BIOLOGICAL RESOURCES TECHNICAL REPORT
FOR THE
MIGUEL-MISSION #2 230kV PROJECT

Prepared for

SAN DIEGO GAS & ELECTRIC
101 ASH STREET, HQ05C
SAN DIEGO, CA 92101

Prepared by

ESSEX ENVIRONMENTAL
1903 WRIGHT PLACE, SUIT 190
CARLSBAD, CA 92008

Updated by

RECON ENVIRONMENTAL
1927 FIFTH AVENUE
SAN DIEGO, CA 92101

RECON NUMBER 3698B
JANUARY 29, 2004

1927 Fifth Avenue
San Diego, CA 92101-2358
P 619.308.9333 F 619.308.9334

RECON

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF TABLES

LIST OF ATTACHMENTS

1. INTRODUCTION

1.1 BACKGROUND AND PURPOSE

San Diego Gas and Electric (SDG&E) proposes to construct the Miguel–Mission 230kV #2 Project (Project). The purpose of this Biological Technical Report is to report the findings of biological surveys conducted for this project in 2002 and 2003 as a supplement to SDG&E's Proponent's Environmental Assessment (PEA) filed as part of its application for a Certificate of Public Convenience and Necessity (CPCN) for the Project submitted to the California Public Utilities Commission (CPUC).

1.2 PROJECT DESCRIPTION

The approximately 35-mile project would lie entirely within San Diego County, passing through the cities of San Diego and Santee, the Marine Corps Air Station (MCAS) Miramar, and unincorporated areas in the eastern portion of the County (Figure 1; all Figures are in Attachment 1). Project components include the addition of a new 230kV transmission circuit; modification or replacement of existing steel pole and lattice tower support structures currently occupied by existing 138kV and 69kV circuits, the relocation of such 69kV and 138kV circuits onto new steel and wood pole structures to be installed within the existing SDG&E right-of-way between the Miguel Substation and Fanita Junction, the installation of a new 230kV circuit onto vacant positions on existing 230kV support structures between Fanita Junction and the Mission Substation, and modifications to the Miguel and Mission Substations for interconnection of the new 230kV circuit. Several new 230kV support structures may be installed in the vicinity of the Miguel, Mission, and Los Coches Substations to complete the routing of the new 230kV circuit. With the possible exception of certain access roads, pulling/tensioning sites, and staging areas, the proposed Project activities and facilities would be located entirely within the existing SDG&E right-of-way and/or within SDG&E-owned substation property. The existing right-of-way width varies from 250 feet to 200 feet to 150 feet at various points along the project route. These varying right-of-way widths are depicted in the PEA (refer to the PEA, Figures 1-6 through Figures 1-11).

1.3 PROJECT AREA

The existing project right-of-way begins at SDG&E's Miguel Substation in Sunnyside, an unincorporated county area south of the Sweetwater Reservoir. Heading northeast, the existing right-of-way crosses the Sweetwater River and the Cottonwood at Rancho San Diego Golf Club course. Continuing north and northeast, the existing right-of-way travels near residential developments and through undeveloped areas in and around Cottonwood, Crest, Glenview, Johnstown, and adjacent avocado groves—all unincorporated county areas—before it crosses Interstate 8 south of Lake Jennings to the Los Coches Substation at the intersection of El Monte and Lake Jennings roads. The existing right-of-way then heads north across the San Diego River to the southern edge of Louis A. Stelzer County Park, where it turns west and crosses State Route 67, residential portions of the community of Eucalyptus Hills, and into Santee. It traverses portions of the Santee Lakes Regional Park and Campground and the southeast corner of MCAS Miramar. After approximately one mile, the SDG&E right-of-way turns southwest at a point

called Fanita Junction, and then crosses State Route 52 traversing open space areas within Mission Trails Regional Park. After exiting the park, the existing right-of-way continues southwest near the community of Tierrasanta, crosses Interstate 15 north of Friars Road, then turns west. The existing project right-of-way continues west until it terminates at SDG&E's Mission Substation, located on the east side of Interstate 805 and north of Friars Road in Mission Valley. See Figures 2-1 through 2-7, and Figure 3 in Attachment 1.

1.4 ENVIRONMENTAL SETTING

San Diego County is a biologically diverse region that supports rare and declining native habitats, numerous federal and state-listed plant and animal species, and an increasing amount of federally designated critical habitat for listed species. The environmental setting of the project right-of-way generally encompasses rivers, ephemeral drainages, vernal pools, riparian woodland, annual grasslands, and large expanses of native coastal sage scrub and chaparral. The right-of-way passes through a section of Mission Trails Regional Park and the San Diego National Wildlife Refuge Otay-Sweetwater Unit. It also passes within the boundaries of multi-jurisdictional regional habitat conservation plans administered by the County of San Diego, the City of San Diego, MCAS Miramar, and SDG&E to conserve threatened and endangered species and their habitats in these regions. In addition, the Project would cross or be in the vicinity of highways, roads, commercial and residential areas, county and city parks, and golf courses.

1.5 SDG&E NATURAL COMMUNITY CONSERVATION PLAN

Regional planning strategies under the California Endangered Species Act (CESA), the California Natural Community Conservation Plan Act (NCCPA), and the federal Endangered Species Act (ESA) provide for the protection, preservation, and conservation of multiple species listed as endangered, threatened or candidates under such acts, their habitats, natural communities, and natural resources. Such planning strategies allow appropriate development and economic growth within the state and provide measures for plant and wildlife protection and conservation through a long-term multi-species habitat-based approach.

Under this program, U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), and other stakeholders have evaluated, or are evaluating, the distribution and extent of species and habitat in California. The ultimate goal of these evaluations is to develop a system of interconnected ecosystem preserves. Development and implementation of regional multi-species preserve systems is intended to protect viable populations of key sensitive plant and animal species and their habitat while accommodating continued economic development and quality of life for residents of the region.

In December 1995, USFWS and CDFG approved SDG&E's Subregional Natural Community Conservation Plan (NCCP), developed in coordination with such agencies, that addresses potential impacts to sensitive resources associated with SDG&E's ongoing installation, use, maintenance, and repair of its gas and electric systems and typical expansion to those systems throughout much of SDG&E's existing service territory. As a part of the NCCP, SDG&E has been issued incidental take permits (Permit PRT-809637) by USFWS and CDFG for 110 covered species. The NCCP was developed following the multiple species and habitat

conservation planning approach. The NCCP includes mitigation measures and operational protocols designed to avoid potential impacts and to provide appropriate mitigation where such impacts are unavoidable to ensure the protection and conservation of listed and covered species. These Operational Protocols are in Attachment 2. The Project falls within the area in which SDG&E's utility operations are governed by the NCCP, with the exception of the areas on MCAS Miramar. For this Project, SDG&E has adopted the mitigation measures and operational protocols contained in the NCCP as well as project-specific protocols.

While the project area is located in areas included within the County of San Diego and the City of San Diego's multiple species habitat conservation plans, SDG&E's public utility activities, such as the proposed project, are not subject to the regulatory jurisdiction of such local governments and, therefore, are not governed by the terms and conditions of such plans. However, in implementing its NCCP for the Project, SDG&E would coordinate with the County of San Diego and the City of San Diego to achieve consistency with those existing habitat conservation plans to the extent feasible. Where consistency with those conservation plans is not feasible, SDG&E's NCCP provides for appropriate protocols and mitigation measures to protect natural community and natural resource values in those habitat conservation planning areas.

2. METHODS

2.1 LITERATURE SEARCH

Preliminary investigations included information obtained from the USFWS and the CDFG; literature searches encompassing an area within five miles of the project area; examination of aerial photographs (scale: approximately 1:3,500); and database searches, including:

- City of San Diego Habitat Conservation Plan (HCP)/Multiple Species Conservation Program (MSCP) Subarea Plan;
- San Diego County MSCP Subarea Plan; and
- California Native Plant Society (CNPS) and the California Natural Diversity Database (NDDB) records for the La Jolla, La Mesa, El Cajon, Poway, San Vicente, and Mount Jamul U.S. Geological Survey (USGS) quadrangles.

Sensitive Species Geographic Information System (GIS) maps provided by SDG&E and environmental documents prepared for other public and private projects in the vicinity, were also reviewed. A comprehensive list of special-status species was compiled. It includes:

- Species listed as endangered or threatened, proposed for listing, or as candidates for listing under the ESA (CDFG 2003a, 2003b; USFWS 2002);
- Species listed as endangered or threatened or as candidates for listing under the CESA (CDFG 2003a, 2003b);
- Species included in one of the CDFG publications on species of special concern (Jennings and Hayes 1994; Moyle et al. 1995; Remsen 1978; Williams 1986);
- Species "fully protected" by the state of California (Fish and Game Code Section 355, 3503, 3511, 4700, 5050);
- Species protected under the Migratory Bird Treaty Act;

- Covered species in the SDG&E NCCP;
- Species in the CNPS inventory (CNPS 2001); and
- Plant species that meet the definition of rare or endangered under the California Environmental Quality Act (CEQA).

2.2 AGENCY CONSULTATION

Prior to filing an application to the CPUC for CPCN, SDG&E developed and instituted an outreach program for the project to ensure that the appropriate public and federal, state, and local agencies were contacted, consulted, and given ample opportunity to understand the project and to comment on the proposed route. The outreach program is described in Chapter 9 of the PEA. Consultation is ongoing with the CPUC, the USFWS, the CDFG, and other agencies as necessary

2.2.1 Agency Scoping Process

Initial contacts were made in February through June 2002 to describe the project to appropriate agencies with jurisdiction in the project area. Follow-up calls were made to the agencies to address any questions. Specific correspondence with agencies regarding biological issues and concerns about the project appear in SDG&E's *Miguel–Mission 230kV #2 Project Proponent's Environmental Assessment*, Chapter 9 (PEA). Letters and/or e-mail correspondence and follow-up calls were received by and/or from:

- USFWS, Sandra Marquez, telephone conversation dated May 21, 2002;
- USFWS, Sandra Marquez, e-mail dated May 22, 2002; and
- CDFG, Dave Mayer, letter dated June 21, 2002.
- USFWS, Sandra Marquez and CDFG, Dave Mayer, site visit, October 17, 2003.
- USFWS, Sandra Marquez and CDFG, Dave Mayer, Comments on the Preactivity Submittal for San Diego Gas and Electric Miguel to Mission 230kV #2 Project–Quino Checkerspot Butterfly and Fairy Shrimp/Vernal Pool Evaluation, January 6, 2004 (USFWS 2004).

Summary of Agency Issues and Concerns

U.S. Fish and Wildlife Service

The USFWS acknowledged via e-mail that:

- The list of species for which focused surveys would be conducted was complete;
- The species surveys to be conducted would be protocol level;
- A Section 7 consultation under the ESA may be necessary if the project is likely to affect listed species on MCAS Miramar; if the project is "not likely to adversely affect," then a concurrence could be issued on a "not likely to adversely affect" and the remainder of the project would be covered under SDG&E's NCCP; and
- If the project is "likely to adversely affect" listed species on MCAS Miramar, a Biological Opinion (BO) would be prepared based on the project description for the entire project, but the "Terms and Conditions" under the BO would apply only to the Miramar portion of the project, and the remainder of the project would be covered under SDG&E's NCCP.

2.3 FIELD SURVEYS

It is SDG&E's goal to limit Project activity and ground disturbance to SDG&E's existing right-of-way and facilities to the extent feasible. Therefore, field surveys were conducted in appropriate habitat within and along SDG&E's existing right-of-way (unless otherwise stated below), the Miguel, Los Coches, and Mission Substations, and along known access roads. There is a possibility that some project activities (such as staging areas, pulling/tensioning sites, and new access or spur roads) may occur outside of SDG&E's existing right-of-way or facilities. However, where these staging areas, pulling/tensioning sites, and spur roads occur within the 500-foot corridor surveyed for this report (see Figure 2, Map 1 through Map 7 and Figure 4, Map 1 through Map 40) these areas were covered in the field surveys conducted for the project.

2.3.1 Reconnaissance and Habitat Assessment Surveys

Reconnaissance and habitat assessment surveys were conducted in February, March, and April 2002, and again in April 2003, to determine habitat suitability for plant and wildlife species covered under SDG&E's NCCP. Many of these species are not only covered under the NCCP but also have federal and state protection. Aerial photography of the entire project route aided the reconnaissance and habitat assessment surveys in identifying potential habitats, such as riparian woodland, coastal sage scrub, chaparral, and annual grassland, within and adjacent to the existing project right-of-way. As discussed previously, the right-of-way width varies from 250 feet to 200 feet to 150 feet. Where possible and feasible, an area approximately 500 feet wide (approximately 250 feet on either side of the existing right-of-way centerline) as well as access roads to be used during project activities were surveyed for suitable habitat for covered species and assessed for vegetation type. Surveys were conducted using vehicles and on foot along access roads and around tower locations. Meandering transects were also conducted on foot through the surrounding habitat within the 500-foot survey corridor. A meandering transect is a type of survey search pattern that minimizes overlap and maximizes survey coverage in a given area. In some areas, due to steep terrain and narrow ridgelines, it may not have been possible to extend the survey coverage to 500 feet. These assessment surveys determined which wildlife species had potential to occur, or would require USFWS protocol-level surveys.

2.3.2 Plants

Sensitive Plant Species and Rare Natural Plant Communities

Sensitive plant species include special-status species listed by the USFWS or CDFG as endangered, threatened, proposed, or candidate species and plant species listed by federal land management agencies as sensitive or rare. Sensitive plant species include those occurring on the CNDDB (CNDDB 2002) and those considered sensitive (covered species) in SDG&E's NCCP (SDG&E 1995). The SDG&E's NCCP defines covered species as federally or state-listed or candidate species, CNPS-listed species, and regionally sensitive species. Rare natural plant communities include naturally occurring complex assemblages of plant species as defined by the CNDDB Natural Communities Program in the CNPS' Inventory of Rare and Endangered Plants of California (CNPS 2001).

The sensitive plant species known to occur or with the potential to occur in the existing right-of-way appear in Table 1 and are covered by SDG&E's NCCP. Of the identified plants, three are listed as endangered by the USFWS and two are listed as threatened by USFWS. In addition, CDFG has listed six of the plant species as endangered and one as rare. All of these sensitive species are considered regionally sensitive species under SDG&E's NCCP.

A complete floristic survey of the project area, as required by USFWS and CDFG, was completed in spring and summer 2002 to determine whether sensitive plant species or rare natural plant communities occur along the existing project right-of-way within the 500-foot survey corridor. The sensitive plant surveys followed the protocol recommended in the CDFG, USFWS (1996a), and CNPS guidelines for rare plant surveys, and also followed the standards set forth in SDG&E's NCCP. All plants encountered were identified to a level necessary to ensure detection of sensitive species, if present. Plant nomenclature follows conventions used in the Jepson Manual: Higher Plants of California (Hickman 1993). See Appendix A for a list of all plant and wildlife species (common and sensitive) observed during surveys.

Field surveys were conducted by Essex Environmental biologists Dayna De Valk between May 13 and May 17, 2002, by Melanie Howe between June 21 and July 7, 2002, and by RECON biologists Diana Saucedo-Ortiz, Cheri B. Kim, Fred Edwards, Jennifer Radtkey, and Brant Primrose between April 23 to May 7, 2003 and June 4, 2003. The 500-foot survey corridor and the existing right-of-way were surveyed on foot, except where extremely steep terrain prevented safe access. Existing access roads proposed for project-related activities were also surveyed. Meandering transects were performed during the surveys within the right-of-way and existing access roads. Vegetative cover was observed and potential habitat suitable for sensitive plant species and rare natural plant communities were noted as well. Sensitive species locations and rare natural plant communities were recorded during surveys.

2.3.3 Wildlife

The majority of the vegetation communities within the 500-foot survey corridor and the existing project right-of-way provide habitat for one or more of the sensitive, listed, or covered species known to, or with the potential to occur within the vicinity of the right-of-way. Based on the literature search and the site visits, special-status wildlife, aquatic, and insect species were identified that could potentially occur within the project area. Table 2 summarizes the sensitive species, their status, documented occurrence, and the potential for their presence in the 500-foot survey corridor and along the existing right-of-way. A list of common and scientific names of wildlife species observed during the surveys appears in Attachment 3.

Protocol-level Wildlife Surveys

The potential need for species-specific protocol-level surveys for the quino checkerspot butterfly (*Euphydryas editha quino*), arroyo southwestern toad (*Bufo microscaphus californicus)*, least Bell's vireo (*Vireo bellii pusillus*), and the coastal California gnatcatcher (*Polioptila californica californica*) were confirmed with and agreed upon by the USFWS (Chomyn 2002). It was determined from reconnaissance and habitat assessment surveys that no suitable habitat existed for arroyo southwestern toad and least Bell's vireo within the project route; therefore, protocol-

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
San Diego thorn-mint *Acanthomintha ilicifolia*	FT, SE, RSS, NE	1B R-E-D 2-3-2	April–June	Observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Endemic to clay soils of mesas and valleys, usually on clay lenses within grassland or chaparral communities. Occurs between 10 to 935 meters in elevation. This species was observed in two locations within the project area. One population was observed at the south end of Mission Trails Regional Park. The second population was observed north of Tierrasanta Blvd.
San Diego ambrosia *Ambrosia pumila*	FE, RSS, NE	1B R-E-D 3-3-2	June–September	Observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Often found in slightly disturbed areas. Prefers sandy loam or clay soil. Moderate potential for occurrence. Historical occurrence north of Jamul Road and east of Steele Canyon Road near the project area. A large population was observed east of Steele Canyon Road in the project right-of-way.
Otay manzanita *Arctostaphylos otayenis*	RSS	1B R-E-D 3-2-3	January–March	Observed	Chaparral and cismontane woodland, on metavolcanic soils. Endemic to San Diego County. Occurs between 275 and 1,700 meters. Moderate to high potential for occurrence. A cluster of Otay manzanita shrubs was observed within the right-of-way south of Miller Ranch Road.
Dean's milk vetch *Astragalus deanei*	RSS	1B R-E-D 3-3-3	February-May	Observed	Chaparral, coastal sage scrub, and riparian scrub. Occurs between 75 and 670 meters. This species was observed adjacent to the Sweetwater River, east of Steele Canyon Road.

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES
(continued)

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
Orcutt's brodiaea *Brodiaea orcuttii*	RSS	1B R-E-D 1-3-2	March– September	None observed	Vernal pools, valley and foothill grassland, closed-cone coniferous forest, cismontane woodland, chaparral, and meadow. Usually observed in vernal pools and small drainages. Prefers mesic, clay habitats; sometimes serpentine substrate. Occurs between 30 and 1,615 meters. Moderate potential for occurrence. Historical occurrence in vernal pools south end of Santo Road near the project area.
Dunn's mariposa lily *Calochortus dunnii*	SR, RSS	1B R-E-D 2-2-2	May–June	Observed	Closed-cone coniferous forest and chaparral. Found on gabbro or metavolcanic soils and also known from sandstone. Often associated with chaparral. This species was observed adjacent to an access route approximately one mile south of Miller Ranch Road.
Slender-pod jewel flower *Caulanthus stenocarpus*	RSS	—	March–May	None observed	Chaparral and coastal sage scrub. Often observed after fire or disturbance. Occurs between 0 and 1,300 meters. Moderate to high potential for occurrence.
Lakeside ceanothus *Ceanothus cyaneus*	RSS	1B R-E-D 2-3-2	April–June	None observed	Closed-cone coniferous forest and chaparral. Occurs between 100 and 1,515 meters. Moderate potential for occurrence. Historical occurrence on top of a bluff between San Vicente Creek and San Diego River at their junction in Lakeside near the project area.
Variegated dudleya *Dudleya variegata*	RSS	1B R-E-D 2-2-2	May–June	Observed	Chaparral, coastal sage scrub, cismontane woodland, valley and foothill grassland, and vernal pools. Found in rocky or clay soil, sometimes associated with vernal pool margins. Occurs between 3 and 550 meters. Two locations of this species were observed along an access route north of Fanita Junction

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES
(continued)

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
Palmer's ericameria *Ericameria palmeri* ssp. *palmeri*	RSS	2 R-E-D 3-2-1	September–November	None observed	Coastal sage scrub and chaparral. Occurs in granitic soils on steep hillsides and mesic sites. Occurs between 100 and 600 meters. Moderate to high potential for occurrence. CNDDB records indicate occurrences within 5 miles of the project area.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	FE SE RSS	1B R-E-D 2-3-2	April–June	None observed	Vernal pools, coastal sage scrub, and valley and foothill grassland. Occurs in San Diego Mesa Hardpan and San Diego Mesa Claypan vernal pools and southern interior basalt flow vernal pools, and is usually surrounded by coastal sage scrub. Occurs between 15 and 620 meters. Moderate potential for occurrence. CNDDB records indicate occurrences within 5 miles of the project area.
San Diego barrel cactus *Ferocactus viridescens*	RSS	2 R-E-D 1-3-1	May–June	Present	Chaparral, coastal sage scrub, and valley and foothill grassland. Often observed on exposed, level or south-sloping areas, often in coastal sage scrub near the crest of slopes. Occurs between 3 and 485 meters. Species observed during surveys near Miguel Substation, within San Diego National Wildlife Refuge, and from Santee to the Mission Substation. Historical occurrence northeast of junction of Interstate 15 and Friars Road at the southwest end of Admiral Baker Golf Course, near the project area.
Otay tarplant *Deinandra (Hemizonia) conjugens*	FT SE RSS	1B R-E-D 3-3-2	May–June	Observed	Coastal sage scrub, valley and foothill grassland. Occurs in coastal plains, mesas, and river bottoms, often in open, disturbed areas. Clay soils. Occurs between 25 and 300 meters. Observed along access routes and surrounding towers at the San Miguel Substation.

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES
(continued)

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
Gander's pitcher sage *Lepechinia ganderi*	RSS	1B R-E-D 3-1-2	June–July	None observed	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Usually found in chaparral or coastal sage scrub; sometimes in Tecate cypress woodland. Gabbro or metavolcanic substrate. Occurs between 300 and 1,000 meters. Low to moderate potential for occurrence. CNDDB records indicate occurrences within 5 miles of the project area.
Willowy monardella *Monardella linoides* ssp. *viminea*	FE SE RSS	1B R-E-D 2-3-2	June–August	None observed	Riparian scrub, riparian woodland, riparian forest, closed cone coniferous forest, and chaparral. Found in canyons, in rocky and sandy places, and sometimes in washes or floodplains. Occurs between 50 and 400 meters. Moderate to high potential for occurrence in habitat west of the Santee Recreational Lakes Area in Sycamore Canyon. CNDDB records indicate occurrences within 1.4 miles north of the project area at Fanita Ranch.
San Diego golden star *Muilla clevelandii*	RSS	1B R-E-D 2-3-2	May	Observed	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. Occurs on mesa grasslands at the edge of scrub vegetation. Prefers clay soils. Often found on mima mounds between vernal pools. Occurs between 50 and 1,090 meters. Moderate to high potential for occurrence in the vernal pool complex south of Santo Road. Historical occurrence in vernal pools south end of Santo Road near the project area. Species observed south of Miller Ranch Road in the Mother Miguel Mountains, at the west end of Marine Corps Air Station Miramar, and within a vernal pool complex in Mission Valley.

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES
(continued)

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
Little mousetail *Myosurus minimus* ssp. *apus*	RSS	3 R-E-D 2-3-2	March–June	None observed	Vernal pools. Prefers alkaline soils. Occurs between 20 and 640 meters. Moderate to high potential for occurrence in the vernal pool complex south of Santo Road. Historical occurrence in vernal pools south end of Santo Road near project area.
Dehesa beargrass *Nolina interrata*	SE RSS	1B R-E-D 3-3-2	June–July	None observed	Chaparral. Typically found on rocky hillsides or ravines on gabbro or meta-volcanic soils. Occurs between 180 and 855 meters. Low potential for occurrence. CNDDB records indicate occurrences within 5 miles of the project area.
Snake cholla *Opuntia parryi* var. *serpentina*	RSS	1B R-E-D 3-3-2	April–May	None observed	Chaparral and coastal sage scrub, usually in more open vegetation on xeric hillsides. Moderate potential for occurrence. CNDDB records indicate occurrences within 5 miles of the project area.
San Diego mesa mint *Pogogyne abramsii*	FE SE RSS	1B R-E-D 2-3-3	April–June	None observed	Vernal pools within grassland, chamise chaparral, or coastal sage scrub communities. Endemic to San Diego County. Occurs between 90 and 200 meters. Moderate to high potential for occurrence in the vernal pool complex south of Santo Road. Known to occur at south end of Santo Road near the project area.
Munz's sage *Salvia munzii*	—	2 R-E-D 2-2-1	February-April	Observed	Chaparral, coastal sage scrub. Occurs between 120 and 1,065 meters. Observed approximately one mile south of Miller Ranch Road.
San Diego County viguiera *Viguiera laciniata*	—	4 R-E-D 1-2-1	February-June	Observed	Chaparral, coastal sage scrub. Occurs between 60 and 750 meters. Observed west of Willow Glen Drive.
San Diego Mesa Hardpan vernal pool	—	—	—	Observed	Recognized as a rare natural plant community; may contain jurisdictional wetlands. Observed at south end of Santo Road near the project area.

TABLE 1
SENSITIVE PLANT SPECIES AND RARE NATURAL PLANT COMMUNITIES
(continued)

Species	Listing Status Federal/State	California Native Plant Society List Code	Flowering/ Phenology	Presence	Habitat Type and Potential for Occurrence[1]
San Diego Mesa Claypan vernal pool	—	—	—	None observed	Recognized as a rare natural plant community; may contain jurisdictional wetlands. Low potential for occurrence. Known to occur along south edge of Sweetwater Reservoir north of the project area.

*Scientific names, common names, and habitat notes from CNPS (2001).

SAN DIEGO GAS AND ELECTRIC (SDG&E) NATRUAL COMMUNITY CONSERVATION PLAN (NCCP)
NE = Considered a narrow endemic species under SDG&E's NCCP
RSS = Regionally sensitive species covered in SDG&E's NCCP

U.S. FISH AND WILDLIFE SERVICE (USFWS)
FE = Federally listed, endangered: species in danger of extinction throughout a significant portion of its range
FT = Federally listed, threatened: species likely to become endangered within the foreseeable future
FPE = Federally proposed endangered

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG)
SE = State listed, endangered
ST = State listed, threatened
SR = State listed, rare

CALIFORNIA NATIVE PLANT SOCIETY (CNPS)
List 1B = Plants rare, threatened, or endangered in California and elsewhere
List 2 = Plants rare, threatened, or endangered in California but more common elsewhere
List 3 = Plants about which more information is needed
List 4 = Plants of limited distribution: a watch list
R = Rarity: 1 = rare but in sufficient number that extinction potential is low; 2 = distribution in a limited number of occurrences; 3 = distribution in highly restricted occurrences or present in small numbers
E = Endangerment: 1 = not endangered; 2 = endangered in a portion of range; 3 = endangered throughout range
D = Distribution: 1 = more or less widespread outside California; 2 = rare outside California; 3 = endemic to California

TABLE 2
SENSITIVE WILDLIFE SPECIES

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
MAMMALS			
Lepus californicus bennettii San Diego black-tailed jackrabbit	CSSC RSS	Present	Suitable habitat exists from Miguel Substation north to State Route 94 (Campo Road) and in the vicinity of Los Coches Substation east through Mission Trails Regional Park. San Diego black-tailed jackrabbit was observed and documented on the San Diego National Wildlife Refuge Otay-Sweetwater Unit near the Miguel Substation and west of the Santee Recreational Lakes Area during surveys. California Natural Diversity Database (CNDDB) records indicate occurrence within one mile of the project area.
Neotoma lepida intermedia San Diego desert woodrat	CSSC RSS	Present	Suitable habitat exists from Miguel Substation north to State Route 94 (Campo Road) and in the vicinity of Los Coches Substation east through Mission Trails Regional Park. San Diego desert woodrat was observed during the surveys east of State Route 67 in the Lakeside area, north of the San Diego River. CNDDB records indicate occurrence within one mile of the project area in Mission Trails Regional Park.
Odocoileus hemionus fuliginata Southern mule deer	RSS	Present	Suitable habitat exists through the existing project right-of-way in native vegetation. Sign was observed throughout the existing project right-of-way in native vegetation during surveys. Southern mule deer was observed north of the Miguel Substation, west of the Sweetwater River, near the Los Coches Substation, west of Santee Recreational Lakes Area, and east of Interstate 15. This species is not documented in the CNDDB near the project area.
Puma concolor Mountain lion	RSS	Present	Suitable habitat exists in less disturbed areas of the project right-of-way. Sign was observed in the project right-of-way on the southern boundary of Louis Stelzer County Park east of Wildcat Canyon Road. This species is not documented in the CNDDB near the project area.
BIRDS			
Accipiter cooperii Cooper's hawk	CSSC RSS	Present	The riparian vegetation north and south of the Admiral Baker Golf Course and along the San Diego River crossing may provide suitable nesting habitat. Area along an unnamed tributary to the Sweetwater River located on the south side of State Route 94 (Campo Road), Los Coches Creek, and Forrester Creek may contain suitable habitat. Cooper's hawk was observed during surveys north of Miguel Substation, west of State Route 67 in the Eucalyptus Hills area, and west of Interstate 15. CNDDB records indicate occurrence within one mile of the project area.

TABLE 2
SENSITIVE WILDLIFE SPECIES
(continued)

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
Agelaius tricolor Tricolored blackbird	CSSC RSS	None observed	Low potential. No suitable habitat was observed along the existing project right-of-way. Open water surrounded by some freshwater marsh is located in the Santee Recreation Lakes Area south of the existing project right-of-way. SDG&E Geographic Information System (GIS) maps document an occurrence within 0.1 mile of the project area in the Santee Recreation Lakes Area. CNDDB records indicate occurrence within five miles of the project area.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	CSSC RSS	Present	Suitable habitat exists between State Route 52 and the Los Coches Substation, from Interstate 8 to La Cresta Road, and south of State Route 94 (Campo Road) to the Miguel Substation. Southern California rufous-crowned sparrow was observed north and northeast of the Miguel Substation, north of La Cresta Road, from south of Interstate 8 to north of the San Diego River, east of State Route 67, from Magnolia Avenue in Santee to south of State Route 52, and east of the Mission Substation. SDG&E's GIS maps document occurrences within 0.5 mile of the existing project right-of-way in the Santee and Lake Jennings area and north of the Miguel Substation. CNDDB records indicate occurrence within one mile of the project area.
Ammodramus savannarum Grasshopper sparrow	RSS	Present	Suitable grassland habitat exists in the vicinity of the Miguel Substation, on the San Diego National Wildlife Refuge Otay-Sweetwater Unit, and in Mission Trails Regional Park. Grasshopper sparrow was observed during surveys northeast of the San Miguel Substation and northwest of Fanita Junction. SDG&E's GIS maps document an occurrence near the existing project right-of-way in Mission Trails Regional Park. No occurrences were recorded in the CNDDB within the project area.
Aquila chrysaetos Golden eagle	BEPA SFP RSS	Present	Low to moderate potential nesting habitat occurs from State Route 67 to north of the San Diego River. Suitable foraging habitat may be available in the vicinity of the Miguel Substation, within the San Diego National Wildlife Refuge Otay-Sweetwater Unit, and north of the San Diego River. One golden eagle was observed north of the San Diego River in the community of Lakeside. SDG&E's GIS maps document a sighting between the Miguel Substation and State Route 94 (Campo Road). No occurrences were recorded in the CNDDB within the project area.
Campylorhynchus brunneicapillus Coastal cactus wren	CSSC RSS NE	Present	Suitable habitat exists in the cactus-covered slopes around the Los Coches Substation. Coastal cactus wren was observed and documented near the Los Coches Substation during surveys. SDG&E GIS maps document occurrences around the Los Coches Substation. CNDDB records indicate occurrence of coastal cactus wren within 0.5 mile of the Los Coches Substation.

TABLE 2
SENSITIVE WILDLIFE SPECIES
(continued)

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
Circus cyaneus Northern harrier	CSSC RSS	Present	Suitable foraging habitat exists in the more open mixed grasslands and coastal sage scrub found between the Sweetwater Reservoir and the Miguel Substation, from the Santee Recreational Lakes Area to State Route 52, and within the Mission Trails Regional Park. Northern harrier was observed during surveys south of the Sweetwater Reservoir, west of the Santee Recreational Lakes Area, and west of the project right-of-way in Spring Canyon. No occurrences were recorded in the CNDDB within the project area.
Polioptila californica californica Coastal California gnatcatcher	FT CSSC RSS	Present	Suitable coastal sage scrub vegetation exists throughout the existing project right-of-way. Coastal California gnatcatchers were observed during surveys north and northeast of the Miguel Substation, north of the Sweetwater River, north and south of La Cresta Road, north and south of the Los Coches Substation, east of Magnolia Avenue in Santee to north of State Route 52 at the end of Santo Road near Murphy Canyon, and east of the Mission Substation. SDG&E GIS maps document sightings within 0.5 mile of the existing project right-of-way from the Mission Substation to the Miguel Substation. CNDDB records numerous occurrences of coastal California gnatcatcher throughout the project area within 0.5 mile of the existing project right-of-way.
Athene cunicularia hypugea Western burrowing owl	CSSC RSS	None observed	Low potential. Suitable habitat may exist in the northern portion of Mission Trails Regional Park and in the vicinity of the Miguel Substation. CNDDB records indicate one occurrence at Montgomery Airport, which is within three miles of project area.
Eremphila alpestris actia California horned lark	CSSC	Present	Observed along a ridge top northwest of Fanita Junction. This species was foraging within the firebreak dominated by non-native grasses. CNDDB records indicate occurrence within one mile of the project area on Mother Miguel Mountain.
Vireo bellii pusillus Least Bell's vireo	FE SE RSS	Present	The existing right-of-way crosses riparian habitat, but these areas are fragmented, small and narrow, and isolated from large areas of contiguous riparian habitat; therefore, potential to occur within the survey area is low. SDG&E GIS maps document sightings in the San Diego River and Sweetwater River areas. CNDDB records indicate occurrence within one mile of project area. One least Bell's vireo was observed 400 feet west of the project survey area within the Sweetwater River. There is suitable habitat for nesting within southern willow scrub and mule fat scrub within the right-of-way at this location.

TABLE 2
SENSITIVE WILDLIFE SPECIES
(continued)

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
REPTILES			
Cnemidophorus hyperythrus beldingi Orangethroated whiptail	CSSC RSS	Present	Suitable habitat is found throughout the existing project right-of-way. This species was observed during project surveys from north of the Sweetwater River to the San Diego River and from west of Magnolia Avenue in Santee to just north of State Route 52. SDG&E GIS maps document sightings within 0.5 mile of the existing project right-of-way from the south of the Mission Trails Regional Park to the Miguel Substations. CNDDB records indicate occurrence within one mile of project area.
Crotalus ruber ruber Northern red-diamond rattlesnake	CSSC RSS	None observed	Moderate potential. Dense chaparral and large rocky outcrops between Fanita Junction and the Miguel Substation may provide suitable habitat. CNDDB records indicate occurrence within one mile of project area.
Lichanura trivirgata roseofusca Coastal rosy boa	RSS	Present	Suitable habitat is found between the Elliot and Los Coches Substations and between the Granite and Miguel Substations. Coastal rosy boa was observed during surveys along a project access road in the Mission Trails Regional Park. No occurrences were recorded in the CNDDB within the project area.
Phrynosoma coronatum blainvillei San Diego horned lizard	CSSC RSS	Present	Suitable habitat is found between the Santee Recreational Lakes Area and the Miguel Substation. This species was observed north of the Sweetwater River and east of State Route 67 in the Lakeside area. SDG&E GIS maps document a sighting within one mile of the existing project right-of-way between the Interstate 8 and Dehesa Road. CNDDB records indicate occurrence within one mile of project area.
Salvadora hexalepis virgultea Coast patch-nosed snake	CSSC RSS	None observed	Moderate potential. Suitable habitat is found throughout the existing project right-of-way. CNDDB records indicate occurrence within 1 mile of project area.

TABLE 2
SENSITIVE WILDLIFE SPECIES
(continued)

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
AMPHIBIANS			
Bufo microscaphus californicus Arroyo southwestern toad	FE CSSC RSS	None observed	Low potential. No suitable habitat was observed at the Sweetwater River. Where the project crosses the San Diego River, the river bottom and surrounding areas are disturbed, the vegetation is fragmented and mixed with non-native vegetation and trees. In addition, no standing or flowing water was observed during spring 2002 along the sections of these two rivers crossed by the project, and no appropriate sandbars or evidence of scouring events were observed. CNDDB records reports no occurrences within five miles of the project area.
Spea hammondii Western spadefoot toad	CSSC RSS	Present	This species was observed at two locations in the project area. The first location is in the access roads within the Murphy Canyon Naval Family Housing Vernal Pool Preserve at the south end of Santo Road. The second location is within an access road south of Calle De Vida Road, the southern boundary of Mission Trails Regional Park. Suitable habitat is also present within a vernal pool complex in on a mesa top northwest of Qualcomm Stadium. CNDDB records reports one occurrences within two miles of the project area on MCAS Miramar.
CRUSTACEANS			
Branchinecta sandiegonensis San Diego fairy shrimp	FE RSS	Present	This species was observed at two locations in the project area. The first location is in the access roads within the Murphy Canyon Naval Family Housing Vernal Pool Preserve at the end of Santo Road. The second location is within an access road south of Calle De Vida Road, the southern boundary of Mission Trails Regional Park. Suitable habitat is also present within a vernal pool complex in on a mesa top northwest of Qualcomm Stadium. CNDDB records reports two occurrences within two miles of the project area on MCAS Miramar.

TABLE 2
SENSITIVE WILDLIFE SPECIES
(continued)

Scientific Name/ Common Name	Status	Presence	Potential for Occurrence
TERRESTRIAL INSECTS			
Euphydryas editha quino Quino checkerspot butterfly	FE	Present	Quino checkerspot butterfly have been found throughout the existing project right-of-way, but recent sightings (since 1990) have been recorded only along the southern portion of the right-of-way. Presently, suitable habitat may still be found along the existing project right-of-way in the Mission Trails Regional Park/Santee area and near Miguel Substation and the San Diego National Wildlife Refuge Otay-Sweetwater Unit east and north of the Sweetwater Reservoir. SDG&E GIS maps and CNDDB records indicate occurrence within 1.5 miles of project area. One adult male was observed during an incidental sighting on a hilltop approximately one mile south of Miller Ranch Road. This butterfly was observed adjacent to an SDG&E access route.
Lycaena hermes *Hermes copper*	RS	Present	Chaparral and coastal sage scrub where host plant *Rhamnus crocea* occurs. Adults emerge in late May to July. Observed two adults within the access route in Mission Trails Regional Park. CNDDB records reports one occurrence 1,300 feet west of the project area, north of La Cresta Road.

SAN DIEGO GAS AND ELECTRIC (SDG&E) NATURAL COMMUNITY CONSERVATION PLAN (NCCP)
NE = Narrow endemic species under SDG&E's Natural Community Conservation Plan
RSS = Regionally sensitive species covered in SDG&E's Natural Community Conservation Plan

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG)
SE = State listed, endangered
ST = State listed, threatened
CSSC = California species of special concern
SP = State protected species
SFP = Fully protected
RS = Regionally sensitive species

U.S. FISH AND WILDLIFE SERVICE (USFWS)
FE = Federally listed, endangered
FT = Federally listed, threatened
BEPA = Bald Eagle Protection Act

level surveys were not conducted for these two species. Appropriate habitat does exist in the 500-foot survey corridor along the project route for quino checkerspot butterfly and coastal California gnatcatcher. Protocol-level surveys were conducted during the spring and summer 2002 for quino checkerspot butterfly and coastal California gnatcatcher in the 500-foot survey corridor along the project route. The surveys followed the USFWS survey guidelines, including the *Quino Checkerspot Butterfly Survey Protocol Information* (USFWS 2002b) and the *Coastal California Gnatcatcher Presence/Absence Survey Protocol* (USFWS 1997a).

Coastal California Gnatcatcher

Year 2002

Permitted biologists Paula Potenza (Permit No. TE-037508-0), Maria Britton (Permit No. TE-037508-0), Scott Rowland (Permit No. TE-037508-0), Amy Dickerson (Permit No. TE-786511-2), Chris Niemela (Permit No. TE-787376-8), Kylie Fischer (Permit No. TE-039321), Bill Haas (Permit No. TE-779910), and Ingri Quon (Permit No. TE-812740) conducted coastal California gnatcatcher protocol-level surveys according to the *USFWS Coastal California Gnatcatcher Presence/Absence Survey Protocol* for jurisdictions participating in the NCCP interim section 4(d) process (USFWS 1997a). This section of the survey protocol stipulates that "surveys may be conducted year round" and that a "minimum of three (3) surveys shall be conducted at least one week apart, to determine presence/absence of coastal California gnatcatcher" within active NCCP areas. Coastal California gnatcatcher protocol surveys were conducted from May 2, 2002 to September 5, 2002.

Surveys for the coastal California gnatcatcher were conducted in the project area within the historical range of the species that contains sage scrub plant communities and chaparral. Also surveyed within this area were native/non-native grasslands that were either intermixed or ecotonal with sage scrub vegetation and riparian vegetation that was ecotonal to sage scrub vegetation. All surveys except one, which was hampered by landowner access issues, occurred within the gnatcatcher breeding season (February 15 through August 30). Three surveys, at least one week apart, were conducted within each delineated survey area.

All surveys were conducted between approximately 6:00 A.M. and 1:00 P.M. Surveys were not conducted during periods of excessive heat, wind, rain, fog, or other inclement weather. Taped vocalizations were used as needed. Surveys were conducted by slowly walking survey routes. The areas that were surveyed are covered by the SDG&E's NCCP (SDG&E 1995), and no more than 100 acres of suitable coastal California gnatcatcher habitat were surveyed per biologist per day. No attempts were made to closely approach or examine coastal California gnatcatcher nests unless such activity was authorized by USFWS permits.

The area surveyed included a 500-foot survey corridor encompassing the width of the right-of-way, which varied from 150 feet to 200 feet to 250 feet. Existing access roads proposed for project-related activities with suitable coastal California gnatcatcher habitat were also surveyed. The survey area for the access roads included the width of the access road (approximately 12 feet) and, where appropriate, approximately 50 feet on either side. Meandering survey routes were traveled on foot through vegetated areas and along the access roads. The areas surveyed for coastal California gnatcatcher within and adjacent to the project route were organized into

sections (1, 2, 3, and 4). In some sections, the project route falls within USFWS-designated coastal California gnatcatcher critical habitat. The designation of critical habitat for the coastal California gnatcatcher specifically excluded areas within functioning HCPs, such as SDG&E's NCCP.

Survey Sections

Section 1 begins at the Miguel Substation in Sunnyside, an unincorporated area south of Sweetwater Reservoir, and ends at State Route 94 (Campo Road). Section 1 includes coastal sage scrub, non-native and native grasslands, and dense chaparral vegetation. These vegetation communities are interspersed with residential and commercial development.

Section 2 begins at State Route 94 (Campo Road) and ends at Interstate 8 in the unincorporated area of Glenview just south of Lake Jennings. Section 2 includes coastal sage scrub, non-native and native grasslands, and dense chaparral vegetation. This section also includes residential and commercial development and agricultural fields.

Section 3 begins at Interstate 8 and ends at State Route 52 near Santee. Vegetation types within this section include coastal sage scrub, non-native and native grasslands, and dense chaparral vegetation. Section 3 includes the Los Coches Substation as well as many residential communities along the project right-of-way.

Section 4 begins at State Route 52 and ends at the Mission Substation in the community of Mission Valley. Vegetation types within this section are mostly coastal sage scrub and chaparral, with a few areas of non-native and native grasslands.

Year 2003

RECON biologists Cheri B. Kim, Amy Clark, Wendy Loeffler, Diana Saucedo-Ortiz, Angelique Hamel, Darin Busby, and Brian Woodward (RECON USFWS Permit No. TE-797665) conducted additional surveys for the coastal California gnatcatcher from April 10, 2003 to May 8, 2003. These surveys were conducted in areas of suitable habitat where no gnatcatchers were observed during the previous year's survey. These surveys were conducted as described above in accordance with the *USFWS Coastal California Gnatcatcher Presence/Absence Survey Protocol* (USFWS 1997a).

Quino Checkerspot Butterfly

Year 2002

Permitted biologists Paula Potenza (Permit No. TE-037508-0) and Lara Tikkanen Reising (Permit No. TE-039161-0) conducted site assessments from February 15, 2002 through March 13, 2002 according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information* (USFWS, 2002b) to determine potential habitat for Quino checkerspot butterfly.

Permitted biologists Paula Potenza, Lara Tikkanen Reising, Michael W. Klein (Permit No. TE-814215-2) David Faulkner (Permit No. TE-838743-3), and Chris Niemela (Permit No. TE-787376-8) conducted Quino checkerspot protocol-level surveys according to the USFWS *Quino*

Checkerspot Butterfly Survey Protocol Information (USFWS 2002b). Protocol surveys were conducted March 5 through May 8, 2002. Please refer to the *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly Protocol Survey Report* (Essex Environmental 2002) for additional information on the quino checkerspot butterfly surveys.

The area surveyed included the portions of the existing project right-of-way and access roads located within the *Year 2002 Recommended Quino Survey Areas Map* (USFWS 2002c). The project alignment falls within USFWS Quino Survey Area 1 from the Miguel Substation to State Route 94 (Campo Road). In addition, large portions of the alignment fall within USFWS Quino Survey Area 2 from State Route 94 (Campo Road) to Calle de Vida Road in Tierrasanta. The biologists excluded areas lacking appropriate habitat for Quino checkerspot during the site assessment. Appropriate habitat for Quino checkerspot typically includes open coastal sage scrub or open chaparral, bare or sparsely vegetated areas between shrubs, hilltops or ridgelines, and areas with cryptobiotic soil (USFWS 2002d). The primary larvae host plants and blooming nectar plants were also identified when assessing appropriate habitat. According to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information* (USFWS 2002b), a protocol survey can be conducted at an average rate of 10 to 15 acres per hour. Five protocol surveys per area were conducted. For some areas, protocol surveys were conducted over approximately nine weeks because of inappropriate weather conditions (high winds and/or low temperatures) during one or more weeks. For the same reason, some weekly surveys for certain areas were conducted over the course of more than one day.

The area surveyed included the width of the right-of-way and, where appropriate, a 500-foot survey corridor measured approximately 100 feet on either side of the right-of-way. Existing access roads proposed for project-related activities and identified during site assessment as having suitable quino habitat were also surveyed. The survey area for the access roads included the width of the access road (approximately 12 feet) and, where appropriate, approximately 50 feet on either side. Refer to the *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly Protocol Survey Report* (Essex Environmental 2002) for locations of the areas surveyed.

Survey Sections

The areas surveyed for quino checkerspot in the survey corridor, within and adjacent to the project route, were organized into three sections (1, 2, and 3).

Section 1 begins at the Miguel Substation in Sunnyside, an unincorporated area south of Sweetwater Reservoir, and ends south of Willow Glen Road in the community of Cottonwood. Survey areas within this section include open coastal sage scrub, non-native and native grasslands, and open chaparral vegetation. Surveyed areas also included available hilltops and ridgelines.

Section 2 begins on the north side of Willow Glen Road and ends at the Los Coches Substation. Vegetation types within this section include open coastal sage scrub and non-native and native grasslands with available hilltops and ridgelines. Approximately 1.5 miles of this section, from Interstate 8 to just south of the Los Coches Substation, lies outside the USFWS *Year 2002 Recommended Quino Survey Areas Map* (USFWS 2002c) and was not surveyed. The project

route from the Los Coches Substation to just east of Magnolia Avenue in Santee was excluded from protocol-level surveys because of extreme terrain and inappropriate habitat.

Section 3 begins at Magnolia Avenue and ends at Calle de Vida Road in the community of Tierrasanta, just outside Mission Trails Regional Park. Areas surveyed included open coastal sage scrub, non-native and native grasslands, and open chaparral vegetation. Surveyed areas also included available hilltops and ridgelines. The remainder of the project route from Calle de Vida Road to Mission Substation lies outside the USFWS *Year 2002 Recommended Quino Survey Areas Map* (USFWS 2002c) and was not surveyed.

Excluded areas within sections 1, 2, and 3 and portions of the project route outside the recommended USFWS *Year 2002 Recommended Quino Survey Areas Map* (USFWS 2002c) were not surveyed. Refer to the *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly Protocol Survey Report* (Essex Environmental 2002) for additional detail about the quino checkerspot surveys.

Year 2003

Permitted biologists David Faulkner (Permit No. TE-838743-3), Maria Britton (Permit No. TE-037508), Karen Wilson (Permit No. TE-037508), Lara Tikkanen Reising (Permit No. TE-039161), Kirstie Reynolds (Permit No. TE-037508), and Chris Niemela (Permit No. TE-787376) conducted quino checkerspot protocol-level surveys according to the USFWS *Quino Checkerspot Butterfly Survey Protocol Information* (USFWS 2002b). Ten protocol surveys were conducted February 7, 2003 through April 29, 2003. Surveys were conducted in the same manner as the 2002 surveys.

Fairy shrimp

Focused surveys for listed fairy shrimp species were conducted by Cheri B. Kim (Permit No. TE-797665). Surveys were conducted according to USFWS *Interim Survey Guidelines for the List Vernal Pool Branchiopods* (USFWS 1996b) on 14 depressions within the survey corridor. Depressions 1 through 10 are located within an SDG&E access road between fenced portions of the Murphy Canyon Naval Family Housing Vernal Pool Preserve (Figure 4, Maps 37 and 38). Depressions 11 through 14 are located south of Calle De Vida (Figure 4, Map 35). Surveys for depressions 1 through 10 began on March 19, 2003. Surveys for depressions 11 through 14 began on April 22, 2003. Surveys ceased on May 6 when no water was present in any depressions.

3. EXSITING CONDITIONS

Sensitive, listed, or covered plant and wildlife species observed in the 500-foot wide survey and within and adjacent to the project route during field surveys were compiled and plotted on 7.5-minute USGS quadrangle maps. See Figure 2, Maps 1 through 7 and Figure 4, Maps 1 through 40. A list of all plant and wildlife species (common and sensitive) observed during the surveys and noted on Figure 2 and Figure 4 appears in Attachment 3.

3.1 VEGETATION COMMUNITIES

Vegetation communities found within the project area include upland communities such as coast live oak woodland, coastal sage scrub, maritime succulent scrub, baccharis scrub, chamise chaparral, southern mixed chaparral, native grassland, non-native grassland, eucalyptus woodland, and wetland or riparian communities such as southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern willow scrub, mule fat scrub, freshwater marsh, and disturbed wetland. Ruderal vegetation, disturbed land and developed land are also present within the project area. Table 3 shows the acreages for each vegetation community or land type within the project area, as defined by the survey areas indicated in Figure 2, Maps 1 through Map7, and Figure 4, Map 1 through Map 40.

TABLE 3
VEGETATION COMMUNITIES/LAND TYPES IN THE PROJECT AREA

Vegetation Community/Land Type	Acre
Coast live oak woodland	4.9
Coastal sage scrub	1,586.3
Maritime succulent scrub	38.2
Baccharis scrub	3.3
Chamise chaparral	95.3
Southern mixed chaparral	68.4
Native grassland	1.8
Non-native grassland	124.6
Eucalyptus woodland	6.4
Southern coast live oak riparian forest	6.4
Southern cottonwood-willow riparian forest	16.8
Southern willow scrub	22.3
Mule fat scrub	5.3
Freshwater marsh	0.5
Disturbed wetland	1.0
Ruderal vegetation	51.0
Disturbed land	3.6
Developed land	532.5
TOTAL	2,568.6

3.2 SENSITIVE PLANTS AND RARE NATIVE PLANT COMMUNITIES

Twenty sensitive plant species and two rare natural plant communities, as described by the CNDDB Natural Communities Program (CNPS 2001), have the potential to occur in or near the project area. Refer to Table 1: Sensitive Plant Species and Rare Natural Plant Communities.

Twelve of these 20 plant species are known to occur in the immediate vicinity of the project or have the potential to occur within the existing project right-of-way. They are:

- San Diego thorn-mint (*Acanthomintha ilicifolia*)
- San Diego ambrosia (*Ambrosia pumila*)
- Otay manzanita (*Arctostaphylos otayenis*),
- Dean's milk vetch (*Astragalus deanei*)
- Dunn's mariposa lily (*Calochortus dunnii*)
- Variegated dudleya (*Dudleya variegata*),
- San Diego barrel cactus (*Ferocactus viridescens*),
- Otay tarplant (*Deinandra [Hemizonia] conjugens*),
- Willowy monardella (*Monardella linoides* ssp. *viminea*),
- San Diego goldenstar (*Muilla clevelandii*),
- Munz's sage (*Salvia munzii*), and
- San Diego County viguiera (*Viguiera laciniata*).

Eleven sensitive species and one of the two potential rare natural plant communities (San Diego Mesa Hardpan vernal pool) were observed during the plant survey. These species and plant community are described in the following sections because of their importance in regional planning, their resident status in the project area, their occurrence or potential occurrence along many parts of the right-of-way, their presence in critical habitat or preserve/management areas, and/or their rarity in the region.

3.2.1 Sensitive Plants

San Diego Thorn-mint

This federally threatened species occurs in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. It is endemic to clay soils of mesas and valleys, usually on clay lenses within grassland or chaparral communities. This species is covered by SDG&E's NCCP. Occurrences of this species have been documented at two locations within the project area at the south end of Mission Trails Park (CNDDB 2002). In addition, this species was observed at two locations during surveys at the south end of Mission Trails Park and north of Tierrasanta Boulevard. Refer to Figure 4, Maps 35 and 36 in Attachment 1.

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

San Diego Ambrosia

This federally endangered species occurs in chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools. The microhabitat favored by San Diego ambrosia is sandy loam or clay soils, and the plant is often found in disturbed areas. This species is covered by SDG&E's NCCP. Occurrences have been documented between Spring Canyon and Little Sycamore

Canyon just north of Mission Trails Regional Park, which is within one mile of the project area (CNDDB 2002). A second sighting has been documented within 0.5 mile of the existing right-of-way south of the Sweetwater River, north of Jamul Drive, and east of Steele Canyon Road (CNDDB 2002). This location was recorded by Cindy Burrascano, former President of the San Diego County Chapter of the California Native Plant Society, observed this second historical occurrence in 1996.

Three patches of San Diego ambrosia were noted within the existing right-of-way east of Steele Canyon Road, south of the Sweetwater River, near the existing CNDDB sighting (see Figure 4, Map 9). Because *Ambrosia pumila* can look similar to other *Ambrosia* species such as *A. confertiflora,* a plant sample was collected and it's identify as *A. pumila* was confirmed using a taxonomic key and compared to existing private collection samples.

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

Otay Manzanita

This regionally sensitive species is found in chaparral vegetation in metavolcanic soils at elevations from 1,000 to 5,000 feet above sea level (CNDDB 2002). This species is covered by SDG&E's NCCP. Historical occurrences and known populations of Otay manzanita are found on San Miguel Mountain, which is within one mile of the project area, and on Otay Mountain in the San Ysidro Mountain range, which is within five miles of the project area (CNDDB 2002). A cluster of Otay manzanita shrubs was observed within the right-of-way south of Miller Ranch Road on Mother Miguel Mountain (see Figure 4, Map 8).

Dean's Milk Vetch

This regionally sensitive species occurs in chaparral, coastal sage scrub, and riparian scrub at elevations between 250 and 2,500 meters (CNPS 2001). This species is covered by SDG&E's NCCP. A patch of Dean's milk vetch was observed south of the Sweetwater River, east of Steele Canyon Road (see Figure 4, Map 10). Additional locations have been recorded approximately one mile north of the Sweetwater River, where it crosses the project area.

Dunn's Mariposa Lily

This state listed rare species occurs in chaparral and closed coniferous forest. It is found on gabbro, metavolcanic, and sandstone soils. This species is covered by SDG&E's NCCP. This species is known to occur within one mile of the project site on Mother Miguel Mountain (CNDDB 2002). This species was observed on a hilltop adjacent to an access route approximately one mile south of Miller Ranch Road (see Figure 4, Map 7).

Variegated Dudleya

This regionally sensitive species is found in chaparral, coastal sage scrub, cismontane woodland, and valley and foothill grassland, and is restricted in distribution to San Diego County and Baja California, Mexico. This species prefers rocky or clay soils, and is sometimes associated with vernal pool margins (CNDDB 2002). This species is covered by SDG&E's NCCP. Populations have been documented near Sycamore Canyon north of Mission Trails Regional Park, which is within one mile of the project area; near San Miguel Mountain and Mother Miguel Mountain, both of which are within one to two miles of the project area; and in the Jamul Mountains, which are within five miles of the project area (CNDDB, 2002).

This species was observed in two locations north of Fanita Junction along the SDG&E access routes (see Figure 4, Maps 27 and 28).

Otay Tarplant

This federally threatened and state-endangered species occurs in coastal sage scrub and valley and foothill grassland. The microhabitats favored by Otay tarplant are coastal plains, mesas, and river bottoms, often in open, disturbed areas, and fractured clay soils (CNDDB, 2002). This species is covered by SDG&E's NCCP. Critical habitat has been proposed for Otay tarplant within 0.5 mile of the Miguel Substation and on the northwest side of Sweetwater River. The existing project right-of-way crosses the proposed critical habitat just northeast of the Miguel Substation. Historical occurrences and known populations have been documented near the Miguel Substation (CNDDB 2002).

In 2003, Otay tarplant was observed at many locations along the access routes and surrounding towers within the Miguel Substation (see Figure 4, Maps 1 and 3). Many of these observations coincide with the known locations shown on Figure 10a of SDG&E's NCCP.

San Diego barrel cactus

This regionally sensitive species occurs in chaparral, coastal sage scrub, and valley and foothill grassland. It often occurs on exposed, level or south-sloping areas, often in coastal sage scrub near the crest of slopes (CNDDB 2002). This species is covered by SDG&E's NCCP. This species was observed during surveys near the Miguel Substation, within the San Diego National Wildlife Refuge Otay-Sweetwater Unit, and along the project route from Santee to the Mission Substation. Refer to Figure 4, Maps 1 through 6, 26, 29, 31, 34, 35, and 38. Historical occurrences have been documented northeast of the junction of Interstate 15 and Friars Road at the southwest end of Admiral Baker Golf Course, within 0.5 mile of the project area (CNDDB 2002).

San Diego Goldenstar

This regionally sensitive species occurs in coastal sage scrub, valley and foothill grassland, and vernal pools. It prefers clay soils and is often found on mima mounds between vernal pools. This species occurs between 150 and 3,210 meters in elevation. This species is covered by SDG&E's NCCP. This species is known to occur within one mile of the project area at a number of locations in Mission Trails Regional Park, and one location near the Murphy Canyon

Family Housing Vernal Pool Preserve, at the south end of Santo Road (CNDDB 2002). San Diego goldenstar was observed south of Miller Ranch Road in the Mother Miguel Mountains, at the west end of Marine Corps Air Station Miramar, and within a vernal pool complex in Mission Valley (see Figure 4, Maps 7, 26, 39, and 40).

Munz's sage

This locally sensitive species occurs in chaparral and coastal sage scrub, between 360 and 3,195 meters in elevation. This species is not covered under SDG&E's NCCP. This species is known to occur within one mile of the project area at three locations on Mother Miguel Mountain and one location south of the Miguel Substation (CNDDB 2002). RECON observed Munz's sage approximately one mile south of Miller Ranch Road (see Figure 4, Map 7).

San Diego County Viguiera

This locally sensitive species occurs in chaparral and coastal sage scrub, between 60 and 750 meters in elevation and is widespread and relatively common in Southern San Diego County. This species is not covered under SDG&E's NCCP. This species was observed within the project area along the edge of an access road, west of Willow Glen Drive and south of Pence Drive (see Figure 4, Map 12).

3.2.2 Rare Native Plant Communities

The San Diego Mesa Hardpan vernal pools inhabited by San Diego fairy shrimp are endemic to the region and typically found on coastal mesas in western San Diego County. Vernal pools must have a subsurface of clay soils with an iron-silica cemented hardpan that prevents water from percolating into the ground. San Diego Mesa Hardpan vernal pools are typically found clustered in complexes surrounded by chamise chaparral, annual grasslands, or coastal sage scrub vegetation (USFWS 2000). Three such complexes of vernal pools are known to occur along the existing project right-of-way. One was observed at the south end of Santo Road near the project area. This complex of vernal pools, located east of Interstate 15 and south of Santo Road, has been designated by the USFWS as critical habitat for the San Diego fairy shrimp (*Branchinecta sandiegonensis*) (USFWS 2000) and is within the Murphy Canyon Naval Family Housing Vernal Pool Preserve (see Figure 4, Maps 37 and 38). The second complex is found on a mesa top northwest of Qualcomm Stadium in Mission Valley (see Figure 4, Maps 39 and 40). The third vernal pool complex is south of Calle de Vida Road, immediately south of Mission Trails Regional Park (see Figure 4, Map 35).

3.3 SENSITIVE WILDLIFE

Twenty-five animal species considered sensitive or listed by the USFWS or CDFG are known to occur or have the potential to occur in the 500-foot survey corridor along the existing project right-of-way; refer to Table 2. All of these species, except for the California horned lark, quino checkerspot butterfly, and Hermes copper butterfly, are covered under SDG&E's NCCP. Four, including the quino checkerspot butterfly, are listed as endangered and one is listed as threatened by the USFWS. CDFG has listed two of the species as endangered and considers 14 as species of

special concern. One species, the golden eagle, has fully protected status under the CDFG Code, Title 14, and is protected under the Bald Eagle Protection Act (BEPA).

In addition to the species identified in Table 2, special consideration was given to the observation of raptor nests. When possible, the species associated with the nest was identified and the location recorded. During reconnaissance and habitat assessment surveys, as well as focused surveys, several active red-tailed hawk (*Buteo jamaicensis*) nests, Cooper's hawk (*Accipiter cooperii*) nests, a red-shouldered hawk nest, and a common raven (*Corvus corax*) nest were identified on various tower structures and trees within or near the existing right-of-way. Table 4 lists the species, if known, and the general locations of raptor nests observed. All observed raptor nests are noted on Figure 4, Maps 5 through 8, 11, 12, 15, 18, 19, 21, 22, 25, 26, 27, 29, 32, and 36.

Of the covered, sensitive, federally, or state-listed animal species known to occur in the vicinity of the existing right-of-way, 19 wildlife species warrant description in the following subsections because of their occurrence during reconnaissance and habitat surveys as well as protocol-level surveys, their importance in regional planning, their resident status in the project area, their presence in critical habitat or preserve/management areas, and their rarity in the region. Generally, suitable habitat is present for these species, or the project is within their known range.

The species discussed below include:

- Orangethroated whiptail (*Cnemidophorus hyperythrus beldingi*),
- San Diego horned lizard (*Phrynosoma coronatum blainvillii*),
- Cooper's hawk (*Accipiter cooperii*),
- Coastal cactus wren (*Campylorhynchus brunneicapillus*),
- Coastal California gnatcatcher (*Polioptila californica californica*),
- California horned lark (*Eremphila alpestris actia*)
- Grasshopper sparrow (*Ammodramus savannarum*),
- Golden eagle (*Aquila chrysaetos*),
- Least Bell's vireo (*Vireo bellii pusillus*),
- Northern harrier (*Circus cyaneus*),
- Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*),
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*),
- San Diego desert woodrat (*Neotoma lepida intermedia*),
- Southern mule deer (*Odocoileus hemionus fuliginata*),
- Mountain lion (*Puma concolor*),
- San Diego fairy shrimp (*Branchinecta sandiegonensis*),
- Arroyo southwestern toad (*Bufo microscaphus californica*),
- Western spadefoot toad (*Spea hammondii*),
- Quino checkerspot butterfly (*Euphydryas editha quino*), and
- Hermes copper butterfly (*Lycaena hermes*).

TABLE 4
RAPTOR NESTS OBSERVED DURING 2002 AND 2003 SURVEYS

Structure	Location	Nest/Species
Tower	North of Miguel Substation	Common raven
Pole	North of Miguel Substation	Red-tailed hawk
Pole	North of Miguel Substation	Red-tailed hawk
Tower	North of State Route 94	Red-tailed hawk
Tree	South of Sweetwater River	Cooper's hawk
Tree	North of Sweetwater River	Red-tailed hawk
Pole	North of La Cresta Road	Red-tailed hawk
Tree	South of Dehesa Road	Cooper's hawk
Tower	Los Coches Substation	Red-tailed hawk
Pole	Los Coches Substation	Red-tailed hawk
Tree	Los Coches Substation	Red-shouldered hawk
Tower	North of Willow Road	Red-tailed hawk
Tower	West of Magnolia Avenue	Red-tailed hawk
Tower	West of Magnolia Avenue	Unknown
Tower	East of Santee Recreational Lakes Area	Red-tailed hawk
Tower	East of Santee Recreational Lakes Area	Red-tailed hawk
Tower	East of Santee Recreational Lakes Area	Red-tailed hawk
Tower	Fanita Junction	Red-tailed hawk
Tower	Southwest of Fanita Junction near Little Sycamore Canyon	Red-tailed hawk
Tower	Southwest of Fanita Junction near Little Sycamore Canyon	Red-tailed hawk
Tower	Southwest of Fanita Junction	Red-tailed hawk
Tower	Southwest of Fanita Junction near Spring Canyon	Red-tailed hawk
Tree	Spring Canyon south of the right-of-way	Red-tailed hawk
Pole	Northeast of State Route 52	Red-tailed hawk
Tree	Mission Substation	Red-tailed hawk

Orangethroated Whiptail

The orangethroated whiptail, a California species of special concern, frequents dry, often rocky hillsides; ridges and valleys that support coastal sage scrub; open chaparral; dry washes; and sparse grasslands mixed with sage scrub species. An active forager, this lizard feeds largely on subterranean termites (*Reticulitermes hesperus*), which are common in coastal sage scrub and mulefat scrub habitats. It is most commonly found within coastal sage scrub, mulefat scrub, and riverwash scrub habitats (Bostic 1964; Rowland 1992).

As documented in Figure 4, Maps 10, 11, 13, 14, 18, 19, 25, and 33, the orangethroated whiptail was observed during surveys in suitable habitat within the 500-foot survey corridor from north of the Sweetwater River to the San Diego River and from west of Magnolia Avenue in Santee to just north of State Route 52.

San Diego Horned Lizard

The San Diego horned lizard is a California species of special concern and is covered by SDG&E's NCCP. This lizard is typically found in open coastal sage scrub, chaparral, grasslands, and juniper and oak woodlands. It is more commonly found in open sandy washes with scattered shrubs used for cover. Fine, loose, sandy soils where they can bury themselves, an abundance of native ants as a food source, and open areas for basking are typically required (Stebbins 1985).

As documented in Figure 4, Maps 11, 20, and 21, the San Diego horned lizard was observed during surveys in open coastal sage scrub north of the Sweetwater River and east of State Route 67 in the Lakeside area north of the San Diego River.

Cooper's Hawk

The Cooper's hawk, a California species of special concern, is a breeding resident throughout most of the wooded portions of California (CDFG 1990). This species is covered by SDG&E's NCCP. Preferred nesting habitat is dense stands of live oak, riparian, or other forest habitat near water. This species forages on small birds and mammals in open woodlands and edge habitats. Appropriate nesting habitat exists in eucalyptus woodlands in residential areas and in riparian woodlands near or within the project area. As documented in Figure 4 (Maps 4, 9, 12, 18, and 22), Cooper's hawk was observed during surveys north of the Miguel Substation, south of the Sweetwater River, west of State Route 67 in the Eucalyptus Hills area, and west of Interstate 15.

Coastal Cactus Wren

The coastal cactus wren is a California species of special concern. This species is covered by SDG&E's NCCP, and is considered a narrow endemic species, therefore limiting take authorization to emergencies and unavoidable impacts from repairs to existing facilities. The costal cactus wren is a large wren with a streaked back, densely spotted breast, and a distinctive white eyebrow stripe. This San Diego County resident bird is typically found on arid slopes with stands of cactus. Cactus wrens build their nests in cholla or other large branching cactus, yucca, or thorny shrubs and trees (CDFG 1990). As documented in Figure 4, Maps 18, 19, and 35,

coastal cactus wrens were observed during surveys on the cactus-covered slopes surrounding the Los Coches Substation and at the south end of Mission Trails Regional Park.

Coastal California Gnatcatcher

The coastal California gnatcatcher is a federally listed threatened species and a state-listed endangered species. This species is covered by SDG&E's NCCP. Coastal California gnatcatchers are obligate, permanent residents of coastal sage scrub vegetation, but they will make limited use of adjacent habitats outside of the breeding season (Atwood 1990). The designation of critical habitat for the coastal California gnatcatcher specifically excluded areas within functioning HCPs, such as SDG&E's NCCP. Although not designated as critical habitat, habitat for the coastal California gnatcatcher is located within the existing right-of-way. Potential habitat for the coastal California gnatcatcher is located throughout much of 500-foot survey corridor in the project area. The coastal California gnatcatcher has historically been observed within or near the project near the Miguel Substation, north of the Sweetwater River, north of the Los Coches Substation, and within Mission Trials Regional Park.

Coastal California gnatcatchers were observed during protocol-level surveys in suitable habitat along the majority of the project route. Figure 4 documents the locations of coastal California gnatcatchers observed during the protocol-level surveys as well as incidental observations recorded during other project surveys, such as the habitat assessment and reconnaissance surveys. The documented locations for coastal California gnatcatcher on Figure 4 may represent observations of single birds, pairs, or in a few cases family groups.

The major concentration of observations occurred north and northeast of the Miguel Substation, north of the Sweetwater River, north and south of La Cresta Road, north and south of the Los Coches Substation, east of Magnolia Avenue in Santee to north of State Route 52), and east of the Mission Substation. Please refer to the *Miguel–Mission 230kV #2 Project California Gnatcatcher Protocol Survey Report* (Essex Environmental 2003a) and *Survey Results for the Coastal California Gnatcatcher on the San Diego Gas and Electric Mission to Miguel 230 kilovolt #2 Project* (RECON 2003a).

California Horned Lark

The California horned lark is a CDFG species of special concern. Its range is limited to the coastal slopes of California from Sonoma County to San Diego County and includes most of the San Joaquin Valley at elevations for sea level to 8,500 feet, and can occur as high as 11,500 feet in the San Bernardino Mountains (Small 1994). In San Diego County, the California horned lark typically inhabits areas with sparse vegetation, including sandy shores, grasslands, mesas, and agricultural lands. Breeding occurs during the months of March through July with peak activity occurring in May. California horned larks forage by walking and running on the ground, from a diet of spiders, insects and insect larvae, snails, buds, berries, waste grains, and seeds from grasses, weeds, and forbs (Green 1990). Horned larks usually forage in flocks except during nesting. Decline of this species is generally attributed to loss of habitat, urbanization, and human disturbance.

One California horned lark was observed within the survey corridor. This species was observed on a ridge-top adjacent to a non-native grass-covered firebreak, north of Fanita Junction (see Figure 4, Map 28).

Grasshopper Sparrow

The grasshopper sparrow is a regionally sensitive species covered by SDG&E's NCCP. Grasshopper sparrows are an uncommon summer resident of San Diego County (Natureserver Explorer, undated c). This species prefers grassland vegetation of intermediate height, which is often associated with areas of bare ground. Grasshopper sparrows feed mostly on grasshoppers and other insects, small invertebrates, grains, and seeds (Rising 1996).

Two observations of grasshopper sparrows were recorded during the surveys. One grasshopper sparrow was observed in mixed native and non-native grasslands southwest of the Sweetwater Reservoir (see Figure 4, Map 4) to the east of the right-of-way along an existing dirt access road. The second grasshopper sparrow was observed within non-native grassland west of Magnolia Avenue in Santee (see Figure 4, Map 25).

Golden Eagle

The golden eagle is a fully protected California species of special concern and is protected by the BEPA. This species is covered by SDG&E's NCCP. A permanent resident of open, wooded areas, the golden eagle is common in northern California but rare in San Diego County. Golden eagles typically occur in hilly and mountainous regions with limited human populations. This species nests on rock ledges or within large trees, including oak and eucalyptus. Golden eagles prey on small mammals such as rabbits and ground squirrels (Natureserver Explorer, undated b).

One golden eagle was observed within the project area during the surveys. As documented in Figure 4, it was observed perching on a tower within the existing right-of-way (see Figure 4, Map 21), north of the San Diego River in the community of Lakeside. In addition, the Wildlife Research Institute located four golden eagle nest sites on the cliffs west of Wildcat Canyon Road (Wildlife Research Institute 1999 as cited in RECON 2002), north of the project area.

Least Bell's Vireo

The least Bell's vireo is both federally and state-listed as endangered. This species is covered by SDG&E's NCCP. This species is migratory, spending its winters in Mexico and returning to southern California as a summer resident. The least Bell's vireo can be found in the region during breeding season, from March through August. They breed locally in willow riparian thickets with sufficient over- and understory vegetation (CDFG 1990). Critical habitat for the least Bell's vireo has been designated along portions of the San Diego River and the Sweetwater River, but the existing project right-of-way does not cross critical habitat for least Bell's vireo. An incidental observation of a least Bell's vireo was noted approximately 400 feet west of the 500-foot survey corridor (see Figure 4, Map 10). An occurrence has been documented on the Sweetwater River approximately one mile upstream of the incidental sighting (CNDDB 2002). Although the riparian habitat within the Sweetwater River is fragmented and somewhat isolated, it is suitable nesting habitat for the least Bell's vireo.

Northern Harrier

The northern harrier, a California species of special concern, and is covered by SDG&E's NCCP. This species can be found foraging during the non-breeding season in meadows, grasslands, rangelands, desert sinks, and freshwater and emergent wetlands. Northern harriers nest on meadows and in both fresh and salt open marshlands (Baicich and Harrison 1997). Constructed on the ground, nests are typically comprised of sticks and grass or, within marsh vegetation, raised mounds of reeds. The harrier feeds primarily on voles and other rodents but also preys on insects, reptiles, and amphibians (The Raptor Center, undated).

The northern harrier was observed during surveys south of the Sweetwater Reservoir and north of the project right-of-way, as documented in Figure 4 (Map 5), and west of the Santee Lakes Recreational Area and west of the project right-of-way in Spring Canyon (Map 29).

Southern California Rufous-crowned Sparrow

The non-migratory southern California rufous-crowned sparrow, a California species of special concern, is covered by SDG&E's NCCP. It is a resident of sparse, mixed chaparral and coastal scrub habitats (Zeiner et al. 1990). This bird forages on the ground in vegetation and leaf litter beneath shrubs, eating seeds, insects, spiders, grass, and forb shoots (Zeiner et al. 1990). The southern California rufous-crowned sparrow feeds and breeds on steep, dry hillsides with scattered shrubs and rock outcrops. It conceals its nest at the bases of shrubs.

As documented in Figure 4, the southern California rufous-crowned sparrow was observed during the surveys in suitable habitat north and northeast of the Miguel Substation, north of La Cresta Road, from just south of Interstate 8 to just north of the San Diego River, east of State Route 67 in the Lakeside area, from Magnolia Avenue in Santee to just south of State Route 52, and east of the Mission Substation.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit is a regionally sensitive California special species of concern and is covered by SDG&E's NCCP. It can be found within all community types except in the higher mountain elevations of the County, which support early stages of forest, chaparral habitats, and grasslands. Black-tailed jackrabbits spend the day resting in dense vegetation, becoming active in the late afternoon. This species is strictly herbaceous, grazing and browsing on shrubs and plant species (ENature.com, undated; Natureserver Explorer, undated).

As documented in Figure 4, San Diego black-tailed jackrabbit was observed in four locations within the 500-foot survey corridor during surveys. Two observations occurred east of the Miguel Substation (see Maps 3 and 5), and two were observed west of the Santee Recreational Lakes Area (Maps 26 and 27).

San Diego Desert Woodrat

San Diego desert woodrat is a California species of special concern and is covered by SDG&E's NCCP. This species is restricted to coastal slopes with coastal sage scrub and chaparral habitats within San Diego County. Woodrats make nests of twigs, sticks, cactus parts, and rocks, depending on availability of building materials. This species prefers foraging on live oak, chamise, and buckwheat (ENature.com, undated a; Natureserver Explorer, undated a). One San Diego desert woodrat was observed during the surveys in the project right-of-way east of State Route 67 in the Lakeside area, north of the San Diego River, as documented in Figure 2 (see Map 21). A second was observed approximately 1,600 feet west of State Route 67 (see Map 22).

Southern Mule Deer

Southern mule deer is regulated in California as a game species and is covered by SDG&E's NCCP. This species is a yearlong resident of coastal sage scrub, chaparral, riparian, and grassland areas throughout San Diego County where adequate woody vegetative cover and open undeveloped areas exist. Southern mule deer prefer to browse in the dawn and dusk hours on new growth vegetation of various shrubs, including ceanothus, mountain mahogany, and bitterbrush. Southern mule deer also feed on bark, buds, leaves, and nuts (ENature.com, undated b).

As documented in Figure 4, mule deer were observed during surveys north of the Miguel Substation (Maps 4 and 6), west of the Sweetwater River (Maps 11 and 12), near Los Coches Substation (Map 18), east of the Santee Recreational Lakes Area in Santee (Map 26), west of the Miramar Landfill (Map 29), and north of Highway 52 (Map 32).

Mountain Lion

Mountain lion is a regionally sensitive species covered by SDG&E's NCCP. This species is a yearlong resident within densely vegetated areas throughout San Diego County where adequate woody vegetative cover exists. The mountain lion prefers more rugged terrain in areas with little development with an adequate prey base. Mountain lion is expected to occur in less urbanized areas of the project right-of-way.

As documented in Figure 4 (Maps 19 and 20), mountain lion sign was observed during the surveys within Louis Stelzer County Park east of Wildcat Canyon Road.

San Diego Fairy Shrimp

The San Diego fairy shrimp is a federally listed endangered species and is covered by SDG&E's NCCP. It is one of several small, freshwater fairy shrimp species found in the southern California region. This shrimp occurs in small, shallow vernal pools and ephemeral basins located in coastal southern California and northern Baja California, Mexico (USFWS 2000). One such complex of vernal pools is located along the existing project right-of-way east of Interstate 15 and south of Santo Road, and is designated by the USFWS as critical habitat for the San Diego fairy shrimp. (see Figure 2, Map 10). Adult San Diego fairy shrimp are typically found from January to March, when winter rains fill vernal pools. The pools are ephemeral, and the San Diego fairy shrimp hatches and matures within seven days to two weeks and typically,

are not detectable in vernal pools after approximately a month. During this time, it lays eggs that drop to the mud bottoms of the pool and remain there after the pool dries. When the pool refills (either during the same or subsequent rainy seasons), the eggs may hatch (USFWS 2000).

Three vernal pool complexes are known to occur along the existing project right-of-way. One was observed at the south end of Santo Road near the project area. This complex of vernal pools, located east of Interstate 15 and south of Santo Road, has been designated by USFWS as critical habitat for the San Diego fairy shrimp (*Branchinecta sandiegonensis*) (USFWS 2000) and is within the Murphy Canyon Naval Family Housing Vernal Pool Preserve (see Figure 4, Maps 37 and 38). The second complex is found on a mesa top northwest of Qualcomm Stadium (see Figure 4, Maps 39 and 40). The third vernal pool complex is south of Calle de Vida Road, immediately south of Mission Trails Regional Park (see Figure 4, Map 35).

At all of these locations, there are depressions, predominantly caused by vehicle traffic, within the access roads that hold water and are known to have, or have the potential for San Diego fairy shrimp (RECON 2003b). Figure 4, Maps 35 and 37 through 40, show the known fairy shrimp locations within these depressions.

Arroyo Southwestern Toad

Arroyo southwestern toad, a federally listed endangered species, is covered by SDG&E's NCCP. It is a small, light greenish-gray or tan toad restricted to rivers with shallow, gravelly pools with adjacent sandbars or terraces. During breeding season, from late March to mid-June, they can be found in large streams or rivers containing shallow pools with minimal current and sand or pea-gravel bottoms (USFWS 1997b). The arroyo southwestern toad is of particular concern because it is difficult to detect during certain times in its life cycle. The arroyo toad breeds in stream habitats, but migrates through and aestivates in upland habitats up to one kilometer from known breeding sites (USFWS 1997b).

Although designated critical habitat for the arroyo southwestern toad encompasses portions of the existing right-of-way along the San Diego River and Sweetwater River and the adjoining upland habitat, the sections of these rivers crossed by the right-of-way do not provide suitable habitat for the species. Where the project crosses the San Diego River, the river bottom and surrounding areas are disturbed, and the vegetation is fragmented and mixed with non-native vegetation and trees. Where the project crosses the Sweetwater River, the river is surrounded by a golf course, and little or no native vegetation occurs along the river. In addition, neither standing or flowing water nor appropriate sandbars or evidence of scouring events were observed during spring 2002 along the sections of the two rivers crossed by the project. The transmission lines span the rivers, no tower structures or access roads are located within either of the rivers, and the project design avoids construction within the two rivers, therefore, arroyo southwestern toads are not expected to occur in these areas or be affected by the project.

Western Spadefoot Toad

The western spadefoot toad is a CDFG species of special concern and is covered by SDG&E's NCCP. This species ranges from central northern California through the Coast Ranges from San Francisco and south into Baja California, Mexico, at elevations from sea level to 4,500 feet

(Stebbins 1985; Zeiner et al. 1988). Habitat for the western spadefoot includes lowlands, washes, floodplains of rivers, alluvial fans, alkali flats, temporary ponds, and vernal pools. Although this species is generally found in areas of open vegetation with sandy or gravelly soil (Stebbins 1985), it has been observed in vernal pools containing clay soils on Otay Mesa. Surface activity can occur from October through April depending on rainfall, and oviposition occurs between late February and May (Jennings and Hayes 1994). The western spadefoot diet consists of crickets, butterflies, ants, flies, and earthworms (Morey and Gullin, as cited in Jennings and Hayes 1994). Decline in western spadefoot populations is primarily due to habitat loss and fragmentation and possibly pesticide use.

At all three of the vernal pool complex locations along the project route, there are depressions within the access roads that hold water and are known to have, or have the potential for western spadefoot toad (RECON 2003b). Figure 4, Maps 35 and 37 through 40, show the known western spadefoot toad locations within these depressions.

Quino Checkerspot Butterfly

The quino checkerspot butterfly is federally listed as endangered. The USFWS has designated critical habitat for quino checkerspot butterfly that encompasses a portion of the existing project right-of-way northeast of the Miguel Substation to State Route 94 (Campo Road), along the lower southwest slopes of Mother Miguel Mountain and San Miguel Mountain. This species is of particular concern because of its potential to occur within the existing right-of-way.

Once widely distributed in the inland valleys and coastal plains of southern California, quino checkerspot butterflies are known to exist in a few isolated areas of southern San Diego and southwestern Riverside counties. This butterfly is found from sea level to 3,000 feet in elevation and requires open canopy scrub habitat with low-growing herbaceous annuals that include populations of the larval host plants, preferably dwarf plantain *(Plantago erecta*) (USFWS 2002b). Timing and abundance of rainfall affects host plant germination, growth and senescence, which in turn affect survivorship of butterfly larvae. The species typically requires a year to complete a life cycle, but the larvae can undergo long periods, possibly lasting years, in a dormant stage during especially dry winters or drought years. Cool, wet weather and winter rainfall stimulate host plant germination and feeding activities. Therefore, the larval stage of the quino checkerspot butterfly may be present in areas where the host plants are not in bloom (USFWS 2002d).

Protocol-level surveys for the quino checkerspot butterfly have been completed in appropriate habitat crossed by the existing project right-of-way in 2002 and 2003. Please refer to the *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly Protocol Survey Report* (Essex Environmental 2002 and 2003b) for locations or areas surveyed. No quino checkerspot butterflies were observed within the right-of-way or in the immediate project vicinity during the spring 2002 surveys. In addition, 2002 was a record drought year and the quino checkerspot butterfly remained largely dormant in San Diego County.

No quino checkerspot butterflies were observed during the protocol-level surveys in 2003. On April 7, 2003, during a rare plant survey conducted by RECON for the Miguel–Mission 230kV

#2 Project, Cheri B. Kim and Jennifer Radtkey, both quino checkerspot butterfly permitted biologists (USFWS Permit No. TE-797665), observed a single male adult quino along the access road within Section A of the quino checkerspot butterfly survey area. No other adult quino checkerspot butterflies were observed during the 10 protocol-level surveys conducted in this area. Because the extensive surveys yielded no additional quino checkerspot butterfly observations, David Faulkner believes that the single male adult quino checkerspot butterfly likely was dipersing through the area, rather than from a population or colony within the survey area (Faulkner 2003 as cited in Essex Environmental 2003b).

However, the male quino checkerspot butterfly was observed within very suitable habitat on a hilltop covered in dot-seed plantain (*Plantago erecta*), purple owl's clover (*Castilleja exserta*), goldfields (*Lasthenia californica*), and ground-pink (*Linanthus dianthiflorus*). This quino butterfly was observed for approximately 15 minutes and exhibited territorial behaviors such as chasing away other butterflies, bees, and fly species within its immediate vicinity. During the 15 minutes of observations, the quino checkerspot butterfly remained within a 50-foot by 100-foot area on the hilltop. This butterfly appeared to be new, with bright coloring that had not faded and wings that were whole and not shredded along the margins, as butterfly wings can become during travel or with age.

Hermes Copper Butterfly

The Hermes copper butterfly is a locally sensitive species. This butterfly occurs in San Diego County from Interstate 15 east to Highway 67 south into northern Baja California, Mexico. Historical localities in San Diego County include El Cajon, Suncrest, Mission Gorge, Dulzura, Guatay, and Old Viejas Grade (Brown 1991). The Hermes copper is restricted to habitats in which its larval host plant, redberry (*Rhamnus crocea*), is found. Adults are encountered most frequently nectaring on California buckwheat, between late May and late July (Brown 1991). The peak flight time is generally mid-June for males and late June for females (Faulkner and Klein 2001). This butterfly diapauses as an egg on the host plant. This species is threatened by loss of habitat as a result of urbanization and fires, as well as by edge effects of nearby development and habitat fragmentation.

RECON conducted a habitat assessment throughout the project route for Hermes copper butterfly. Habitat that hosts a dense enough population of redberry shrubs was designated as suitable habitat for the Hermes copper butterfly. The locations of this suitable habitat are shown on Figure 4, Maps 5, 6, 7, 12, 24, 26, 34, and 36. In addition, two adult Hermes copper butterflies were observed during 2003. These individuals are shown on Figure 4, Map 34.

3.4 WILDLIFE MOVEMENT CORRIDORS

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas within a region that is otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with suitable vegetation cover have the potential to provide corridors for wildlife travel. Wildlife movement corridors are important because the corridors have the potential to provide access to mates, food, and water; allow the dispersal of individuals away from high population density areas; and

facilitate the exchange of genetic traits between populations (Beier and Loe 1992). Wildlife movement corridors are considered sensitive environmental features by resource and conservation agencies.

Much of the Mission to Miguel 230kV transmission corridor acts as a potential wildlife movement corridor or intersects with existing wildlife corridors. In many areas where the transmission corridor is adjacent to development, the transmission corridor itself connects urban canyons and other open space, allowing wildlife to travel unhindered through otherwise developed areas.

4. IMPACTS

Components of the approximately 35-mile project include the addition of a new 230kV transmission circuit; modification or replacement of existing steel pole and lattice tower support structures currently occupied by existing 138kV and 69kV circuits; the relocation of such 69kV and 138kV circuits onto new steel and wood pole structures to be installed within the existing SDG&E right-of-way between the Miguel Substation and Fanita Junction; the installation of a new 230kV circuit onto vacant positions on existing 230kV support structures between Fanita Junction and the Mission Substation; and modifications to the Miguel and Mission Substations for interconnection of the new 230kV circuit. Several new 230kV support structures may be installed in the vicinity of the Miguel, Mission, and Los Coches Substations to complete the routing of the new 230kV circuit. With the possible exception of certain access roads, pulling/tensioning sites, and staging areas, the proposed project activities and facilities would be located entirely within the existing SDG&E right-of-way and/or within SDG&E-owned substation property. The existing right-of-way width varies from 250 feet to 200 feet to 150 feet at various points along the project route.

The biological impacts to the project area were assessed in accordance with SDG&E's NCCP. Any significant impacts will be minimized or mitigated according to SDG&E's Operational Protocols, as well as additional species-specific mitigation as contained NCCP Section 7.2 Habitat Enhancement Measures and Section 7.4 Mitigation Credits.

4.1 VEGETATION COMMUNITY IMPACTS

Table 5 lists the total acres of each vegetation community that will be impacted by the proposed project. Vegetation communities considered sensitive in the context of CEQA review and that would be impacted by project related activities include chamise chaparral, coastal sage scrub, maritime succulent scrub, and annual grassland. Impacts to these vegetation communities are considered potentially significant and will require mitigation consistent with SDG&E's NCCP.

Impacts to ruderal and disturbed vegetation and developed land are not significant.

TABLE 5
ESTIMATED IMPACTS AND MITIGATION FOR VEGETATION COMMUNITIES ON THE MISSION TO MIGUEL #2 230kV PROJECT

Vegetation Communities	New 230kV Transmission Circuit				Relocation of 69kV/138kV Transmission Circuits			Stringing, Snub, and Staging Sites*	Temporary Impacts and Mitigation Requirements			Permanent Impacts and Mitigation Requirements			TOTAL MITIGATION REQUIRED
	Temporary Impacts (acres)		Permanent Impacts (acres)		Temporary Impacts (acres)	Permanent Impacts (acres)									
	New Pole [5]**	Existing Structure [95]	New Pole [5]	Spur Road [5]	New Pole [104]	New Pole [104]	Spur Road [104]	Temporary Impacts (acres) [29]	Total Temporary Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	Total Permanent Impacts (acres)	Mitigation Ratio	Mitigation Required (acres)	
Inside Preserve/QCB habitat***															
Chamise chaparral	–	0.72	–	–	0.28	0.12	0.06	0.30	1.30	1:1	1.30	0.18	2:1	0.36	1.66
Coastal sage scrub/ Maritime succulent scrub	0.14	18.72	0.09	0.03	7.98	3.42	1.71	24.89	51.73	1:1	51.73	5.25	2:1	10.50	62.23
Annual Grassland	0.14	0.36	0.09	0.03	0.14	0.06	0.03	0.13	0.77	1:1	0.77	0.21	2:1	0.42	1.19
Ruderal/Disturbed	–	0.72	–	–	0.14	0.06	0.03	0.29	1.15	–	–	0.09	–	–	–
Developed	–	1.08	–	–	0.56	0.24	0.12	2.64	4.28	–	–	0.36	–	–	–
Sub-total	0.28	21.60	0.18	0.06	9.10	3.90	1.95	28.25	59.23	–	53.80	6.09	–	11.28	65.08
Outside of Preserve															
Chamise chaparral	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Coastal sage scrub/ Maritime succulent scrub	0.14	6.12	0.09	0.03	3.08	1.32	0.66	5.69	15.03	1:1	15.03	2.10	1:1	2.10	17.13
Annual Grassland	0.28	0.72	0.18	0.06	0.42	0.18	0.09	4.98	6.40	1:1	6.40	0.51	1:1	0.51	6.91
Ruderal/Disturbed	–	0.36	–	–	0.28	0.12	0.06	6.95	7.59	–	–	0.18	–	–	–
Developed	–	5.40	–	–	1.68	0.72	0.36	10.28	17.36	–	–	1.08	–	–	–
Sub-total	0.42	12.60	0.27	0.09	5.46	2.34	1.17	27.90	46.38	–	21.43	3.87	–	2.61	24.04
GRAND TOTAL	0.70	34.20	0.45	0.15	14.56	6.24	3.12	56.15	105.61	–	75.23	9.96	–	13.89	89.12

*Stringing, snub and staging sites will be used for both the 230kV transmission circuit and the relocation of the 69kV/138kV transmission circuit.

**Numbers in brackets represent the total number of each facility/area for both temporary and permanent impacts, for the 230kV and 69/138kV transmission circuits.

***Within the Multi-habitat Preserve Area (MHPA), and/or the high/very high habitat classifications of the Habitat Evaluation Model (Ogden 1994), and/or within QCB suitable or occupied habitat.

4.2 SENSITIVE PLANTS AND RARE NATIVE PLANT COMMUNITIES IMPACTS

4.2.1 Sensitive Plants

No impacts will occur to San Diego thornmint, Otay manzanita, Dean's milk vetch, Dunn's mariposa lily, variegated dudleya, Munz's sage, and San Diego County viguiera as a result of the proposed project. Although these species are present within the project survey area, they do occur on areas that will be impacted by the proposed project.

San Diego Ambrosia

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat would not be covered by the NCCP.

San Diego ambrosia is present within the non-native grassland southeast of Willow Glen Drive and Steele Canyon Road. As shown on Figure 4-9, project activities will take place adjacent to the three San Diego ambrosia patches. Based on the existing location of this species, no permanent impacts to the species will occur due to the installation of Structure #361 and #370. Although the three San Diego ambrosia patches are shown to be within the temporary impact areas for Structure #361 and #370 and a stringing/snub site, this species will be avoided to the maximum extent feasible. These avoidance measures are discussed in detail under Section 5.2.1 *San Diego Ambrosia*.

Otay Tarplant

Otay tarplant is present in many areas surrounding the Miguel Substation. Initially, a stringing/staging site south of the Miguel Substation was located in an area that would have impacted several Otay tarplant individuals. To avoid impacts to this species SDG&E relocated this stringing/staging site northeast approximately 200 feet from its original location (Figure 4-3). No impacts are expected to occur to this species due to the proposed project.

San Diego barrel cactus

San Diego barrel cactus is along the eastern edge of the temporary impact area for modifying existing Tower 675994. This species has a low likelihood of being impacted by the proposed project. Although this species is covered by SDG&E's NCCP, recommendations for avoidance and/or mitigation are made in Section 5.2.1, due to the slow growing nature of the San Diego barrel cactus.

San Diego Goldenstar

San Diego goldenstar is present within the temporary impact areas for modifying existing Towers 675988 (Figure 4-6) and 576647 (Figure 4-26). This impact is covered by SDG&E's NCCP and is considered less than significant. No mitigation is required for impacts to this species.

4.2.2 Rare Native Plant Communities

As discussed under Section 3.2-*San Diego Fairy Shrimp*, three vernal pool complexes are known to occur along the existing project right-of-way. At all of these locations, there are depressions within the access roads that hold water and have some characteristics similar to the vernal pools surrounding them. The location of these depressions in access roads indicates a high level of disturbance relative to the surrounding vernal pool complex habitat. Figure 4, Maps 35 and 37 through 40, show the locations of these depressions. Temporary impacts, detailed under Section 4.3 *San Diego Fairy Shrimp*, will occur to these depressions.

4.3 SENSITIVE WILDLIFE IMPACTS

Minimal impacts may occur to orangethroated whiptail, San Diego horned lizard, western spadefoot toad, grasshopper sparrow, southern California rufous-crowned sparrow, San Diego black-tailed jackrabbit, San Diego desert woodrat, southern mule deer, mountain lion, and their habitats as a result of proposed project activities. These species are covered by SDG&E's NCCP, and impacts to these species are considered less than significant. No mitigation is required for impacts to these species.

Raptors

Many raptor species utilize the steel transmission towers as nesting and perching locations during the raptor breeding-season of January through June. Impacts to an active nest of any raptor species would be considered significant and require the mitigation measures specified in the SDG&E NCCP and expanded on in Section 5.0.

Coastal Cactus Wren

Under SDG&E's NCCP, this species is considered a narrow endemic and, as such, take authorization is limited to emergencies and unavoidable impacts from repairs to existing facilities. Take of the species for non-emergency work may not occur without first conferring with the USFWS and CDFG. Furthermore, for new projects, destruction of narrow endemic wildlife species or their supporting habitat are not covered by the NCCP.

Impacts may occur to this species if work within the maritime succulent scrub surrounding the Los Coches Substation (Figure 4-18) is conducted during the breeding season of March through August. Approximately 6.46 acres of suitable coastal cactus wren habitat will be temporarily impacted and 0.18 acre will be permanently impacted. These impacts require mitigation using measures specified in the SDG&E NCCP and clarified in Section 5.0 (see Mitigation section).

Coastal California Gnatcatcher

Impacts to the coastal California gnatcatcher may occur if an active nest is present within coastal sage scrub that is crushed or graded during construction. Approximately 66.76 acres of suitable coastal California gnatcatcher habitat will be temporarily impacted and 7.35 acres will be permanently impacted. These impacts are significant and require the mitigation measures specified in the SDG&E NCCP and clarified in Section 5.0.

California Horned Lark

During the 2002 and 2003 surveys, one California horned lark was observed throughout the entire project corridor. Due to the low occurrence of this species, the potential for California horned lark to be impacted by project activities is low. This species is not covered by the SDG&E NCCP. Impacts that may occur to this species would be less than significant and would not require mitigation.

Least Bell's Vireo

Least Bell's vireo will not be impacted by the proposed project. Although there is suitable least Bell's vireo habitat present between Towers 971863 and 971864 (Figure 4-10), the proposed project will not impact this habitat. In addition, project activities will be conducted at least 400 feet from suitable Bell's vireo habitat, minimizing any potential noise impacts due to the project activities.

San Diego Fairy Shrimp

Tower 873081 is located between Calle de Vida and Tierrasanta Boulevard. If the depression within this access road cannot be avoided when wet, it is estimated that accessing Tower 873081 could temporarily impact approximately 525 square feet (0.01 acre) of occupied San Diego fairy shrimp habitat.

Tower 873072 and its associated stringing site are located within the Naval Family Housing Vernal Pool Preserve at the end of Santo Road. It is estimated that accessing Tower 873072 when wet would temporarily impact approximately 2,475 square feet (0.06 acre) of occupied San Diego fairy shrimp habitat and an additional 2,520 square feet (0.06 acre) of potential San Diego fairy shrimp habitat, totaling 4,995 square feet (0.12 acre) of impact. SDG&E is currently investigating the feasibility of an alternate route to Tower 873072. This alternate route would utilize a well-traveled unpaved road that runs along the fence, outside of the Preserve, and then cuts through the Preserve for approximately 150 feet, heading directly for Tower 873072. This alternate route to access Tower 873072 and its associated stringing site would reduce the temporary impacts to unprotected depressions, if crossings are made when the depressions are wet, to approximately 240 square feet (0.005 acre) of occupied San Diego fairy shrimp habitat and 360 square feet (0.008 acre) of potential San Diego fairy shrimp habitat, totaling 480 square feet (0.01 acre) of impact.

Tower 579861 is located on a loop road off Ronda Avenue. It is estimated that accessing Tower 873081 while avoiding the southern portion of the loop will temporarily impact approximately 1,412 square feet (0.03 acre) of potential San Diego fairy shrimp habitat if such access occurs when unprotected depressions are wet.

Tower 731172 is also located on a loop road off Ronda Avenue. No impacts to potential San Diego fairy shrimp habitat will occur while accessing Tower 731172. The depression immediately west of this tower will be avoided completely.

If the proposed avoidance routes are feasible during project activities in both wet and dry weather, total temporary impacts to occupied San Diego fairy shrimp habitat as a result of project activities, if unprotected depressions are crossed when wet, are anticipated to be approximately 480 square feet (0.005 acre), and temporary impacts to potential habitat, if unprotected depressions are crossed when wet, as a result of project activities are anticipated to be approximately 1,655 square feet (0.038 acre). The total area of impact for both occupied and potential habitat for San Diego fairy shrimp, if unprotected depressions are crossed when wet, is anticipated to be 2,145 square feet (0.043 acre).

If the proposed avoidance routes are *not* feasible during project activities, and unprotected depressions must be crossed when wet, total temporary impacts to occupied San Diego fairy shrimp habitat as a result of project activities are anticipated to be approximately 3,000 square feet (0.07 acre), and temporary impacts to potential habitat as a result of project activities are anticipated to be approximately 3,932 square feet (0.09 acre). The total area of impact for both occupied and potential habitat for San Diego fairy shrimp is anticipated to be 6, 932 square feet (0.16 acre).

Temporary impacts to fairy shrimp cysts may occur when occupied and potential fairy shrimp habitat is impacted during the dry season. The wildlife agencies will determine if the temporary impacts of access road use across vernal pools in dry weather are significant.

Arroyo Toad

Arroyo toads are not expected to occur within the project area or be impacted by the proposed project.

Quino Checkerspot Butterfly

Impacts to suitable and presumed occupied quino checkerspot butterfly (QCB) habitat was determined using the following definitions: Suitable QCB habitat includes "shrub communities such as coastal sage scrub, chaparral and desert scrub with 50 percent shrub cover or less and the potential to support dot-seed plantain or other larval host plants" (RECON 2000). Presumed occupied QCB habitat includes all "non-excluded areas" as defined in the USFWS Adult Flight Season Survey Protocol (2002) within one kilometer of a known quino checkerspot butterfly location.

TABLE 6
QUINO CHECKERSPOT BUTTERFLY
ASSOCIATED PERMANENT AND TEMPORARY IMPACTS

Vegetation Type	Permanent Impacts (acres)	Temporary Impacts (acres)
Coastal sage scrub	(0.72)	(5.00)
Chamise chaparral	(0.18)	(1.18)
Vegetation Type Total	(0.90)	(6.18)
Suitable QCB habitat	0.27	1.96
Presumed Occupied QCB habitat	0.63	4.22
QCB Habitat Total	0.90	6.18

() = Included in the QCB habitat total.

As shown in Table 6, temporary impacts to suitable quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 1.96 acres, and permanent impacts to suitable quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 0.27 acre. Temporary impacts to presumed occupied quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 4.22 acres and permanent impacts to presumed occupied quino checkerspot butterfly habitat as a result of project activities are anticipated to be approximately 0.63 acre.

Impacts to quino checkerspot butterfly may occur if grading or grubbing is conducted between October 16 through May 31, which is the quino checkerspot butterfly larval and adult activity season. If grading and grubbing occur from October 16 through May 31, the impacts of such grading and grubbing would be considered significant and would require mitigation. However, if grading and grubbing can avoid this time period, impacts would not be considered significant and temporary impacts to habitat could be reduced by using habitat enhancement measures in Section 7.2 of the NCCP such as hydroseeding, hand seeding, soil imprinting and soil and plant salvage. In addition to habitat enhancement, mitigation for impacts to suitable habitat and non-excludable areas would be implemented at ratios acceptable to the wildlife agencies.

Hermes Copper Butterfly

The Hermes copper butterfly is not covered under SDG&E's NCCP. A total of 31.6 acres of suitable habitat for Hermes copper butterfly are found throughout the proposed project. Of this total, 0.5 acre (less than 2 percent), will be temporarily impacted by construction activities. These impacts are less than significant and do not require mitigation.

4.4 INDIRECT WILDLIFE IMPACTS

Potential indirect impacts from project construction could include decreased water quality, fugitive dust, human activity, project noise, and night lighting.

Water quality in riparian areas can be adversely affected by potential surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could potentially contaminate surface water. Decreased water quality may adversely affect vegetation, aquatic animals, and terrestrial wildlife that depend upon these resources. These potential indirect impacts will be minimized through project design measures and the NCCP's Operational Protocols (Attachment 2) and are considered less-than-significant.

Fugitive dust produced by construction has the potential to disperse onto vegetation, potentially reducing the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., seed-eating rodents). Fugitive dust also may make plants unsuitable as habitat for insects and birds. As part of the project description, with the exception of access roads containing vernal pools, active construction areas at structure sites and unpaved surfaces at staging areas and stringing sites would be watered to minimize dust generation; therefore, the indirect impacts of dust generation on biological resources would be less than significant.

Following the completion of project construction and revegetation, the proposed project would only result in a negligible increase in human activity. It is estimated that approximately three or fewer additional trips per month, for the purpose of visual inspection of the lines, would occur along existing and proposed access roads in the project area. New roads not needed for facility access or trails are not within the scope of the project, and no increase in public access to existing habitat would be provided. Accordingly, the indirect effects associated with human activity would be less than significant.

Indirect impacts associated with project activities will include a short-term, temporary increase in noise during construction due to vehicles such as augers, cranes and pick-up trucks. Due to the linear nature of the project, project activities will move frequently, preventing noise from continuing or concentrating for long time periods at any one location. In addition, noise minimization measures for activities adjacent to sensitive species such as the coastal California gnatcatcher are discussed under Section 5.3-*Coastal California Gnatcatcher,* and under the NCCP's Operational Protocols. Any short-term, temporary noise impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these impacts are considered less than significant.

Project activities will occur primarily during daylight hours, and may only continue into evening hours under specific circumstances where ceasing project activities prior to completion would result in unsafe conditions for workers and/or the transmission lines. In these instances, any lighting required will point inward toward the project activities and away from and surrounding housing or open space. In addition, vehicle traffic associated with project activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. Any short-term, temporary impacts that may occur to wildlife species are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these short-term, temporary impacts are considered less than significant.

4.5 WILDLIFE MOVEMENT CORRIDOR IMPACTS

Project activities are not expected to significantly impact or restrict wildlife movement. Movement of most mammal and reptile species takes place at night and, as discussed under Section 4.4-*Indirect Wildlife Impacts*, any nighttime vehicle traffic associated with project activities will be kept to a minimum volume and speed to prevent mortality of nocturnal wildlife species that may be moving about. Due to the linear, nature of the project, temporary impacts to native habitats at each structure location are small (less than 0.36 acre), allowing wildlife to move freely around any project equipment within the transmission corridor. Any short-term, temporary impacts that may occur to wildlife species during construction are not expected to reduce the wildlife populations within or adjacent to the project area below self-sustaining levels; therefore, these short-term, temporary impacts are considered less than significant.

5. MITIGATION AND RECOMENDATIONS

5.1 VEGETATION COMMUNITY MITIGATION

Table 5 shows the mitigation required for project impacts to vegetation communities. Mitigation required for temporary impacts totals 75.23 acres and mitigation required for permanent impacts totals 13.89 acres. Total project mitigation requirements are 89.12 acres,

In accordance with the SDG&E NCCP, "temporary impacts are mitigated through basic site remediation which, includes native hydroseed for erosion control. However, if roots are not grubbed during temporary impacts, the hydroseeding may not be necessary. This applies to impacts greater than 500 square feet, and only where grubbing occurred. For all temporary impacts greater than 500 square feet, acreage not meeting success criteria shall be deducted from SDG&E's mitigation credits at a 1:1 ratio." The SDG&E NCCP provides additional methods by which impacts to vegetation communities may be mitigated and all applicable requirements will be implemented.

For mitigation of permanent impacts, SDG&E's mitigation credits will be deducted at the ratios specified in Table 5. Prior to project construction, should any amendments to the NCCP be approved addressing those species not currently covered under the NCCP, the ratios in Table 5 can be adjusted or revised, with the wildlife agencies approval, to reflect such amendments.

5.2 SENSITIVE PLANTS AND RARE NATIVE PLANT COMMUNITY MITIGATION

5.2.1 Sensitive Plants

San Diego barrel cactus

San Diego barrel cactus should be avoided if feasible. If avoidance is not feasible, individual coastal barrel cacti should be removed and relocated outside of the potential project impact area, or temporarily removed and replanted in their original locations after construction activities are complete.

San Diego Ambrosia

1. A qualified biologist will conduct a focused survey for San Diego ambrosia in the spring of 2004, prior to project construction activities near Steele Canyon Road. All San Diego ambrosia locations will be recorded using a global positioning system (GPS), and Figure 4-9 will be updated with any new locations. In addition, the boundaries of all San Diego ambrosia patches will be clearly staked and flagged for impact avoidance during the surveys.
2. All patches of San Diego ambrosia that are delineated at the Steele Canyon Road location will be avoided to the maximum extent possible by any temporary soil disturbing project activities such as driving, staging or deposition of auger spoils. If driving or staging in areas containing San Diego ambrosia is unavoidable, work will be conducted during the fall or winter months, the species dormant period, and plywood or a similar material will be placed over the San Diego ambrosia plants and their surrounding area to reduce soil disturbance. Any plywood placed to protect San Diego Ambrosia will be removed as soon as it is no longer needed.
3. Permanent impacts may take place at the locations for Structure #361 and #370 near Steele Canyon Road. These structure locations are currently 15 to 20 feet from any San Diego ambrosia plants. If the patch of San Diego ambrosia adjacent to the Structure #361 location expands and will be permanently impacted by the construction of the structure, the structure location may be re-located a few feet to the north in order to prevent impacts. If the San Diego ambrosia adjacent to Structure #370 extends into a location where it will be permanently impacted by project related construction, the project biologist and the wildlife agencies will coordinate to determine suitable mitigation for the permanent impacts.
4. A qualified biologist will monitor project activities for all work conducted at or around Structures #361 and #370 and the associated stringing/snub site, to insure impact avoidance.

5.2.2 Rare Native Plant Communities

Mitigation for temporary impacts to the access road depressions that are potential or occupied habitat for the San Diego fairy shrimp is discussed under Section 5.3 *San Diego Fairy Shrimp*.

5.3 SENSITIVE WILDLIFE MITIGATION

Raptors

Any existing raptor nests shall be removed from structures outside of the raptor breeding season of January to July. If it is necessary to remove a nest during the breeding season, a qualified biologist will survey the nest prior to removal to determine if the nest is active. If the nest is inactive, it will be removed promptly. If a nest is determined to be active, the biologist shall monitor the nest to insure nesting activities are not disrupted. If the biological monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor will make feasible recommendations to reduce the noise and/or disturbance in the vicinity of the nest. If for safety reasons or issues related to the scheduling of outages an active nest must be removed, SDG&E with the wildlife agencies approval may engage the use of an

appropriate wildlife rescue/rehabilitation organization to remove the nest and any fledglings in the nest.

Coastal Cactus Wren

All grading or brushing of maritime succulent scrub (Figure 4-18), habitat for the coastal cactus wren, shall be conducted from September through February, which is outside of the coastal cactus wren breeding season. Grading, brushing and any other project activity will avoid impacting large cactus patches that provide suitable nesting habitat for the coastal cactus wren. Areas of vegetation cleared for temporary construction and access shall be revegetated using habitat enhancement measures in Section 7.2 of the NCCP such as hydroseeding, hand seeding, soil imprinting, and soil and plant salvage. In addition to habitat enhancement, mitigation for permanent impacts to coastal cactus wren habitat would be implemented at ratios acceptable to the wildlife agencies. The vegetation restoration effort may include planting additional cactus to provide nesting habitat.

When conducting all other project activities during the coastal cactus wren breeding season of March through August, within maritime succulent scrub habitat, the following avoidance measures shall apply:

- A qualified biologist will survey for coastal cactus wren within one week prior to initiating project construction activities in an area.
    - If coastal cactus wrens are present but not nesting, a qualified biologist will survey for nesting coastal cactus wrens approximately once per week in the vicinity of project activities, for the duration of the activity in that area.
    - If an active coastal cactus wren nest is located in the vicinity of project activities, a biologist qualified for coastal cactus wren nest monitoring will monitor the nest daily until: (1) project activities are no longer in the vicinity of the nest, or (2) the fledglings become independent of their nest.
        - If the coastal cactus wren nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor will make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as (1) turning off vehicle engines and other equipment when ever possible to reduce noise, (2) installing a protective noise barrier between the nesting coastal cactus wren and the project activities, and (3) working in other areas until the young have fledged.

If approved by the wildlife agencies, these mitigation measures and the SDG&E NCCP cover any incidental take of coastal cactus wren.

Coastal California Gnatcatcher

Whenever feasible, all grading or brushing occurring within occupied coastal California gnatcatcher habitat, shall be conducted from September through February, which is outside of the coastal California gnatcatcher breeding season.

When conducting all other project construction activities during the coastal California gnatcatcher breeding season of March through August, within habitat in which coastal California gnatcatchers are known to or have a high potential to occur, the following avoidance measures shall apply:

- A qualified biologist will survey for coastal California gnatcatchers within one week prior to initiating project construction activities in an area.
    - If coastal California gnatcatchers are present, but not nesting, a qualified biologist will survey for nesting coastal California gnatcatchers approximately once per week in the vicinity of project activities, for the duration of the activity in that area.
    - If an active coastal California gnatcatcher nest is located in the vicinity of project activities, a biologist qualified for coastal California gnatcatcher nest monitoring will monitor the nest daily until: (1) project activities are no longer in the vicinity of the nest, or (2) the fledglings become independent of their nest.
        - If the coastal California gnatcatcher nest monitor determines that the project activities are disturbing or disrupting the nesting activities, the monitor will make feasible recommendations to reduce the noise and/or disturbance in the vicinity. This may include recommendations such as (1) turning off vehicle engines and other equipment when ever possible to reduce noise, (2) installing a protective noise barrier between the nesting coastal California gnatcatchers and the project activities, and (3) working in other areas until the young have fledged.

With these mitigation measures in place, any incidental take of coastal California gnatcatcher is covered by the SDG&E NCCP.

San Diego Fairy Shrimp

1. It is anticipated that access roads to Towers 873081, 873072, 579861 and 731172 will be used only when the roads and depressions are completely dry, preferably during the dry season (typically April through November). If Towers 873081, 873072, 579861 and 731172 must be accessed while any portion of the depressions within the roads are wet, metal plating or bridging will be placed over the depressions to prevent alteration of the depression topography, hydrology, and impacts to San Diego fairy shrimp.
2. Assuming that the vehicles required for reconductoring have adequate space to turn around within the access road or adjacent spur roads near Tower 873081, this tower will be accessed only from Tierrasanta Boulevard, instead of Calle de Vida to prevent driving through the depression north of this tower. If space is not adequate for turning around the reconductoring vehicles, the recommendations above will be followed.
3. If the temporary alternate access route to Tower 873072 and its associated stringing site is feasible, this temporary route will be used for all project construction activities associated with Tower 873072 and its associated stringing site. Use of this temporary construction access does not preclude SDG&E from using the existing access road to Tower 873072 through the vernal pool preserve after construction for operations and maintenance activities.

4. The southern section of the loop access road between Towers 579861 and 731171 will not be used to avoid impacting a number of depressions within this section. There is adequate space for reconductoring vehicles to maneuver within the north, west, and east sections of the loop road without requiring vehicles to use the entire loop.
5. The depression immediately west of Tower 731172 will be avoided to prevent impacts to potential San Diego fairy shrimp habitat. Construction vehicles should be able to park far enough away from this tower to avoid the depression without hindering their ability to safely conduct work.
6. The following areas will be clearly staked and flagged for avoidance: access road between Calle de Vida and Tower 873081; southern section of the loop road between Towers 579861 and 731171; and the depression immediately west of Tower 731172. In addition to vehicles being restricted from these areas, crewmembers on foot will also avoid these areas.
7. All depressions within access roads will be clearly marked with flagging to help minimize project impacts.
8. A qualified biologist will be present during any activities being conducted within the access routes to Towers 873081, 873072, 579861 and 731172 to monitor and assist the crew to minimize project impacts.
9. A preconstruction environmental training session will be conducted by a qualified biologist for the construction crew before reconductoring activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site.
10. If the wildlife agencies determine that the temporary impacts of access road use across vernal pools in dry weather are significant, then the mitigation measures for wet weather use, such as plating or bridging, may also be used in dry weather to reduce potential for impacts to a level of insignificance.

Quino Checkerspot Butterfly

1. Before construction begins, the boundaries of all actual construction sites at existing structures, new structures sites, stringing, snub, and staging areas in suitable quino checkerspot butterfly habitat should be clearly staked by SDG&E.
2. If the project is to be implemented in the summer or fall of 2004, adult flight season surveys should be conducted within areas designated by the USFWS in the spring of 2004 to observe any changes in habitat or additional quino checkerspot butterfly locations.
3. The staked construction sites at existing structures, new structure sites, stringing, snub, and staging areas from Tower 675995 to Tower 675984 should be resurveyed and reassessed for potential impacts to quino checkerspot butterfly after the sites have been staked but before grading and grubbing activities are scheduled to occur. Estimated impacts to suitable quino checkerspot butterfly habitat should also be recalculated based on the boundaries of the staked construction sites.

4. If feasible, grading and grubbing activities in suitable quino checkerspot butterfly habitat should occur between June 1 and October 15th, which is outside of the quino checkerspot butterfly larval and adult activity season.
5. If grading and grubbing activities occur during the quino checkerspot butterfly larval and adult activity season (October 16 through May 31), a qualified quino checkerspot butterfly biologist should survey the area ahead of grading activities. If the adult flight season has not begun, according to USFWS Survey Protocol a qualified larval quino checkerspot butterfly biologist should survey the area ahead of grading and grubbing activities for larval quino checkerspot butterfly. If egg clusters, larvae, and/or adults are present within the impact area, and impacts to these individuals are unavoidable, the USFWS will be contacted to determine whether the quino checkerspot butterfly should be salvaged or relocated.
6. A qualified biologist should be present during grading and grubbing activities in suitable quino checkerspot butterfly habitat to monitor and assist the grading and grubbing crew to ensure project impacts only occur within the staked construction work sites.
7. The San Diego National Wildlife Refuge should be notified before project activities occur at New Structure Site #30 and Tower 675995 through New Structure Site #161 and Tower 675987.
8. A preconstruction environmental training session will be conducted for the construction crew before vegetation and ground clearing activities occur to inform them of project-specific constraints and to educate them on covered species and sensitive resources at the project site.

6. CONCLUSION

During the focused plant surveys, 11 sensitive plant species and one rare natural plant community were observed, including San Diego thorn-mint, San Diego ambrosia, Otay manzanita, Dean's milk vetch, Dunn's mariposa lily, variegated dudleya, San Diego barrel cactus, Otay tarplant, San Diego golden star, Munz's sage, San Diego County viguiera and San Diego Mesa hardpan vernal pools.

Twenty sensitive wildlife species were observed during focused surveys including San Diego black-tailed jackrabbit, San Diego woodrat, southern mule deer, mountain lion, Cooper's hawk, southern California rufous-crowned sparrow, grasshopper sparrow, golden eagle, coastal cactus wren, northern harrier, coastal California gnatcatcher, California horned lark, least Bell's vireo, orangethroated whiptail, coastal rosy boa, San Diego horned lizard, western spadefoot toad, San Diego fairy shrimp, quino checkerspot butterfly, and Hermes copper butterfly.

Although the proposed project traverses sensitive habitats, adherence to the Project Protocols, SDG&E's NCCP and its habitat enhancement and mitigation measures, the additional project mitigation measures in Section 5.3 of this report, and any applicable regulatory requirements described in the PEA would result in avoiding or minimizing any potential impacts to biological resources to less than significant levels. To minimize impacts, biological resources such as jurisdictional wetlands, drainages, and vernal pool habitat would be spanned or otherwise avoided. Wherever avoidance is not feasible, SDG&E would obtain and comply with all

necessary state and federal permits to protect biological resources. In addition, except for certain access roads, the project would be located within an existing right-of-way. Therefore, its potential effect on existing wildlife movement would be less than significant.

A combination of Project Protocols, SDG&E's NCCP and its habitat enhancement and mitigation measures, and the additional mitigation measures in Section 5.3 of this report, would reduce potential impacts to the federally listed plant and wildlife species that are known to occur or have the highest potential to occur in the project right-of-way to a less than significant level. Potential short-term construction impacts to the federally listed quino checkerspot butterfly and San Diego fairy shrimp may be difficult to avoid because they reside year-round, in various life stages, in the limited locations where they occur; therefore, SDG&E would implement avoidance, minimization, and mitigation measures prescribed by the USFWS. For any unavoidable impacts to covered species, SDG&E would implement the mitigation in its agency-approved NCCP and in the PEA to reduce potential impacts to a level of insignificance. If the provisions of the SDG&E NCCP are implemented for this project any incidental take of Covered Species is allowable.

7. REFERENCES

Atwood, J.L. 1990. *Status review of the California gnatcatcher* (Polioptila california). Unpublished technical report, Manomet Bird Observatory, Manomet, Massachusetts. 79 pp.

Baicich, P. J. and Colin J.O. Harrison. 1997. *A Guide to the Nests, Eggs, and Nestlings of North American Birds*. San Diego: Academic Press.

Beier, P., and S. Loe. 1992. A Checklist for Evaluating Impacts to Wildlife Movement Corridors. *Wildlife Society Bulletin* 20:434-440.

Begon, M., J.L. Harper, and C.P. Townsend. 1996. *Ecology*, *Third Edition*. Massachusetts: Blackwell Science Ltd.

Bostic, D.L. 1964. The Ecology and Behavior of *Cnemidophorus hyperythrus beldingi* Cope (Sauria: Teiidae). 112pp. Unpublished master's thesis.

Brown, J. W. 1991. Sensitive and Declining Butterfly Species (Insecta: Lepidoptera) in San Diego County, California. Draft, Dudek and Associates, May.

Bunch, P., San Diego Gas and Electric. Personal communication with Paula Potenza, Essex Environmental. February 5, 2002.

California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California.* 6th ed. Rare Plant Scientific Advisory Committee, David P. Tibor, convening editor.

California Natural Diversity Data Base (CNDDB). 2003. California Department of Fish and Game. Search for the county of San Diego and the following 7.5-minute USGS quadrangles: La Jolla, La Mesa, Poway, El Cajon, San Vicente, and Mount Jamul.

California Department of Fish and Game. 2003a. *State and Federally Listed Endangered and Threatened Animals of California*. January.

California Department of Fish and Game. 2003b. *State and Federally Listed Endangered, Threatened, and Rare Plants of California.* January.

Chomyn, M., San Diego Gas and Electric. Personal communication with Kathleen Brubaker and Sandra Marquez, U.S. Fish and Wildlife Service. February 28, 2002.

ENature.com, Online Field Guides. Undated a. Desert woodrat. Online. http://www.enature.com. Site visited September 9, 2002.

ENature.com, Online Field Guides. Undated. Black-tailed jackrabbit. Online. http://www.enature.com. Site visited September 9, 2002.

ENature.com. Online Field Guides. Undated b. Mule deer. Online. http://www.enature.com. Site visited September 9, 2002.

Essex Environmental. 2002. *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly* (Euphydras editha quino) *Protocol Survey Report*. July 2002.

Essex Environmental. 2003a. *Miguel–Mission 230kV #2 Project Coastal California Gnatcatcher* (Polioptila californica californica) *Protocol Survey Report*. January 2003.

Essex Environmental. 2003b. *Miguel–Mission 230kV #2 Project Quino Checkerspot Butterfly* (Euphydras editha quino) *Protocol Survey Report*. June 2003.

Faulkner, D., and M. Klein. 2001. San Diego's Sensitive Butterflies: A Workshop Focusing on 10 Local Species. February.

Green, M. 1990. California's wildlife, birds, horned lark. California Wildlife Habitat Relationships System, California Interagency Wildlife Task Group, California Department of Fish and Game, Sacramento, California.

Hickman, J.C. 1993. *The Jepson Manual: Higher Plants of California*. University of California Press, Berkeley and Los Angeles, California.

Jennings, M. R., and M. P. Hayes. 1994. *Amphibian and reptiles species of special concern in California*. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, California.

Moyle, P.B., R.M. Yoshiyama, J.E. Williams, and E.D. Wikramanayake. 1995. *Fish species of special concern in California, Second Edition*. Final report prepared for the State of California, the Resource Agency, Department of Fish and Game, Inland Fisheries Division.

NatureServer Explorer. Comprehensive Report. Undated a. Desert woodrat. Online. http://www.natureserver.org. Site visited September 6, 2002.

NatureServer Explorer. Comprehensive Report. Undated b. Golden eagle. Online. http://www.natureserver.org. Site visited September 6, 2002.

NatureServer Explorer. Comprehensive Report. Undated c. Grasshopper sparrow. Online. http://www.natureserver.org. Site visited September 6, 2002.

NatureServer Explorer. Comprehensive Report. Undated. Black-tailed jackrabbit. Online. http://www.natureserver.org. Site visited September 6, 2002.

Ogden. 1994. GIS Habitat Evaluation Model. Accessed in October 2003. <http://www.sandag.org/resources/maps_and_gis/gis_downloads/downloads/images/mscphem.html>

RECON. 2000. Quino Checkerspot Butterfly Assessment and Take Estimate. Prepared for Sempra Energy, RECON No. 3398B. November 10.

RECON. 2002. Biological Technical Report for the High Meadows Ranch Site, San Diego, County. RECON No. 3141B. June 12.

RECON. 2003a. Survey Results for the Coastal California Gnatcatcher on the San Diego Gas and Electric Mission to Miguel 230 kilovolt #2 Project. RECON #3698B. June 20.

RECON. 2003b. Post Survey Notification-Focused Wet Season Survey Results for the Listed Endangered Fairy Shrimp Species for the San Diego Gas and Electric Mission to Miguel 230 kilovolt #2 Project. RECON #3698B. June 20.

Remsen, J.V. 1978. *Bird species of special concern in California: an annotated list of declining or vulnerable bird species.* Nongame Wildl. Invest., Wildl. Mgmt. Branch Admin. Rept. 78–1. California Department of Fish and Game, Sacramento, California.

Rising, J. D. 1996. *A Guide to the Identification and Natural History of the Sparrows of the United States and Canada*. California: Academic Press. Pages 148–152.

Rowland, S. D. 1992. *Activity, Behavior, Ecology, and Home Range of the Orange-throated Whiptail,* Cnemidophorus hyperythrus beldingi Cope.125pp. Unpublished master's thesis.

San Diego Natural History Museum (SDNHM). Bird Atlas Project Summer 2002. Online. http://www.sdnhm.org/research/birdatlas/wrenderings/02summer-reports.html. Site visited September 19, 2002.

SDG&E. 1995. *Subregional Natural Community Conservation Plan*. December 15, 1995.

SDG&E. 2002. Geographical Information System maps for sensitive plants and wildlife.

Small, A. 1994. *California Birds: Their Status and Distribution*. Ibis Publishing Co., Vista.

Smith, R. L. 1996. *Ecology and Field Biology*. New York: HarperCollins College Publishing. Pages 70–78.

Stebbins, R. C. 1985. *A Field Guide to Western Reptiles and Amphibians*. Houghton Mifflin Company, Boston, Massachusetts.

The Raptor Center at the University of Minnesota, College of Veterinary Medicine. *Raptor Facts*. Online. http://www.raptor.cvm.umn.edu/content.asp?page=2516. Site visited September 9, 2002.

University of California, San Diego. Climate Research Division, Scripps Institution of Oceanography. Online: http://meteora.ucsd.edu/~meyer/dry2001.html. Site visited August 7, 2002.

U.S. Fish and Wildlife Service (USFWS). 1996a. *Guidelines for Conducting and Reporting Botanical Inventories for Federally-listed, Proposed, and Candidate Plants*.

USFWS. 1996b. *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods*. April 19.

USFWS. 1997a. *Coastal California Gnatcatcher Presence/Absence Survey Protocol*.

USFWS. 1997b. *Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Arroyo Southwestern Toad; Final Rule.* Volume 59, Number 241.

USFWS. 1999. *Endangered and Threatened Wildlife and Plants*. 50 CFR 17.11 and 17.12.

USFWS. 2000. *Endangered and Threatened Wildlife and Plants; Final Determination of Critical Habitat for the San Diego Fairy Shrimp (Branchinecta sandiegoensis); Final Rule*. Volume 65, Number 205.

USFWS. 2002a. *Review of Species That Are Candidates or Proposed for Listing as Endangered or Threatened; Annual Notice of Findings on Recycled Petitions; Annual Description of Progress on Listing Actions*. Federal Register 50 CFR 17. Volume 67, No. 114. June 13.

USFWS. 2002b Quino Checkerspot Butterfly Survey Protocol Information.

USFWS. 2002c. *Quino Checkerspot Butterfly* (Euphydryas editha quino) *Recommended Quino Survey Areas Map*.

USFWS. 2002d. *Federal Designation of Critical Habitat for Quino Checkerspot Butterfly* (Euphydryas editha quino). 67 FR 18355 18395.

USFWS. 2002e. *Quino Checkerspot Butterfly 2002 Monitored Reference Site Information.* Online: http://carlsbad.fws.gov. Site visited June 2002.

USFWS. 2004. Comments on the Pre-Activity Submittal for San Diego Gas and Electric Miguel to Mission 230kV #2 Project- Quino Checkerspot Butterfly and Fairy Shrimp/Vernal Pool Evaluation. January 6.

Williams, D.F. 1986. *Mammalian Species of Special Concern in California*. California Department of Fish and Game, Wildlife Management Division Admin. Rep. 86–1. 112 pp.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White, eds. 1988. *Amphibians and Reptiles.* California's Wildlife, vol. 1. State of California, The Resources Agency, Department of Fish and Game, Sacramento.

Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer, and M. White. 1990. California's Wildlife, Volume II: Birds. State of California, Department of Fish and Game. Sacramento, California.