occupied, upland burrowing habitat at a 2:1 ratio. Temporary impacts to occupied breeding habitat shall include 1:1 on-site restoration and 2:1 off-site acquisition and preservation of occupied breeding habitat. Temporary impacts to occupied, upland burrowing habitat shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied, upland burrowing habitat. Any acquired arroyo toad habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).</p> <p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the arroyo toad or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired arroyo toad habitat. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired arroyo toad habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all arroyo toad habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Areas where the arroyo toad occurs or has potential to occur.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to arroyo toads are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Prior to, during, and after construction.
MITIGATION MEASURE	<p>B-7k: Conduct Stephens' kangaroo rat surveys, and implement appropriate avoidance/minimization/compensation strategies. A pre-construction, USFWS protocol survey shall be conducted for the SKR by a USFWS permitted biologist in the construction zone where absence of the species has not been proven to conclusively define the impacts to occupied habitat. In the absence of this survey data, the mitigation acreages required below shall stand. Where the pre-construction survey determines the species is absent, the mitigation shall be reduced accordingly.</p> <p>Where the SKR is present (or if no pre-construction survey is conducted, and the SKR is assumed to be present), prior to vegetation clearing or other ground-disturbing activities, the</p>

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	<p>construction zone shall be fenced to provide a barrier that excludes the SKR from the construction zone and delineates the work area. A USFWS permitted SKR biologist shall be present when the fence is installed to minimize habitat disturbance.</p> <p>The fence shall be constructed of ¼-inch gauge hardware cloth backed by silt fencing or other material if approved by the USFWS. No gaps greater than 0.5 inches shall be allowed within the exclusion fencing. The qualified biologist (see Mitigation Measure B-1c) or other designated personnel shall check the fencing at the end of each work day. If gaps greater than 0.5-inch are detected, they shall be repaired immediately. The exclusion fencing shall remain in place and be maintained without gaps until project construction is completed.</p> <p>Immediately preceding vegetation clearing or other ground-disturbing activities within the fenced areas, live-trapping of the SKR shall be conducted by the USFWS permitted biologist for a minimum of five nights. Trapping locations shall be selected at the discretion of the biologist in coordination with the USFWS. Trapped animals shall be released outside the fenced area in appropriate habitat. Results of the trapping effort shall be provided to the CPUC, BLM, and Wildlife Agencies within 24 hours of trapping completion. Any pipes stored during construction shall be capped prior to the end of each work day to prevent SKR from entering the pipes.</p> <p>Mitigation for the loss of occupied SKR habitat shall be implemented as follows. Permanent impacts to occupied habitat shall include off-site acquisition and preservation of occupied habitat at a 2:1 ratio. Temporary impacts to occupied habitat shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied habitat. Any acquired SKR habitat shall be approved by the CPUC, BLM, and Wildlife Agencies.</p> <p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, and Wildlife Agencies. The Habitat Management Plan must be approved in writing by the CPUC, BLM, and Wildlife Agencies prior to the initiation of any activities which may impact (directly or indirectly) the SKR or its habitat. The applicant shall work with the CPUC, BLM, and Wildlife Agencies until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired SKR habitat. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired SKR habitat approved by the CPUC, BLM, and Wildlife Agencies; • Baseline biological data for all SKR habitat; • Designation of a land management entity approved by the CPUC, BLM, and Wildlife Agencies to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, and Wildlife Agencies.
Location	Areas where the Stephens' kangaroo rat occurs or has potential to occur.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Successful avoidance of occupied habitat or mitigation for such impacts (such as purchase of mitigation land).
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Prior to, during and after construction.

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MITIGATION MEASURE	
	<p>B-7I: Conduct coastal California gnatcatcher surveys, and implement appropriate avoidance/minimization/compensation strategies. All brushing or grading taking place within occupied habitat of the coastal California gnatcatcher (defined as within 500 feet of any gnatcatcher sightings [USFWS, 2007b]) during construction shall be conducted from September 1 through February 14, which is outside the coastal California gnatcatcher breeding season.</p> <p>When conducting all other construction activities during the coastal California gnatcatcher breeding season of February 15 through August 30, within habitat in which coastal California gnatcatchers are known to occur or have potential to occur, the following avoidance measures shall apply.</p> <p>A USFWS permitted biologist shall survey for coastal California gnatcatchers within one week prior to initiating activities in an area. If coastal California gnatcatchers are present, but not nesting, a USFWS permitted biologist shall survey for nesting coastal California gnatcatchers approximately once per week within 500 feet of the construction area for the duration of the activity in that area during the breeding season.</p> <p>If/when an active nest is located, a 300-foot no-construction buffer (USFWS, 2007b) shall be established around each nest site. To the extent feasible, no construction shall take place within this buffer until the nest is no longer active. However, if construction must take place within the 300-foot buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the occupied gnatcatcher habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies to 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 nesting coastal California gnatcatchers and the activities, and working in other areas until the young have fledged.</p> <p>Mitigation for the loss of coastal California gnatcatcher-occupied habitat shall be implemented as follows. Permanent impacts to occupied habitat shall include off-site acquisition and preservation of occupied habitat at a 2:1 ratio. Temporary impacts to occupied habitat shall be mitigated at a 2:1 ratio and shall include 1:1 on-site restoration and 1:1 off-site acquisition and preservation of occupied habitat.</p> <p>Mitigation for the loss of unoccupied designated critical habitat for the gnatcatcher shall be implemented as follows. Permanent impacts to unoccupied designated critical habitat shall include off-site acquisition and preservation of designated critical habitat at a 2:1 ratio. Temporary impacts to unoccupied designated critical habitat shall include 1:1 on-site restoration. Any acquired coastal California gnatcatcher habitat shall be approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).</p> <p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the coastal California gnatcatcher or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired coastal California gnatcatcher. The Habitat Management Plan shall include, but shall not be limited to:</p> <ul style="list-style-type: none"> • Legal descriptions of all acquired coastal California gnatcatcher habitat approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all coastal California gnatcatcher habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan;

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	<ul style="list-style-type: none"> • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Occupied gnatcatcher habitat.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to coastal California gnatcatchers are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Prior to, during, and after construction.
MITIGATION MEASURE	<p>B-7o: Conduct yellow-billed cuckoo surveys and implement appropriate avoidance/minimization/compensation strategies. All grading or brushing taking place within riparian habitat of the western yellow-billed cuckoo shall be conducted from October through February, which is outside the cuckoo’s breeding season.</p> <p>When conducting all other project activities during the breeding season of March through September, within 500 feet (USFWS, 2007b) of habitat in which the cuckoo is known to occur or have potential to occur, a biologist permitted by the USFWS shall survey for the cuckoo within one week prior to initiating activities in an area.</p> <p>If the cuckoo is present, a permitted biologist shall survey for nesting cuckoos approximately once per week within 500 feet of the construction area (USFWS, 2007b), for the duration of the activity in that area during the breeding season.</p> <p>If/when an active nest is located, a 300-foot no construction buffer zone (USFWS, 2007b) shall be established around each nest site. No construction shall take place within this buffer until the nest is no longer active unless there are physical or safety constraints. If construction must take place within the buffer, a qualified acoustician shall monitor noise as construction approaches the edge of the cuckoo-occupied habitat as directed by the permitted biologist. If the noise meets or exceeds the 60 dB(A) Leq threshold, or if the biologist determines that the project activities in general are disturbing the nesting activities, the biologist shall have the authority to halt construction and shall consult with the Wildlife Agencies, State Parks (for activities in ABDSP), and USDA Forest Service (for activities on National Forest Lands) to devise methods to reduce the noise and/or disturbance. 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 nesting cuckoos and the activities, and working in other areas until the young have fledged. The permitted biologist shall monitor the nest daily until either activities are no longer within 300 feet of the nest, or the fledglings become independent of their nest.</p> <p>Mitigation for the loss of western yellow-billed cuckoo-occupied habitat shall occur at the ratios for comparable habitat shown in Table D.2-12.</p> <p>A Habitat Management Plan for any required, off-site mitigation shall be prepared by a biologist approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands). The Habitat Management Plan must be approved in writing by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) prior to the initiation of any activities which may impact (directly or indirectly) the western yellow-billed cuckoo or its habitat. The applicant shall work with the CPUC, BLM, Wildlife Agencies, State Parks, and USDA Forest Service until a plan is approved by all. The Habitat Management Plan shall provide direction for the preservation and in-perpetuity management of all acquired cuckoo habitat. The Habitat Management Plan shall include, but shall not be limited to:</p>

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	<ul style="list-style-type: none"> • Legal descriptions of all acquired western yellow-billed cuckoo habitat approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands); • Baseline biological data for all western yellow-billed cuckoo habitat; • Designation of a land management entity approved by the CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands) to provide in-perpetuity management; • A Property Analysis Record prepared by the designated land management entity that explains the amount of funding required to implement the Habitat Management Plan; • Designation of responsible parties and their roles (e.g., provision of endowment by the applicant to fund the Habitat Management Plan and implementation of the Habitat Management Plan by the designated land management entity); and • Management specifications including, but not limited to, regular biological surveys to compare with baseline; exotic, non-native species control; fence/sign replacement or repair, public education; trash removal; and annual reports to CPUC, BLM, Wildlife Agencies, State Parks (for mitigation parcels to be part of ABDSP), and USDA Forest Service (for mitigation parcels to be National Forest lands).
Location	Areas where the yellow-billed cuckoo occurs or has potential to occur.
Monitoring/Reporting Action	A qualified biologist shall oversee surveys and ensure compliance with APMs and avoidance/minimization/mitigation measures. BLM and CPUC shall approve habitat restoration plans, habitat acquisition plans, and long-term habitat management plans, and ensure their implementation.
Effectiveness Criteria	Impacts to yellow-billed cuckoos are avoided/minimized/mitigated. Habitat restoration plans are implemented and meet success criteria, and long-term habitat management is provided for all mitigation sites.
Responsible Agency	BLM, CPUC, USFWS, CDFG, State parks (for ABDSP) and USDA Forest Services (for USFS lands).
Timing	Prior to, during, and after construction.
MITIGATION MEASURE	<p>B-8a: Conduct pre-construction surveys and monitoring for breeding birds. All vegetation clearing, except tree trimming or removal, shall take place between September 16 and February 14 (i.e., outside of the general avian breeding season of February 15 through September 15). Tree removal or trimming shall take place between September 16 and December 31 (i.e., outside the raptor breeding season of January 1 through September 15).</p> <p>If project construction (not vegetation clearing or tree trimming/removal) cannot occur completely outside the general avian breeding season, then pre-construction surveys for bird species' nests shall be conducted by a qualified biologist within 300 feet of the construction zone no more than seven days prior to the initiation of construction that would occur between February 15 and September 15.</p> <p>If project construction (not vegetation clearing or tree trimming/removal) cannot occur completely outside the raptor breeding season, then pre-construction surveys for active raptor nests shall be conducted by a qualified biologist within 500 feet of the construction zone no more than seven days prior to the initiation of construction that would occur between January 1 and September 15.</p> <p>If no active nests are observed, construction may proceed. If active nests are found, work may proceed provided that construction activity is 1) located at least 500 feet from raptor nests (USFWS, 2007b), 2) located at least 160 to 250 feet from occupied burrowing owl burrows (CDFG, 1995; see Mitigation Measure B-7d), 3) located at least 300 feet from all other bird nests, and 4) noise levels do not exceed 60 dB(A) hourly Leq at the edge of nesting territories (American Institute of Physics, 2005) as determined by a qualified biologist in coordination with a qualified acoustician. In the case of raptors (except the burrowing owl), the noise level restriction stated above does not apply (USFWS, 2007b). Otherwise, 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</p>

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	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. The qualified biologist shall be responsible for documenting the results of the surveys and the ongoing monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for construction in ABDSP), and USDA Forest Service (for alternatives with construction on National Forest lands).
Location	Entire project area.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and monitoring to ensure compliance with APMs and the mitigation.
Effectiveness Criteria	Successful avoidance/minimization of impacts to nesting birds.
Responsible Agency	BLM, CPUC, and CDFG.
Timing	Prior to and during construction.
MITIGATION MEASURE	B-9a: Survey for bat nursery colonies. A CDFG-approved biologist shall conduct a habitat assessment for bat nursery colonies prior to any construction activity. Then, the approved biologist shall conduct a survey for bat nursery colonies or signs of such colonies prior to construction. Direct impacts to a nursery colony site shall not be allowed, and approach of, or entrance to, an active nursery colony site shall be prohibited. Before any blasting or drilling in the vicinity of a nursery colony site, the CDFG-approved biologist shall work with the construction crew to devise and implement methods to minimize potential indirect impacts to the nursery colony site from falling rock or substantial vibration (while a nursery colony is active). The methods shall include an option to halt any construction activity that would cause falling rock, substantial vibration impacts, or any other construction-related impact to a nursery colony as determined by the approved biologist, until the colony is inactive. Should falling rock block the entrance to a nursery colony site, the contractor shall work with the approved biologist to re-open an entrance to the site.
Location	Areas with potential to support bat nursery colonies (typically caves or rock crevices in the desert).
Monitoring/Reporting Action	BLM/CPUC biological monitor shall oversee surveys and ensure avoidance of impacts to bat nursery colonies.
Effectiveness Criteria	Successful avoidance of impacts to bat nursery colonies.
Responsible Agency	BLM, CPUC, and CDFG.
Timing	Prior to and during construction.
MITIGATION MEASURE	B-10a: Utilize collision-reducing techniques in installation of transmission lines. The applicant shall install the transmission lines utilizing Avian Power Line Interaction Committee standards for collision-reducing techniques as outlined in "Mitigating Bird Collisions with Power Lines: The State of the Art in 1994" (APLIC, 1994). <ul style="list-style-type: none"> • Placement of towers and lines shall not be located above existing towers and lines, topographic features, or tree lines to the maximum extent practicable. Power lines should be clustered in the vertical and horizontal planes to the maximum degree feasible, aligned with existing geographic features or tree lines, and located parallel (rather than perpendicular) to prevailing wind patterns. • Overhead lines that are located in highly utilized avian flight paths shall be marked utilizing fixed mount Firefly Flapper/Diverter, swan flight diverter coils, or other diversion devices, if proven more effective, as to be visible to birds and to reduce avian collision with power lines. • Where such markers are installed, the applicant shall fund a study to determine the effectiveness of the markers as a collision prevention measure since there are few, if any, studies that show if such markers work, especially on transmission lines (CEC, 2007). The applicant shall develop a draft study protocol and submit it to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review. The applicant shall continue to work with these agencies until approval of a final study protocol is obtained. If the study shows the markers to be ineffective, the applicant shall coordinate with the Wildlife Agencies to develop alternate collision protection measures.

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	<ul style="list-style-type: none"> The applicant shall implement an avian reporting system for documenting bird mortalities to help identify problem areas. The reporting system shall follow the format in Appendix C of “Suggested Practices for Avian Protection On Power Lines: The State of the Art in 2006” (APLIC, 2006) or a similar format. The applicant shall submit a draft reporting protocol and reporting system to the Wildlife Agencies and State Parks, as well as to CPUC and BLM, for review and approval. The applicant shall continue to work with these agencies until approval of a final reporting protocol and reporting system is obtained. The applicant shall develop and implement methods to reduce mortalities in identified problem areas. The methods shall be approved by the Wildlife Agencies, State Parks (for problem areas in ABDSP), CPUC, and BLM prior to implementation. Bird mortality shall continue to be documented in the problem areas per the avian reporting system to determine the effectiveness of the mortality reduction methods and to determine if new methods need to be developed.
Location	Highly utilized avian flight paths
Monitoring/Reporting Action	BLM/CPUC biological monitor shall ensure installation of markers. BLM and CPUC shall ensure that the applicant funds and implements a study to document bird mortalities.
Effectiveness Criteria	Markers installed, bird mortality study implemented, and corrective measures taken.
Responsible Agency	CPUC, BLM, State Parks (for ABDSP), USFWS and CDFG
Timing	During and after construction.
MITIGATION MEASURE	B-11a: Prepare and implement a Raven Control Plan. The applicant shall prepare and implement a Raven Control Plan where it occurs in FTHL habitat inside and outside FTHL MAs. The Raven Control Plan shall also cover where desert tortoise has potential to occur outside of ABDSP. The raven control plan shall include the use of raven perching/nesting deterrents (such as those manufactured by Prommel Enterprises, Inc. [www.ZENAdesign.com], Mission Environmental [www.missionenviro.co.za], or Kaddas Enterprises, Inc. [www.kaddas.com] and/or shall describe the procedure for obtaining a permit from the USFWS Law Enforcement Division to legally remove ravens. The plan shall identify the purpose of conducting raven control; provide training in how to identify raven nests and how to determine whether a nest belongs to a raven or a raptor species; describe the seasonal limitations on disturbing nesting raptors; and describe procedures for documenting the activities on an annual basis. The applicant shall obtain approval of this plan from the USFWS prior to the start of construction. The applicant shall work with the USFWS until approval of a plan is obtained.
Location	FTHL habitat inside and outside FTHL MAs, and where desert tortoise has potential to occur, outside ABDSP.
Monitoring/Reporting Action	BLM/CPUC biological monitor shall verify that SDG&E submitted a raven control plan and received approval from USFWS prior to construction, and that the plan is implemented after construction.
Effectiveness Criteria	A raven control plan is submitted by SDG&E, approved by USFWS, and implemented.
Responsible Agency	BLM, CPUC, and USFWS Law Enforcement Division.
Timing	Prior to construction for approval of the raven control plan and after construction for implementation of the plan.
MITIGATION MEASURE	B-11b: Prepare and implement a Raven Control Plan for ABDSP. The applicant shall work with ABDSP to prepare and implement a Raven Control Plan to deter ravens from perching and nesting on new transmission towers in ABDSP. These deterrents could include the placement of perching and nesting prevention devices that would not cause harm to birds, such as those manufactured by Prommel Enterprises, Inc. (ZENAdesign.com), Mission Environmental (www.missionenviro.co.za), or Kaddas Enterprises, Inc. (www.kaddas.com). The applicant shall obtain approval of this plan from the USFWS and State Parks prior to the start of construction. The applicant shall work with the USFWS and State Parks until approval of a plan is obtained.
Location	ABDSP
Monitoring/Reporting Action	BLM/CPUC biological monitor to verify that SDG&E submitted a raven control plan and received approval from USFWS and ABDSP prior to construction, and that the plan is implemented after construction.

Table D.2-24. Mitigation Monitoring Program – Biological Resources

Effectiveness Criteria	A raven control plan is submitted by SDG&E, approved by ABDSP and USFWS, and implemented.
Responsible Agency	BLM, CPUC, and State Parks
Timing	Prior to construction for approval of the raven control plan and after construction for implementation of the plan.
MITIGATION MEASURE	<p>B-12a: Conduct maintenance activities outside the general avian breeding season. The applicant shall educate all maintenance workers about the sensitivity of biological resources associated with the project and the necessity to avoid unauthorized impacts to them.</p> <p>In areas not cleared of vegetation in the prior two years, all vegetation clearing, except tree trimming or removal, shall take place between September 16 and February 14 (i.e., outside of the general avian breeding season of February 15 through September 15). Tree trimming or removal shall only take place between September 16 and December 31 (i.e., outside the raptor breeding season of January 1 through September 15).</p> <p>Other maintenance activities shall occur outside the general avian breeding season where feasible. For other maintenance activities that cannot occur outside the above-listed breeding seasons, a qualified biologist shall work with a qualified acoustician to determine if a maintenance activity would meet or exceed the 60 dB(A) Leq hourly noise threshold where nesting territories of the coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, and burrowing owl occur. If the noise threshold would not be met or exceeded at the edge of their nesting territories, then maintenance may proceed. If the noise threshold would be met or exceeded at the edge of their nesting territories, pre-maintenance surveys for nests of these species shall be conducted by a qualified biologist (USFWS permitted biologist for gnatcatcher, vireo, and flycatcher) within 300 feet of the maintenance area no more than seven days prior to initiation of maintenance that would occur between February 15 and August 30 for the gnatcatcher, March 15 and September 15 for the vireo, April 15 and September 15 for the flycatcher, and February 1 and August 31 for the burrowing owl. If active nests are found, work may proceed provided that methods, determined by the qualified acoustician to be effective, are implemented to reduce noise below the threshold. These methods include, but are not limited to, turning off vehicle engines and other equipment whenever possible and/or installing a protective noise barrier between a nesting territory and maintenance activities. If the qualified acoustician determines that no methods would reduce noise to below the threshold, maintenance shall be deferred until the nestlings have fledged as determined the qualified biologist. Where noise-reducing methods are employed, active nests shall be monitored by the qualified biologist on a weekly basis until maintenance is complete or until the nestlings fledge, whichever comes first. The qualified biologist shall be responsible for documenting the results of the pre-maintenance nest surveys and the nest monitoring and for reporting these results to the CPUC, BLM, Wildlife Agencies, State Parks (for maintenance in ABDSP), and USDA Forest Service (for alternatives with maintenance on National Forest lands).</p> <p>Animal Burrows/Dens. If any animal burrows or dens are identified during the pre-maintenance surveys for active bird nests, soil in a brush-clearing area shall be sufficiently dry before brush clearing to prevent damage to burrows or dens. At any time of year where maintenance would occur in occupied SKR habitat, all equipment and vehicles shall remain on existing access roads/staging areas (e.g., they shall not pull off the shoulder) to prevent the crushing of SKR burrows.</p>
Location	Entire project area.
Monitoring/Reporting Action	A qualified biologist shall conduct surveys and monitoring, and ensure compliance with APMs and the mitigation.
Effectiveness Criteria	Successful avoidance/minimization of impacts to nesting birds and prevention of damage to burrows or dens.
Responsible Agency	BLM, CPUC, USFWS, CDFG, state parks (for ABDSP) and USDA Forest Service (for USFS land).
Timing	Prior to and during maintenance (post construction).
MITIGATION MEASURE	<p>B-12b: Conduct maintenance when arroyo toads are least active. To avoid impacts to arroyo toads during project maintenance (specifically the use and maintenance of access roads within 2 kilometers of occupied toad habitat), use and maintenance of these access roads shall only occur between two hours after sunrise until two hours before sunset.</p>

Table D.2-24. Mitigation Monitoring Program – Biological Resources

Location	Access roads where occupied habitat (or potential habitat where absence has not been established) occurs.
Monitoring/Reporting Action	A qualified biologist shall ensure compliance with construction time restrictions.
Effectiveness Criteria	Avoidance of impacts to arroyo toads on access roads
Responsible Agency	BLM, CPUC
Timing	During maintenance (post construction).
MITIGATION MEASURE	B-12c: Maintain access roads and clear vegetation in quino checkerspot butterfly habitat. If access roads in QCB-occupied or potentially occupied habitat (see Impact B-7J and Mitigation Measure B-7i) are maintained (i.e., regraded) and vegetation around structures is cleared at least once every two years, then no additional mitigation shall be required for this ongoing maintenance. If more than two years pass without regrading or clearing, then the maintenance shall be considered a new impact to QCB habitat and shall be mitigated as prescribed in Mitigation Measure B-7i (i.e., protocol pre-maintenance survey, biological monitoring, and avoidance or mitigation).
Location	Access roads in occupied or potential occupied habitat.
Monitoring/Reporting Action	A qualified biologist shall provide monitoring to ensure compliance.
Effectiveness Criteria	Avoidance or mitigation of impacts to QCB
Responsible Agency	BLM, CPUC
Timing	During maintenance (post construction).

D.2.28 References

- American Institute of Physics. 2005. The 60-dB rule for birds: An example of the application of a weighting function in environmental impact mitigation. *Acoustical Society of America Journal*, Volume 118, Issue 3, pp. 2018-2018 (2005). <http://adsabs.harvard.edu/abs/2005ASAJ.118.2018B>. Accessed July 14, 2007.
- Avian Power Line Interaction Committee (APLIC). 2006. Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006. Edison Electric Institute, APLIC, and California Energy Commission. Washington, D.C. and Sacramento, California.
- Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute, Washington, D.C. 78pp.
- Baldeagleinfo.com. 2007. <http://www.baldeagleinfo.com/eagle/eagle7.html>. Accessed April 26.
- _____. 2007. <http://www.baldeagleinfo.com/eagle/eagle4.html>. Accessed April 26.
- Bats of San Diego County. 2006. <http://home.earthlink.net/~cmsquare/>.
- Beauchamp, R.M. 1986. *A Flora of San Diego County, California*. Sweetwater Press, National City, California, 241 pp.
- Bighorn Institute. 2007. Endangered Peninsular Bighorn Sheep. <http://www.bighorninstitute.org/endangered.htm>. Accessed December 5.
- Bittner, David. 2007. Personal communication with Wildlife Research Institute.
- Bureau of Land Management (BLM). 2007. California Desert Conservation Area. http://www.blm.gov/ca/st/en/fo/cdd/cdca_q_a.html. Accessed January 16, 2007.
- _____. 2004. Exploring the Yuha Desert. [online publication]
- _____. 2004. List of California-BLM Sensitive Plants. http://www.blm.gov/ca/pdfs/pa_pdfs/biology_pdfs/SensitivePlants.pdf. Accessed July 13, 2007.
- _____. 1988. San Felipe Hills Wilderness Study Area. http://www.blm.gov/ca/pa/wilderness/wsa/fo/elcentro_wsa.html. Accessed January 22, 2007.
- _____. 1981. Eastern San Diego County Planning Unit Management Framework Plan. April.
- _____. 1980. The California Desert Conservation Area Plan.
- CaliforniaHerps.com. 2007. *Coleonyx switaki switaki* - Peninsular [Barefoot] Banded Gecko. <http://www.californiaherps.com/lizards/pages/c.switaki.html>. Accessed June 29.
- California Department of Fish and Game (CDFG). 2007a. San Diego Multiple Species Conservation Program (2004). http://www.dfg.ca.gov/nccp/mscp/mscp_home.htm. Accessed January 19.
- _____. 2007b. Habitat Conservation Planning Branch. <http://www.dfg.ca.gov/hcpb/species/species.shtml>.
- _____. 2007c. Burrowing Owl Life History. <http://www.delta.dfg.ca.gov/gallery/buowl.asp>. Accessed April 26.
- _____. 2006a. California Wildlife Action Plan, Wildlife Species Matrix. http://www.dfg.ca.gov/habitats/wdp/matrix_search.asp.
- _____. 2006b. California's Plants and Animals, Barefoot Banded Gecko. http://www.dfg.ca.gov/hcpb/cgi-bin/read_one.asp?specy=reptiles&idNum=13. Accessed June 29, 2007.

- _____. 1990. California's Wildlife. Volumes II (Birds) and III (Mammals). Edited by David C. Zeiner, William F. Laudenslayer, Jr., Kenneth Mayer, and Marshall White. State of California, Resources Agency, Sacramento, CA.
- _____. 1988a. A Guide to Wildlife Habitats of California. Edited by Kenneth M. Mayer and William F. Laudenslayer, Jr. State of California, Resources Agency, Sacramento, CA. 166 pp.
- _____. 1988b. California's Wildlife. Volume I Amphibians and Reptiles. Edited by David C. Zeiner, William F. Laudenslayer, Jr., and Kenneth Mayer. State of California, Resources Agency, Sacramento, CA.
- California Energy Commission (CEC). 2007. Helix communication with Linda Spiegel. April 25.
- Calflora. 2006. <http://www.calflora.org/>.
- California Invasive Plant Council (Cal-IPC). 2006. California Invasive Plant Inventory. Cal-IPC Publication 2006-02. California Invasive Plant Council; Berkeley, CA. Online database <http://www.cal-ipc.org/ip/inventory/weedlist.php>. Accessed September 25, 2007.
- California Natural Diversity Data Base (CNDDB). 2007. RareFind Database Program, Version 3.1.0. Data updated September 30.
- California Native Plant Society (CNPS). 2007. Inventory of Rare and Endangered Plants. Internet searchable database Version 7-07c. <http://cnps.web.aplus.net/cgi-bin/inv/inventory.cgi>. Updated quarterly. July 9.
- California State Parks. 2005. Anza-Borrego Desert State Park Final General Plan and EIR. February 11.
- Center for Biological Diversity. 2007. Least Bell's Vireo. http://www.esasuccess.org/reports/profile_pages/LeastBellsVireo.html). Accessed July 23.
- _____. 2003a. Peninsular Bighorn Sheep. <http://www.biologicaldiversity.org/swcbd/species/bighorn/index.html>. May 21. Accessed April 26, 2007.
- _____. 2003b. Desert Pupfish. <http://www.biologicaldiversity.org/swcbd/SPECIES/pupfish/index.html>. July 3. Accessed April 27, 2007.
- _____. 2003c. Desert Tortoise. <http://www.biologicaldiversity.org/swcbd/SPECIES/tortoise/index.html>. July 3. Accessed April 27, 2007.
- CRES (Conservation and Research for Endangered Species). 2007. California Condor Soars In San Diego Skies; Public Can Aid Researchers. http://cres.sandiegozoo.org/projects/sp_condor_sighting.html. Accessed July 12.
- Desert Managers Group. 2002. San Sebastian Marsh-San Felipe Creek Watershed Restoration Project Federal FY03 Annual Work Plan. [online publication] August 21.
- Dudek and Associates. 2001. Western Riverside County MSHCP Least Bell's Vireo Species Account http://ecoregion.ucr.edu/full.asp?sp_num=65. Accessed April 26, 2007.
- Edison Electric Institute, USDA Forest Service, BLM, USFWS, National Park Service, and the Environmental Protection Agency. 2006. Memorandum of Understanding. May 25. http://www.eei.org/industry_issues/environment/land/vegetation_management/EEI_MOU_FINAL_5-25-06.pdf.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. with Appendices.

- Ervin, E.L. and R.N. Fisher. 2000. Clarification of locality records for the arroyo toad (*Bufo californicus*) from the desert region of San Diego County, California. Abstract of paper given at Arroyo Toad (*Bufo californicus*) Symposium, Camp Pendleton, Camp Pendleton, Marine Corps Air Station, San Diego, CA. September.
- Faulkner, David and Michael Klein. 2003. San Diego's Sensitive Butterflies. A Workshop Focusing on Nine Local Species. December.
- Flat-Tailed Horned Lizard Interagency Coordinating Committee. 2003. Flat-Tailed Horned Lizard Range-wide Management Strategy, 2003 Revision. An Arizona-California Conservation Strategy. May.
- GobBC (official website of the Baja California government), 2007. Baja California Government, 2007. Accessed October.
- Hayes, M. P., and M. R. Jennings. 1988. Habitat correlates of distribution of the California red-legged frog (*Rana aurora draytonii*) and the foothill yellow-legged frog (*Rana boylei*): Implications for management. Pages 144-158 In: R. Sarzo, K. E. Severson, and D. R. Patton (technical coordinators). Proceedings of the Symposium on the Management of Amphibians, Reptiles, and small mammals in North America. U.S.D.A. Forest Service General Technical Report RM-166.
- Helix Environmental Planning, Inc. 2006. Deborah Leonard, personal observation in Valley Center.
- Henry, M.C. and A.S. Hope. 1998. Monitoring post-burn recovery of chaparral vegetation in southern California using multi-temporal satellite data. Int. J. Remote Sensing; Vol. 19, No. 16; 3097-3107.
- Hickman, J.C., ed. 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley, 1400 pp.
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, State of California, Department of Fish and Game, Sacramento, 156 pp.
- Liebezeit, J.R. and T.L. George. 2002. A Summary of Predation by Corvids on Threatened and Endangered Species in CA and Management Recommendations to Reduce Corvid Predation. California Department of Fish and Game, Species Conservation and Recovery Program Report 2002-02, Sacramento, CA. 103 pp.
- Jorgensen, Paul. 2006. E-mail submitted to SDBIRDS@yahoo.com (San Diego and Imperial County Birding discussion group). June 24.
- Manville II², Albert M. 2005. Bird Strikes and Electrocutions at Power Lines, Communication Towers, and Wind Turbines: State of the Art and State of the Science – Next Steps Toward Mitigation. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191: 1051-1064. MCAS Miramar INRMP. 2005. Integrated Natural Resources Management Plan for Marine Corps Air Station Miramar, California.
- Memorandum of Understanding (MOU). 2004. MOU Between United States Department of the Interior, BLM, CDFG, California Department of Parks and Recreation, University of California at Davis, U.S. Fish and Wildlife Service, and U.S. Geological Survey Regarding the Conservation and Management of the San Felipe, Fish, Vallecito, and Carrizo Creek Watersheds, San Diego and Imperial Counties, California. July 15.
- Oberbauer, T. 1996. Terrestrial Vegetation Communities in San Diego County Based on Holland's Descriptions. San Diego Association of Governments, San Diego, California, 6 pp.
- P and R Technologies. 2007. <http://www.pr-tech.com/>; accessed 7/13, 2007.
- Palmer, Ralph S. 1988. Handbook of North American Birds; Volume 4, Diurnal Raptors (Part I).

- Pandion Systems, Inc. 2006. Draft Avian Interaction with Power Lines: A Risk Assessment Analysis for the Proposed Sunrise Powerlink Project. July 21.
- Parisi, Monica D. 1999. *Barren*. California Wildlife Habitat Relationships System, California Department of Fish and Game California Interagency Wildlife Task Group.
- Pavlik, Bruce M., Pamela C. Muick, Sharon Johnson, and Marjorie Popper. 1991. *Oaks of California*. Cachuma Press: Olivos, CA.
- Raptor Research Foundation, Inc. 1981. Suggested Practices for Raptor Protection on Power Lines.
- Rebman, Jon P. and Michael G. Simpson. 2006. Checklist of the Vascular Plants of San Diego County, 4th Edition. San Diego Natural History Museum and San Diego State University.
- Reiser, Craig, H. 2001. Rare Plants of San Diego County. Aquafir Press.
- Rorabaugh, J.C., C.L. Palermo, and S.C. Dunn. 1987. Distribution and relative abundance of the flat-tailed horned lizard (*Phrynosoma mcallii*) in Arizona. *Southwest. Natural*. 32(1):103-109.
- Rubin, Esther S., Walter M. Boyce, Mark C. Jorgensen, Steve G. Torres, Charles L. Hayes, Chantal S. O'Brien, and David A Jessup. 1998. Distribution and abundance of bighorn sheep in the Peninsular Ranges, California. *Wildlife Society Bulletin*, 26(3):539-551.
- Sakarias, Michael. 1975. Cleveland National Forest: San Diego's Watershed. *The Journal of San Diego History*; Vol. 21, No. 4. Fall. <http://www.sandiegohistory.org/journal/75fall/cleveland.htm>. Accessed October 18, 2007.
- San Diego Association of Governments (SANDAG). 2006. Habitat Conservation Planning Fact Sheet. [online publication] March.
- San Dieguito River Park Joint Powers Authority (JPA). 2002. San Dieguito River Park Concept Plan. February 15 (updated February 15, 2002; adopted February 18, 1994).
- Sawyer, J. O., and T. Keeler-Wolf. 2006. Helix communication with Mark Jorgensen, Superintendent, Anza-Borrego Desert State Park. October 4.
- _____. 1995. A manual of California Vegetation. California Native Plant Society. Sacramento, California. State Parks. 2007. Helix communication with Scot Martin, Anza-Borrego Desert State Park. May 22.
- Sempra, 2007. Sempra Generation Signs Wind-Power Contract With Southern California Edison. http://public.sempra.com/newsreleases/viewPR.cfm?PR_ID=2183&Co_Short_Nm=SE. July 2. Accessed November 5
- Sproul, Fred T. 2007. Helix communication with Botanist/Revegetation Specialist.
- State Parks. 2007a. Helix communication with Anza-Borrego Desert State Park staff. July 10.
- _____. 2007b. Helix communication with Anza-Borrego Desert State Park staff, Conservation Biology Institute, U.S. Fish and Wildlife Service, and California Department of Fish and Game. February 1.
- _____. 2006. Helix communication with Anza-Borrego Desert State Park staff. October 4.
- Steward, Daniel. 2007. Biologist, Bureau of Land Management. January 5.
- The California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines. April.
- The California Environmental Resources Evaluation System (CERES). 2003. California's Bioregions. http://ceres.ca.gov/geo_area/bioregions/mapindex.html. Accessed summer 2007.

- The Desert Tortoise Council. 1999. Guidelines for Handling Desert Tortoises During Construction Projects. Prepared for the U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, California Department of Fish and Game, Nevada Department of Wildlife, Arizona Game and Fish Department, and Utah Division of Wildlife Resources.
- Turner, R.M. and D.E. Brown. 1982. Sonoran desert scrub. *In* Biotic Communities of the American Southwest—United States and Mexico. *Desert Plants* 4(1-4):181-221.
- Unitt, Philip. 2004. San Diego County Bird Atlas. San Diego Natural History Museum.
- _____. 2007. Collection Manager, Department of Birds and Mammals, San Diego Natural History Museum. E-mailed communication to Helix, May 29 and June 6.
- Unitt, Philip et al. 1995. *Noteworthy Records of Birds in Northwestern Baja California, Mexico*. *Western Birds* 26: 144-154.
- U.S. Department of Agriculture-Forest Service(USDA). 2007a. Cleveland National Forest MIS Report.
- _____. 2007b. Modeled habitat and species location data for the Cleveland National Forest.
- _____. 2007c. Biology information on animal species occurring in the USDA Forest Service lands in Southern California (SoCal Biodiversity – Animals). <http://www.fs.fed.us/r5/scfpr/projects/lmp/docs/species-animals.pdf>.
- _____. 2005. Land Management Plan; Part 2 Cleveland National Forest Strategy; R5-MB-077. September.
- _____. 2000. Southern California conservation strategy province consultation package. Unpublished document submitted to the U.S. Fish and Wildlife Service.
- U.S. Department of Agriculture-Soil Conservation Service. 1985. “Hydric Soils of the United States,” USDA-SCS National Bulletin No. 430-5-91 Washington, D.C.
- U.S. Fish and Wildlife Service (USFWS). 2007a. Carlsbad Fish and Wildlife Office; <http://www.fws.gov/carlsbad/>.
- _____. 2007b. Service Early Comments on the Listing of Mitigation Measures for the Sunrise Powerlink Project San Diego and Imperial Counties, California. June 29.
- _____. 2007c. Biological Opinion (FWS-ERIV-4993.1) Shadowrock Development Corporation (Corps File No. 200502136-DPS), City of Palm Springs, Riverside County, California. March 14.
- _____. 2007d. Helix communication with USFWS biologist Chris Otahal. April 12.
- _____. 2006. Occurrence Information for Multiple Species within the Jurisdiction of the Carlsbad Fish and Wildlife Office. April.
- _____. 2005. Biological and Conference Opinions on the Revised Land and Resource Management Plans for the Four Southern California National Forests, California (1-6-05-F-773.9). September 15.
- _____. 2002a. Southwestern Willow Flycatcher Recovery Plan. Albuquerque, New Mexico. i-ix + 210 pp., Appendices A-O.
- _____. 2002b. Quino Checkerspot Butterfly (*Euphydryas editha quino*) Survey Protocol Information. February 12.
- _____. 2002c. San Diego Fairy Shrimp. http://ecos.fws.gov/docs/life_histories/K049.html. Accessed April 27, 2007.

- _____. 2002d. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Quino Checkerspot Butterfly (*Euphydryas editha quino*); Final Rule. April 15.
- _____. 2001. Quino Checkerspot Butterfly (*Euphydryas editha quino*) Draft Recovery Plan. January.
- _____. 2000a. Recovery Plan for Bighorn Sheep in the Peninsular Ranges, California. October 25.
- _____. 2000b. Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the Coastal California Gnatcatcher; Final Rule. October 24.
- _____. 1999a. Biological Opinion on the Proposed Ritz-Carlton Golf Course, Riverside County, California. June 23.
- _____. 1999b. Bald Eagle Estimated Number of Breeding Pairs by State. <http://www.fws.gov/migratorybirds/issues/BaldEagle/Breeding%20Pair%20MAP.FLT.pdf>. Accessed June 1, 2007.
- _____. 1999c. Recovery Plan for the Arroyo Southwestern Toad. July 24.
- _____. 1999d. Survey Protocol for the Arroyo Toad. May 19.
- _____. 1973. Federal Endangered Species Act. As amended November 24, 2003.
- U.S. Geological Survey (USGS). 2004. 2000-2002 Anza-Borrego Desert State Park Amphibian Survey. March.
- Western Area Power Administration. 2007. 2007. Helix communication with Misti Schriener. July 13.