

APPENDIX C

Biological Technical Report and Wetland Delineation Report

**Biological Technical Report
for the
Imperial Valley to La Rosita 230-kV Line
Imperial County, California**

**BIOLOGICAL TECHNICAL REPORT
FOR THE IMPERIAL VALLEY
TO LA ROSITA 230-KV LINE
IMPERIAL COUNTY, CALIFORNIA**

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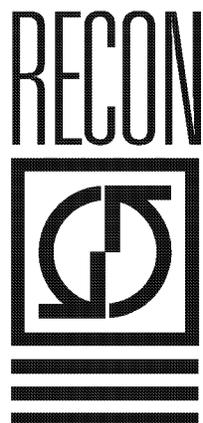


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Summary of Findings

Sempra Energy Resources (SER) and Baja California Power, Inc. (BCP) propose constructing new double-circuit 230-kilovolt (kV) transmission lines extending about six miles south from the Imperial Valley Substation owned and operated by San Diego Gas and Electric Company (SDG&E), to the United States (U.S.)-Mexico international border. The project is located in the Yuha Basin of the Colorado Desert in Imperial County, California, southwest of the town of El Centro. The area surveyed consists of a 2,150-foot-wide corridor from the Imperial Valley Substation to the Mexican border.

Two vegetation communities were identified within the survey area: Sonoran creosote bush scrub and desert wash. Neither of these vegetation communities are considered sensitive. No sensitive plant species were observed within the survey corridor during the surveys conducted by RECON. One sensitive plant, brown turbans, and two noteworthy plants, Wiggin's cholla, and Thurber's pilostyles, have been previously identified within the survey corridor. Three sensitive animal species were observed within the corridor: flat-tailed horned lizard, western burrowing owl, and prairie falcon.

Project impacts were analyzed based on a set of assumptions made using the current project design. Project revisions, if substantial, may require a re-analysis of these impacts.

The proposed design will permanently impact approximately 3.10 acres of Sonoran creosote bush scrub and 0.28 acre of desert wash. Temporary impacts will be approximately 14.96 acres of Sonoran creosote bush scrub and 0.46 acre of desert wash. The temporary impact calculations for the Sonoran creosote bush scrub includes the maximum work area for the northern portion of the project and includes overlap between the pull sites and the projected work area at each tower location and thus represents a conservative estimate of impact acreage. Construction methods (i.e., water spray for dust control) could encourage the invasion of non-native, invasive species into these vegetation communities. The project may also impact the flat-tailed horned lizard and burrowing owl. A series of measures will be required to avoid, minimize, or mitigate direct impacts to individuals of these species. Measures will include the presence of a biological monitor and pre-construction clearance surveys. If active burrowing owl burrows are located, an additional mitigation program will need to be implemented to prevent direct loss of individuals and occupied burrows.

The proposed project is expected to impact a total of 0.21 acre of U.S. Army Corps of Engineers (USACE) non-wetland jurisdictional waters of the U.S., which includes both temporary and permanent impacts. There will be no impacts to wetlands. These impacts should be mitigated at a ratio consistent with federal regulatory agencies, which is typically 1:1. Temporary impacts of 0.13 acre will be mitigated by returning the area to the pre-construction contour and vegetative condition. It is recommended that permanent

impacts of 0.08 acre be mitigated through the enhancement of the survey corridor through removal of the non-native, invasive tamarisk located along the eastern edge of the Imperial Valley Substation. A restoration plan will be prepared detailing the proposed mitigation for impacts to jurisdictional waters.

Impacts to these waters will require a Section 404 permit from the USACE and a 401 certificate from the Regional Water Quality Control Board in accordance with the Clean Water Act. This project would be covered by Nationwide Permit (NWP) #12 which regulates all activities required for the construction of utility lines and associated facilities within waters of the U.S.

Introduction

The project is located in the Yuha Basin of the Colorado Desert in Imperial County, California, southwest of the town of El Centro (Figure 1). Sempra Energy Resources (SER) and Baja California Power, Inc. (BCP) propose constructing new double-circuit 230-kV transmission lines extending about six miles south from the Imperial Valley Substation owned and operated by SDG&E, to the U.S.-Mexico international border (Figure 2). The proposed project consists of the following components:

- The construction, operation, and maintenance of a 230-kV, double-circuit transmission line between the U.S./Mexico international border and the SDG&E Imperial Valley Substation by SER.
- The construction, operation, and maintenance of a 230-kV, double-circuit transmission line between the U.S./Mexico international border and the SDG&E Imperial Valley Substation by BCP.
- Relocation of a portion of the existing 230-kV, single-circuit transmission line owned and operated by SDG&E near the Imperial Valley Substation.
- Relocation of approximately two poles of an existing 230-kV, single-circuit transmission line owned and operated by the Imperial Irrigation District (IID) near the Imperial Valley Substation.

The objective of the complete project is to connect electrical generating plants being constructed in Mexico with the electrical power grid operated by SDG&E in southern California for the purpose of importing electrical power into the United States. The project corridor is located completely on Bureau of Land Management (BLM) property and is bisected by Highway 98.

A general biological survey was conducted to map vegetation communities and to assess the presence or potential for presence of sensitive floral and faunal species apparent at the time of the surveys.

Survey Methods

A general biological resources survey was conducted on September 27, October 24 and 25, and December 12, 2000, by RECON biologists Wendy Loeffler, Cynthia Jones, Jennifer Hodge, and Cheri Boucher. Vegetation communities were assessed and mapped on a color aerial flown in 2000. The area surveyed consists of a 2,150-foot-wide corridor. This includes a 120-foot-wide easement for the existing 230-kV power line and an additional 1,015 feet on each side. Animal species observed directly or detected from calls, tracks, scat, nests, or other sign were noted. All plant species observed on-site were also noted, and plants that could not be identified in the field were identified later using taxonomic keys.

On October 24 and 25, 2000, a wetland delineation was performed by RECON biologists Gerry Scheid and Jennifer Hodge according to the guidelines set forth by the USACE (1987) with a follow-up visit made on December 12, 2000. A wetland delineation is used to identify and map the extent of the wetlands and “waters of the U.S.” within the proposed project boundary and provide information regarding both state and federal jurisdictional issues. The results of this delineation are provided under separate cover in Wetland Delineation Report for the Imperial Valley to La Rosita 230-Kv Line Imperial County, California, dated July 24, 2001, and are incorporated here, as appropriate.

A habitat assessment and preliminary survey was conducted for the flat-tailed horned lizard (*Phrynosoma mcallii*) by Mark Doderer and other RECON biologists on September 27, 2000 to verify the suitability of the site to support the species and to determine whether the species could be detected this season.

Limitations to the compilation of a comprehensive floral checklist were imposed by seasonal factors, such as blooming period and emergence of spring annual species. Faunal species that are only present during the breeding season of late spring to summer, such as breeding birds and butterflies, were not detected. Since surveys were performed during the day, nocturnal animals were detected by sign.

Floral nomenclature for plants follows Hickman (1993). Plant community classifications generally follows Holland (1986). Zoological nomenclature for birds is in accordance with the American Ornithologists' Union Checklist (1998); for mammals, Jones et al. (1982); and for amphibians and reptiles, Collins (1997). Assessments of the sensitivity of species and habitats are based primarily on Skinner and Pavlik (1994), State of California (2000a and 2000b), and Holland (1986).

Several previous surveys have been conducted on the project site or in the general vicinity. Results have been presented in the Final Environmental Impact Statement and Proposed Plan for the California Desert Conservation Area (BLM 1980) and Final Environmental Impact Report for the San Diego Gas & Electric Company's Imperial Valley to La Rosita 230-kV Transmission Line (Environmental Science Associates, Inc. 1983). Information regarding sensitive species in these reports has been incorporated into this report, as appropriate.

Existing Conditions

A. Topography and Soils

Elevation of the survey area ranges from approximately sea level to 85 feet above mean sea level (U.S. Geological Survey 1957). The survey corridor is bisected by Highway 98. Pinto Wash is located to the north of the highway. An unnamed seasonal drainage is located to the south near the U.S./Mexico border. The site is relatively flat and homogenous.

Nine soil types are present within the survey corridor: Rositas sand, Rositas fine sand, Carsitas gravelly sand, Glenbar complex, Indio-Vint complex, Meloland fine sand, Niland fine sand, pits, and Rositas-Superstition loamy fine sand (U.S. Department of Agriculture 1978). The USDA soil survey (1978) did not cover a portion of the survey corridor south of Highway 98 and west of the existing 230-kV power line. Soils information from this area is not currently available.

Rositas sand (0-2 percent slopes) and **Rositas fine sand** (0-2 percent slopes) are alluvial or eolian sands found on floodplains, basins, and terraces. These are the dominant soil types found within the survey corridor and are primarily located north of Highway 98.

Carsitas gravelly sand (0-5 percent slopes) consists of alluvial materials weathered from granitic and metamorphic rocks. This soil type is the dominant soil type south of Highway 98.

Glenbar complex soils are alluvial soils of mixed origin. This soil complex is located in a small area just south of Highway 98.

Indio-Vint complex are level soils found on floodplains and alluvial basin floors. Soil types of this complex were formed in alluvial and eolian sediments of mixed origin. This soil complex is located in two places just north and south of Highway 98.

Meloland fine sand is also found on floodplains and alluvial basin floors and is formed from alluvial and eolian sediments. This soil type is found in one small area just south of Highway 98.

Niland fine sand consists of fine brown sand with a subsoil of brown silty clay and is a soil found on level floodplains and alluvial basin floors. This soil type is located in a small area to the north of Highway 98.

Rositas-Superstition loamy fine sand is a complex of several soil types formed in terrace sediment of West Mesa. The soil types within the complex are derived from alluvial or eolian sand material. Only one small area of this soil complex is present north of Highway 98.

Pits is a mapping unit that describes areas where soil has been removed, generally through gravel mining. Two pits areas are identified near the southern boundary of the survey corridor.

B. Botany

Two vegetation communities were identified within the survey area: Sonoran creosote bush scrub and desert wash. Table 1 presents the acreages of each community within the survey corridor. There are a total of 1,463.7 acres within the survey corridor. Figure 3 illustrates the locations of the vegetation communities. A total of 34 plant species were identified on the site (Attachment 1). Of this total, 31 (91 percent) are species native to southern California and 3 (9 percent) are introduced species.

**TABLE 1
VEGETATION COMMUNITIES
WITHIN THE SURVEY CORRIDOR**

Resource	Acres
Sonoran creosote bush scrub	1,217.7
Desert wash	203.6
Developed	42.4
TOTAL	1,463.7

1. Sonoran Creosote Bush Scrub (1,217.7 acres)

Sonoran creosote bush scrub is the dominant vegetation community and accounts for approximately 1,217.7 acres within the survey corridor both north and south of Highway 98. The vegetation is open and relatively sparse, dominated by creosote bush (*Larrea tridentata*). Burro-weed (*Ambrosia dumosa*) and two species of saltbush (*Atriplex* spp.) were also common. Several trees, such as ironwood (*Olneya tesota*), velvet mesquite (*Prosopis velutina*), and catclaw acacia (*Acacia greggii*), are interspersed throughout the community, particularly in the southern half. A few scattered tamarisk (*Tamarix* sp.) are present in patches on the southern portion of the survey corridor and a large patch of tamarisk is located along the eastern boundary of the Imperial Valley Substation.

2. Desert Wash (203.6 acres)

Desert wash is found in three distinct areas within the survey corridor for a total of 203.6 acres. The largest area is located near the northern boundary of the corridor and is a part of Pinto Wash, which extends from just east of the survey corridor southwest into Mexico. The dominant species in the wash is smoke tree (*Psoralea argophylla*) occurring with velvet mesquite, cat claw acacia, encelia (*Encelia frutescens*), verbena (*Abronia villosa* var. *villosa*), and big galleta (*Pleuraphis rigida*). The second of the three areas is located just south of Highway 98. This area includes the confluence of two streams, where a culvert and dam have been placed. The area directly downstream of the culvert has been heavily disturbed due to off-road vehicle traffic. The road crosses the drainage at this location. Little to no vegetation is found in this disturbed area or east of the culvert. The two finger drainages west of the culvert support verbena, chinchweed (*Pectis papposa*), paper flower (*Psilostrophe cooperi*), and white dalea (*Psoralea emoryi*). The southernmost area is an extension of an unnamed intermittent drainage that flows north from Signal Mountain just over the U.S.-Mexico border and then to the east into the survey corridor, where the drainage terminates. The western edge of this area contains a uniform stand of tamarisk while the remainder is primarily unvegetated with a few scattered shrubs. One large ironwood tree occurs in this section of the drainage.

3. Developed (42.4 acres)

Highway 98 bisects the survey corridor in an east-west direction and accounts for 5.5 acres of the survey corridor. A portion of the survey corridor has been developed as the Imperial Valley Substation and is located in the upper northwest portion of the corridor. This covers 36.9 acres of the survey area.

C. Zoology

Overall, the project area and vicinity provides high value habitat for wildlife species. The site contains high-quality Sonoran creosote bush scrub and desert wash habitats, which

provide cover, foraging, and breeding habitat for a variety of native wildlife species. A complete list of the wildlife species detected is provided in Attachment 2. Sensitive species potentially occurring on-site are discussed in the Sensitive Biological Resources section.

1. Amphibians

Most amphibians require moisture for at least a portion of their life cycle, with many requiring a permanent water source for habitat and reproduction. Terrestrial amphibians have adapted to more arid conditions and are not completely dependent on a perennial or standing source of water. These species avoid desiccation by burrowing beneath the soil or leaf litter during the day and during the dry season.

No amphibians were detected during the surveys.

2. Reptiles

The diversity and abundance of reptile species varies with habitat type. Many reptiles are restricted to certain vegetation communities and soil types although some of these species will also forage in adjacent communities. Other species are more ubiquitous using a variety of vegetation types for foraging and shelter.

Both the desert iguana (*Dipsosaurus dorsalis*) and flat-tailed horned lizard were observed within the survey corridor. The flat-tailed horned lizard is known to inhabit this entire region (State of California 2000c; BLM, unpublished data). Other common species known from this region and expected to occur within the survey corridor are long-tailed brush lizard (*Urosaurus graciosus*), side-blotched lizard (*Uta stansburiana*), long-nose leopard lizard (*Gambelia wislizenii*), western whiptail (*Cnemidophorus tigris*), zebra-tailed lizard (*Callisaurus draconoides*), coachwhip (*Masticophis flagellum*), sidewinder (*Crotalus cerastes*), western patch-nosed snake (*Salvadora hexalepis*), western shovel-nosed snake (*Chionactis occipitalis*), and spotted leaf-nosed snake (*Phyllorhynchus decurtatus*) (G. Wright, pers. comm. 2001).

3. Birds

The diversity of bird species varies with respect to the character, quality, and diversity of vegetation communities. Due to the homogeneity of habitats present within the survey corridor, the bird diversity is fairly low.

Birds commonly observed include yellow-rumped warbler (*Dendroica coronata*) and white-crowned sparrow (*Zonotricha leucophrys*). Two wintering species, blue-gray gnatcatcher (*Polioptila caerulea*) and rock wren (*Salpinctes obsoletus obsoletus*), potentially breed in the study area.

Raptors observed include red-tailed hawk (*Buteo jamaicensis*) and prairie falcon (*Falco mexicanus*). The prairie falcon was perched on one of the existing towers. A western burrowing owl (*Speotyto cunicularia hypugaea*) was observed within one of the small desert washes south of Highway 98.

4. Mammals

Sonoran creosote bush scrub and desert wash communities typically provide cover and foraging opportunities for a variety of mammal species. Many mammal species are nocturnal and must be detected during daytime surveys by observing their sign, such as tracks, scat, and burrows.

Desert black-tailed jackrabbit (*Lepus californicus deserticola*), cottontail rabbit (*Sylvilagus audubonii*), round-tailed ground squirrel (*Spermophilus tereticaudus tereticaudus*), coyote (*Canis latrans*), and desert kit fox (*Vulpes macrotis*) were identified within the survey corridor. Other common species known from this region and expected to occur within the survey corridor are badger (*Taxidea taxus*), bobcat (*Lynx rufus*), and raccoon (*Procyon lotor*). Mule deer (*Odocoileus hemionus*) and mountain lion (*Felis concolor*) are occasionally observed within this region as well (G. Wright, pers. comm. 2001).

D. Sensitive Biological Resources

Federal and state agencies regulate sensitive species and require an assessment of the presence or potential presence of sensitive species to be conducted on-site prior to the approval of any proposed development on a property. For purposes of this report, species will be considered sensitive if they are: (1) listed or proposed for listing by state or federal agencies as threatened or endangered; (2) on List 1B (considered endangered throughout its range) or List 2 (considered endangered in California but more common elsewhere) of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994); or (3) sensitive, rare, endangered, or threatened by other local conservation organizations or specialists.

Noteworthy plant species are considered to be those which are on List 3 (more information about the plant's distribution and rarity needed) and List 4 (plants of limited distribution) of the CNPS *Inventory*.

Determination of the potential occurrence for listed, sensitive, or noteworthy species are based upon known ranges and habitat preferences for the species (Zeiner et al. 1988a, 1988b, 1990; Skinner and Pavlik 1994; Reiser 1994); species occurrence records from the NDDB (State of California 2000c); and species occurrence records from other sites in the vicinity of the project site.

1. Sensitive Plant Communities

Neither Sonoran creosote bush scrub or desert wash are considered sensitive.

2. Sensitive Plants

One sensitive plant, brown turbans (*Malpernia tenuis*), and two noteworthy plants, Wiggin's cholla (*Opuntia wigginsii*) and Thurber's pilostyles (*Pilostyles thurberi*), have been previously identified within the corridor. These are discussed in more detail below.

a. Observed

Brown turbans (*Malpernia tenuis*). Brown turbans, a CNPS List 2 species, is an annual herbaceous species known from southern California in sandy, desert scrub habitats. This species was reported in the Yuha Desert south of Pinto Wash (Reiser 1994; State of California 2000c). This is a very general location description and it is not certain that the species was observed within the survey corridor itself. However, the habitat within the survey corridor is suitable for the species and it has a high potential to occur.

Wiggin's cholla (*Opuntia wigginsii*). Wiggin's cholla, a CNPS List 3 species, is a cactus found primarily in Sonoran Desert scrub habitats. This species is considered by some authorities to be a sporadic hybrid between two other cactus species: pencil cactus (*Opuntia ramosissima*) and silver cholla (*O. echinocarpa*). This species was reported to be present within the existing transmission line corridor in 1983 (Environmental Science Associates, Inc. 1983). Conditions do not appear to have been altered significantly since the original observation and this species is expected to still be present within the survey corridor.

Thurber's pilostyles (*Pilostyles thurberi*). Thurber's pilostyles, a CNPS List 4 species, is a parasitic herbaceous species found primarily in the stems of white dalea (*Psorothamnus emoryi*). White dalea is a common plant of desert scrub and washes. Thurber's pilostyles was reported to be present within the existing transmission line corridor in 1983 (Environmental Science Associates, Inc. 1983). Conditions do not appear to have been altered significantly since the original observation and the host plant is common within Pinto Wash in the survey area. This species is expected to still be present within the survey corridor.

b. Not Observed

Several other sensitive species are known to occur in the vicinity of the project area and are considered as potentially occurring based on vegetation communities present within the survey area. Table 2 summarizes the status and habitats for each of these potentially occurring species, with codes explained in Table 3.

TABLE 2
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE

Species	State/Federal Status	CNPS List	CNPS Code	Comments
<i>Amaranthus watsonii</i> Watson's amaranth	-/-	4	1-1-1	Mojavean desert scrub; Sonoran desert scrub. Suitable habitat present; high potential to occur.
<i>Astragalus crotalariae</i> Salton milk vetch	-/-	4	1-1-2	Sonoran desert scrub/ sandy or gravelly. Suitable habitat present, high potential to occur.
<i>Astragalus insularis</i> var. <i>harwoodii</i> Harwood's milk vetch	-/-	2	2-2-1	Desert dunes. No suitable habitat; not expected to occur.
<i>Astragalus lentiginosus</i> var. <i>borreganus</i> Borrego milk vetch	-/-	4	1-1-1	Mojavean desert scrub, Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.
<i>Astragalus magdalenae</i> var. <i>peirsonii</i> Peirson's milk-vetch	CE/FT	1B	2-2-2	Desert dunes. No suitable habitat present, not expected to occur.
<i>Bursera microphylla</i> Elephant tree	-/-	2	3-1-1	Sonoran desert scrub/rocky. No suitable soils, not observed during surveys. Not expected to occur.
<i>Calliandra eriophylla</i> Fairyduster	-/-	2	2-1-1	Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.
<i>Camissonia arenaria</i> Sand evening-primrose	-/-	4	1-1-1	Mojavean desert scrub, Sonoran desert scrub/sandy, rocky. Suitable habitat present; high potential to occur.
<i>Cassia covesii</i> Cove's cassia	-/-	2	2-2-1	Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.
<i>Castela emoryi</i> Crucifixion thorn	-/-	2	2-1-1	Mojavean and Sonoran desert scrub. Very localized to the west of the study area. Not observed and not expected to occur.
<i>Cereus giganteus</i> Saguaro	-/-	2	3-2-1	Sonoran desert scrub/rocky. Soils not rocky; not observed in study area.
<i>Chamaesyce abramsiana</i> Abram's spurge	-/-	2	3-2-1	Mojavean desert scrub, Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.

TABLE 2
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE
(continued)

Species	State/Federal Status	CNPS List	CNPS Code	Comments
<i>Chamaesyce platysperma</i> Flat-seeded spurge	-/-	3	3-2-2	Desert dunes, Sonoran desert scrub/sandy. Possibly endemic to California. Suitable habitat present; high potential to occur.
<i>Condalia globosa</i> var. <i>pubescens</i> Spiny abrojo	-/-	4	1-2-1	Sonoran desert scrub. Suitable habitat present but not observed on-site. Low potential to occur.
<i>Coryphanta vivipara</i> var. <i>alversonii</i> Alverson's foxtail cactus	-/-	1B	3-2-2	Mojavean desert scrub, Sonoran desert scrub. Threatened by horticultural collecting. Suitable habitat present but not observed on-site. Low potential to occur.
<i>Croton wigginsii</i> Wiggin's croton	CR/-	2	2-2-1	Desert dunes, Sonoran desert scrub. Moderately suitable habitat present; moderate potential to occur.
<i>Cryptantha costata</i> Ribbed cryptantha	-/-	4	1-1-2	Mojavean and Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.
<i>Cryptantha holoptera</i> Winged cryptantha	-/-	4	1-1-2	Mojavean and Sonoran desert scrub. Suitable habitat present; high potential to occur.
<i>Cynanchum utahense</i> Utah cynanchum	-/-	4	1-1-1	Mojavean and Sonoran desert scrub/sandy, gravelly. Suitable habitat present; high potential to occur.
<i>Ditaxis adenophora</i> Glandular ditaxis	-/-	2	3-2-1	Mojavean and Sonoran desert scrub/sandy. Suitable habitat present; high potential to occur.
<i>Eucnide rupestris</i> Rock nettle	-/-	2	3-2-1	Sonoran desert scrub. Known from approximately 3 miles east of study area. Suitable habitat present; high potential to occur.
<i>Helianthus niveus</i> ssp. <i>tephrodes</i> Algodones Dunes sunflower	CE/-	1B	3-2-1	Desert dunes. No suitable habitat present, not expected to occur.

TABLE 2
SENSITIVE PLANT SPECIES
OBSERVED (†) OR WITH THE POTENTIAL FOR OCCURRENCE
(continued)

Species	State/Federal Status	CNPS List	CNPS Code	Comments
<i>Ipomopsis effusa</i> Baja California ipomopsis	-/-	2	3-3-1	Known from Pinto Wash west of study area. High potential to occur.
<i>Lupinus excubitus</i> var. <i>medius</i> Mountain Springs bush lupine	-/-	1B	2-1-2	Pinyon-juniper woodland, Sonoran desert scrub. Generally occurs in elevations above 1,000 feet. Maximum elevation within survey area is 85 feet. Not expected to occur based on elevation restrictions.
<i>Lycium parishii</i> Parish's desert-thorn	-/-	2	2-1-1	Coastal sage scrub, Sonoran desert scrub. Suitable habitat present. Not observed during survey; low potential to occur.
<i>Malperia tenuis</i> † Brown turbans	-/-	2	3-1-1	Sonoran desert scrub/sandy. Historically observed from the study area. High potential to occur.
<i>Nemacaulis denudata</i> var. <i>gracilis</i> Slender woolly-heads	-/-	2	2-2-1	Sandy soils. High potential to occur.
<i>Opuntia munzii</i> Munz's cholla	-/-	3	3-1-3	Sonoran desert scrub/sandy, gravelly. Suitable habitat present in study area but species only known from Chocolate Mountains. Not expected to occur.
<i>Opuntia wigginsii</i> † Wiggins' cholla	-/-	3	3-1-2	Sonoran desert scrub/ sandy. Previously observed within survey corridor.
<i>Pholisma sonorae</i> Sand food	-/-	1B	2-2-2	Desert dunes. No suitable habitat present, not expected to occur.
<i>Pilostyles thurberi</i> † Thurber's pilostyles	-/-	4	1-1-1	Sonoran desert scrub. Parasitic on <i>Psoralea</i> spp. Host plant present; plant observed within survey corridor.
<i>Proboscidia althaeifolia</i> Desert unicorn plant	-/-	4	1-1-1	Sonoran desert scrub. Suitable habitat present; high potential to occur.

NOTE: See Table 3 for explanation of sensitivity codes.

**TABLE 3
SENSITIVITY CODES**

FEDERAL CANDIDATES AND LISTED PLANTS

- FE = Federally listed, endangered
- FT = Federally listed, threatened
- FPE = Federally proposed endangered
- FPT = Federally proposed threatened

STATE LISTED PLANTS

- CE = State listed, endangered
- CR = State listed, rare
- CT = State listed, threatened

CALIFORNIA NATIVE PLANT SOCIETY

LISTS

- 1A = Species presumed extinct.
- 1B = Species rare, threatened, or endangered in California and elsewhere. These species are eligible for state listing.
- 2 = Species rare, threatened, or endangered in California but which are more common elsewhere. These species are eligible for state listing.
- 3 = Species for which more information is needed. Distribution, endangerment, and/or taxonomic information is needed.
- 4 = A watch list of species of limited distribution. These species need to be monitored for changes in the status of their populations.

R-E-D CODES

R (Rarity)

- 1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time.
- 2 = Occurrence confined to several populations or to one extended population.
- 3 = Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E (Endangerment)

- 1 = Not endangered
- 2 = Endangered in a portion of its range
- 3 = Endangered throughout its range

D (Distribution)

- 1 = More or less widespread outside California
- 2 = Rare outside California
- 3 = Endemic to California

3. Sensitive Wildlife

Three sensitive species were observed within the corridor: flat-tailed horned lizard, western burrowing owl, and prairie falcon. These species are mapped on Figure 3.

a. Observed

Flat-tailed horned lizard (*Phrynosoma mcallii*). The flat-tailed horned lizard is a BLM sensitive species and a California Department of Fish and Game (CDFG) species of special concern (State of California 2000b). Pursuant to a recent court order, this species may come under consideration for listing as threatened or endangered by the U.S. Fish and Wildlife Service (G. Wright, pers. comm. 2001).

The distribution of the flat-tailed horned lizard ranges from the Coachella Valley to the head of the Gulf of California and southwestern Arizona. The species typically occurs in areas with fine, sandy soils and sparse desert vegetation. It is also found in areas consisting of mudhills and gravelly flats. The species has declined because of habitat destruction for agriculture and development.

This species was observed during the current surveys and has been observed within the survey corridor during directed surveys conducted by BLM since 1979 (G. Wright, pers. com. 2000). In addition, the survey corridor is located within an identified management area, the Yuha Desert Management Area, for the flat-tailed horned lizard (Foreman 1997). Figure 3 shows the boundary of the areas where flat-tailed horned lizards have been observed during the BLM surveys. Given the homogeneity of the habitat and the fact that the survey corridor is located within a management area, the entire survey corridor is considered to support the species.

Western burrowing owl (*Speotyto cunicularia hypugaea*). The western burrowing owl is a BLM sensitive species and a CDFG species of special concern (State of California 2000b). This subspecies is known to nest throughout most of California. It is a year-round resident and nests from March through August, with peak nesting activity during April and May. In Imperial County it can be found in desert scrub, grassland, and agricultural areas, where it digs its own or occupies existing burrows. Urbanization has greatly restricted the extent of suitable habitat for this species. Other contributions to the decline of this species include the poisoning of prey species and collisions with automobiles.

Burrowing owls are historically known to exist in the general vicinity of the project site (State of California 2000c). One burrowing owl was observed on the sandy bank above the desert wash located in the center of the survey corridor. There is a potential for this species to nest and winter within the survey corridor.

Prairie falcon (*Falco mexicanus*). The prairie falcon is a CDFG species of special concern (State of California 2000b). This falcon ranges from the southeastern deserts

northwest along the inner Coast Ranges and Sierra Nevada. It can be a permanent resident or migrant bird found from annual grasslands to alpine meadows, but is associated primarily with perennial grasslands, savannahs, rangeland, some agricultural fields, and desert scrub areas. This species nests on cliff ledges and occasionally in rock crevices.

One prairie falcon was observed on one of the existing towers just south of the Imperial Valley Substation. The survey corridor contains suitable foraging habitat, however, there is no suitable nesting habitat for this species within the survey corridor and it is not expected to nest within the survey area.

b. Not Observed

Several other sensitive animals are either known to occur in the vicinity or have a potential to be present within the survey corridor. Table 4 lists the sensitive species observed on-site and those that could potentially occur on-site based on the ranges and habitat requirements of these species and includes the likelihood of occurrence for these species.

4. Wildlife Movement Corridors

Wildlife movement corridors are defined as areas that connect suitable wildlife habitat areas in a region otherwise fragmented by rugged terrain, changes in vegetation, or human disturbance. Natural features such as canyon drainages, ridgelines, or areas with vegetation cover provide corridors for wildlife travel. Wildlife movement corridors are important because they 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 by resource and conservation agencies.

The survey corridor is surrounded by undeveloped BLM open space. Wildlife can travel throughout the immediate region unimpeded and thus the site is not considered a movement corridor.

E. Jurisdictional Areas

The methods for delineating wetlands used for this report follows guidelines set forth by the USACE (1987). Three criteria must be fulfilled in order to consider an area a jurisdictional wetland: (1) the presence of hydrophytic vegetation; (2) the presence of hydric soils; and (3) the presence of wetland hydrology. Atypical wetland areas (disturbed wetlands) and problem area wetlands (e.g., seasonal wetlands) may lack one or more of the three criteria but could still be considered wetlands if background information on the previous condition of the area and field observations indicate that the missing wetland criteria were present before the disturbance and would occur at the site under normal

TABLE 4
SENSITIVE WILDLIFE SPECIES KNOWN (OR POTENTIALLY OCCURRING)

Species	Status	Habitat	Occurrence/Comments
<u>Amphibians</u> (Nomenclature from Collins 1997)			
Desert slender salamander <i>Batrachoseps aridus</i>	FE, SE	Limestone fractures in desert canyons. Only known population in Santa Rosa Mountains of Riverside County.	Out of known range for species; not expected to occur.
Couch's spadefoot <i>Scaphiopus couchi</i>	CSC, BLM	Temporary desert rainpools that last at least 7 days with water temperatures greater than 15°C	Known only from the Colorado River area in California. Not expected to occur.
<u>Reptiles</u> (Nomenclature from Collins 1997)			
Desert tortoise <i>Gopherus agassizii</i>	FT, ST	Mohave and Sonoran desert areas, especially areas of creosote bush scrub.	Out of known range for species; not expected to occur.
Barefoot gecko <i>Coleonyx switaki</i>	ST	Rock outcrops on arid hillsides and canyons in desert scrub vegetation types.	No suitable habitat; not expected to occur.
Colorado desert fringe-toed lizard <i>Uma notata</i>	CSC, BLM	Loose sand of desert dunes, flats, riverbanks, and washes. Prefers scant vegetation.	Suitable habitat present; high potential to occur.
Flat-tailed horned lizard <i>Phrynosoma mcalli</i>	CSC, BLM	Dunes and sandy flats of low desert.	Known to occur within survey corridor.

TABLE 4
SENSITIVE WILDLIFE SPECIES KNOWN (OR POTENTIALLY OCCURRING)
 (continued)

Species	Status	Habitat	Occurrence/Comments
<u>Birds</u> (Nomenclature from American Ornithologists' Union)			
Northern harrier (nesting) <i>Circus cyaneus</i>	CSC	Coastal lowland, marshes, grassland, agricultural fields. Migrant and winter resident, rare summer resident.	Winter foraging habitat present; not expected to nest within survey corridor.
Harris' hawk (nesting) <i>Parabuteo unicinctus</i>	CSC	River woods, mesquite, brush, cactus deserts. Casual vagrant.	Reintroduced to region in 1980s with a few nests identified in 1990s only in the lower Colorado River area. Low potential to nest within survey corridor.
Red-tailed hawk (nesting) <i>Buteo jamaicensis</i>	*	Found in almost all habitats throughout California except in areas of heavy snow. Common resident.	Observed foraging over site. Low potential to nest within survey corridor.
Swainson's hawk (nesting) <i>Buteo swainsoni</i>	ST	Plains, range, open hills, sparse trees. Uncommon spring migrant.	Local breeding population now extirpated; not expected to occur.
Golden eagle (nesting and wintering) <i>Aquila chrysaetos</i>	CSC, CFP, BEPA	Require vast foraging areas in grassland, broken chaparral, or sage scrub. Nest in cliffs and boulders. Uncommon resident.	Range maps exclude the Imperial Valley; low potential to occur.
Merlin <i>Falco columbarius</i>	CSC	Rare winter visitor. Grasslands, agricultural fields, occasionally mud flats.	Seldom found in open deserts, low potential to occur within survey corridor.
Peregrine falcon <i>Falco peregrinus anatum</i>	SE, CFP	Open coastal areas, mud flats. Rare inland. Rare fall and winter resident, casual in late spring and early summer.	Not known to nest in Imperial County. Not expected to occur.

TABLE 4
SENSITIVE WILDLIFE SPECIES KNOWN (OR POTENTIALLY OCCURRING)
 (continued)

Species	Status	Habitat	Occurrence/Comments
Prairie falcon (nesting) <i>Falco mexicanus</i>	CSC	Grassland, agricultural fields, desert scrub. Uncommon winter resident. Rare breeding resident; nests on cliff ledges or in rock crevices.	Observed within survey corridor during winter. No suitable nesting habitat within the survey corridor. Not expected to nest on-site.
Elf owl (breeding) <i>Micrathene whitneyi</i>	SE	Desert trees. Very localized populations to the east of the Colorado River.	Out of range from known breeding location; not expected to nest within survey corridor.
Western burrowing owl (burrow sites) <i>Speotyto cunicularia hypugaea</i>	CSC, BLM	Grassland, agricultural land, coastal dunes with rodent burrows. Declining resident.	Observed within survey corridor during winter. High potential to nest within survey corridor.
Long-eared owl (nesting) <i>Asio otis</i>	CSC	Riparian woodland, oak woodland, tamarisk woodland. Rare resident and winter visitor. Localized breeding.	Riparian habitat required by species. Tamarisk scrub within survey corridor not sufficient to support owl population; not expected to occur.
Gila woodpecker <i>Melanerpes uropygialis</i>	SE	Saguaro and willow-cottonwood desert. Date palms, tamarisk. Lower Colorado River and near Brawley.	No suitable desert riparian habitat present; not expected to occur within survey corridor.
Crissal thrasher <i>Toxostoma dorsale</i>	CSC	Dense thickets of shrubs or low trees in desert riparian and desert wash habitats.	Suitable habitat present; high potential to occur.
Le Conte's thrasher <i>Toxostoma lecontei</i>	CSC, BLM	Desert washes, creosote bush scrub. Uncommon resident.	Generally does not overlap with Crissal thrasher range; low potential to occur.
Loggerhead shrike <i>Lanius ludovicianus</i>	CSC	Open foraging areas near scattered bushes and low trees.	Suitable habitat present; high potential to occur.

TABLE 4
SENSITIVE WILDLIFE SPECIES KNOWN (OR POTENTIALLY OCCURRING)
 (continued)

Species	Status	Habitat	Occurrence/Comments
<u>Mammals</u> (Nomenclature from Jones et al. 1982)			
California leaf-nosed bat <i>Macrotus californicus</i>	CSC, BLM	Low deserts. Caves, mines, buildings. Colonial. Migrational. Mostly near Colorado River in California.	Suitable foraging habitat; no suitable roosting locations. High potential to forage over site.
Pallid bat <i>Antrozous pallidus</i>	CSC, BLM	Arid deserts and grasslands. Shallow caves, crevices, rock outcrops, buildings, tree cavities. Especially near water.	Colonial. Audible echolocation signal. Moderate potential to forage over site; no suitable roosting habitat present.
Spotted bat <i>Euderna maculatum</i>	CSC, BLM	Wide variety of habitats. Caves, crevices, trees.	Audible echolocation signal. Prefers sites with adequate roosting sites. No suitable roosting site; not expected to occur.
Pale big-eared bat <i>Corynorhinus townsendii pallescens</i>	CSC, BLM	Caves, mines, buildings. Found in a variety of habitats, arid and mesic.	Individual or colonial. Extremely sensitive to disturbance. No suitable roosting site; not expected to occur.
Pocketed free-tailed bat <i>Nyctinomys femorosacca</i>	CSC	Normally roost in crevice in rocks, slopes, cliffs. Lower elevations in San Diego and Imperial Counties.	Colonial. Leave roosts well after dark. Moderate potential to forage over site; no suitable roosting habitat present.
Southern grasshopper mouse <i>Onychomys torridus ramona</i>	CSC	Alkali desert scrub & desert scrub preferred. Also succulent shrub, wash, & riparian areas; coastal sage scrub, mixed chaparral, sagebrush, low sage, and bitterbrush. Low to moderate shrub cover preferred.	Suitable habitat present; high potential to occur.

TABLE 4
SENSITIVE WILDLIFE SPECIES KNOWN (OR POTENTIALLY OCCURRING)
 (continued)

Species	Status	Habitat	Occurrence/Comments
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	CSC	Coastal sage scrub, chaparral, most desert habitats.	Suitable habitat present; high potential to occur.
American badger <i>Taxidea taxus</i>	*	Grasslands, Sonoran desert scrub.	Suitable habitat present; high potential to occur.

STATUS CODES

Listed/Proposed

- FE = Listed as endangered by the federal government
- FT = Listed as threatened by the federal government
- SE = Listed as endangered by the state of California
- ST = Listed as threatened by the state of California

Other

- BEPA = Bald and Golden Eagle Protection Act
- BLM = Bureau of Land Management
- CFP = California fully protected species
- CSC = California Department of Fish and Game species of special concern
- * = Taxa listed with an asterisk fall into one or more of the following categories:
 - Taxa considered endangered or rare under Section 15380(d) of CEQA guidelines
 - Taxa whose nests are protected under State of California Fish and Game Code
 - Taxa that are biologically rare, very restricted in distribution, or declining throughout their range
 - Population(s) in California that may be peripheral to the major portion of a taxon's range, but which are threatened with extirpation within California
 - Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands)

circumstances. In addition, areas that displayed a prominent ordinary high water mark were also evaluated as potential non-wetland jurisdictional waters or disturbed wetland.

Waters of the U.S., as defined by USACE, were delineated on-site and are described below.

USACE

Based on information on soils, hydrology, and vegetation, observations made in the field, and data analysis, one wetland and three areas of non-wetland jurisdictional waters of the U.S. were delineated in the study area. The total area likely to be regulated by USACE within the survey corridor is approximately 38.7 acres, including a 0.90-acre wetland. These areas are depicted in Figure 4.

Project Impacts

A. Project Description

1. General Project Description

SER and BCP proposes to construct two double-circuit, 230-kV transmission lines from the existing SDG&E Imperial Valley Substation, continuing southerly approximately six miles to the U.S./Mexico border, where each line will connect with a corresponding transmission line in Mexico (Figure 5). The transmission lines will be carried on steel lattice towers from the border to just south of the Imperial Valley Substation, where steel monopoles will be used for each transmission line to allow the crossing of the Southwest Power Link. The Southwest Power Link is a 500-kV transmission line that enters the substation from the east at the substation's southeast corner. Suspended on the steel monopoles, the proposed transmission lines would be carried along the east side of the substation to enter it from the north, similar to the way the existing SDG&E transmission line is connected to the Imperial Valley Substation.

From the international border to just south of the substation, both the BCP and SER rights-of-way will be 120 feet wide and will parallel the existing SDG&E transmission line. The towers would be approximately 900 to 1,100 feet apart and would be roughly in line with the existing SDG&E towers in an east-west direction. Over the length of each proposed transmission line, 25 steel towers would be required.

At the substation, in order to clear the Southwest Power Link transmission line, the BCP right-of-way will diverge westerly to cross the Southwest Power Link on the west side of the last 500-kV tower. The SER line will continue northerly to cross the Southwest Power Link on the east side of the 500-kV tower. The SDG&E line, which passes under

the 500-kV transmission line west of the 500-kV tower, will have to be relocated about 60 feet west to allow room for the BCP transmission line to pass beneath the 500-kV tower. The BCP and SDG&E rights-of-way at this point will be 60 feet wide each and adjacent to each other. The SER line will continue in a 120-foot-wide right-of-way until it turns west at the northern corner of the substation. At this point the right-of-way is reduced to 70 feet and the alignment is located adjacent to the other two lines. In addition, the 50-foot-wide IID right-of-way, at the north end of the substation, will be relocated west to accommodate the new SER line.

Towers will be fabricated in segments in Mexico and carried to the construction site by helicopter. This will minimize the amount of laydown area required in the United States for tower construction. It is anticipated that the helicopter will only spend a maximum of 15 minutes at each location. The monopoles will be brought to the site by truck in sections, assembled in laydown areas, and lifted into place using a 90-ton crane. Principal preparation at each tower and pole location will consist of preparing concrete foundation footings. Each tower will require four footings, one on each corner; a single footing will be needed for each monopole.

For each tower footing, a pit 3 to 4 feet in diameter would be excavated, approximately 15 feet deep. A reinforced concrete caisson would be cast in place in the excavated pit extending to above the ground surface. The base segment will be lowered to the anchors and bolted in place by workers on the ground. Then the upper segment will be flown to the site and bolted to the lower segment.

The steel monopoles will be anchored in concrete footings poured in place. The footings will be approximately 8 feet in diameter and 25 feet deep for suspension poles, and about 10 feet in diameter, for dead end and corner poles.

To safely secure the SER conductors at the crossing of the Southwest Power Link, A-frame structures will be used. A pair of A-frames on the north and south sides of the Southwest Power Link will be required for each circuit, for a total of four. Each A-frame will consist of two angled legs on each end, joined at the top to support a crossbar. Each leg of the A-frames will be bolted to a cylindrical concrete footing about 32 inches in diameter. A total of 16 footings would be needed for the A-frames. Holes for the pole and A-frame footings will be excavated using an auger. Guy wires will be needed to support the corner poles.

Both the SER and BCP lines will have two static wires atop the towers and poles above the conductors, one on each side. These optical ground static wires will include the initial installation of communications fiber (fiber-optic cable) for system monitoring, with additional black fiber for future communications use. At the 500 kV line crossing, these optical cables will be carried down the two poles on the SER and BCP lines on each side

of the 500-kV line, buried in a trench from pole to pole under the 500-kV line, and carried back up the pole on the opposite side of the 500-kV line.

For the lattice towers, there will be 12 pull sites for each transmission line route, for a total of 24 pull sites. The pull sites will be paired on each side of six towers in the BCP and SER transmission lines and will largely overlap with the projected work areas for each tower.

2. Proposed Project Impacts

The impact analysis presented in this document is based on a number of assumptions using the preliminary proposed project design. These assumptions are stated below. The assessment below is intended to indicate the scale of possible impacts and serve as a basis for the general calculation of mitigation requirements. It should be noted that many areas of temporary disturbance, such as work areas around towers or poles and pull sites, will certainly overlap at least partially, so the total estimate for temporary impact area is overestimated and therefore conservative (worst-case). There is a potential that the placement of the towers or access road alignment will be revised as the project design is refined. A reassessment of impacts may be required to assure that a project redesign does not result in additional impacts to sensitive biological resources.

a. Permanent Impacts

Areas of permanent impact will be those areas where the surface of the ground would be permanently disturbed. Specifically, new access roads and footings or anchors for tower, monopole, or crossing structures are areas that will be permanently impacted.

Permanent impacts will include the placement of concrete footings into the ground at each tower and pole location. Each tower footing will result in impact to approximately 12.56 square feet of the surface. Therefore, at each tower site, the permanent impacts would be a total of 50.24 square feet. For the steel suspension monopoles, the footings will have a surface area of about 50.25 square feet. There will be a total of 15 suspension poles in all four lines. Dead end or corner monopoles that will be placed at the end points and anywhere the line turns will have a footing area of about 78.50 square feet. There are a total of nine dead end or corner poles. The A-frame structures for the SER crossing will have 16 footings that would impact a total surface area of about 5.30 square feet each.

New roads will be needed to access the additional transmission lines resulting in additional permanent impacts. The towers, as presented in the current project design, line up very nearly in a straight line from west to east (roughly perpendicular to the right-of-way centerlines). Roads will be constructed by grading and compacting the existing soil. To minimize ground disturbance, it is proposed that access roads to each of the BCP and SER towers be constructed by extending “spurs” from the existing, mainline north-south

SDG&E access road eastward. This means that, allowing for some variation in a straight-line connection, approximately 250 linear feet of new access road would be needed at each of the 25 tower locations. Assuming that graded access roads would be 12 feet wide, approximately 3,000 square feet of access roads would be needed at each tower location. The access roads to the monopoles could be configured a number of ways. There are a number of roads already present in the area east of the substation that might be used. If it is assumed for worst-case impact assessment that all new roads would be needed to access each structure location, and that the new roads would be configured in a way to minimize impacts, a total of about 5,650 linear feet would be required to access all poles. If the access roads are 12 feet wide, this equates to approximately 67,800 square feet or less than 1.56 acres of permanent impact for access roads associated with the poles would result. An assumption has been made that approximately two-thirds of these roads will occur within the work area for the BCP, SDG&E, and IID lines for a total permanent impact of approximately 45,200 square feet (1.04 acres). The projected impacts for access roads along the SER monopole portion of the line would be approximately 2,600 square feet (0.52 acre).

b. Temporary Impacts

Areas of temporary impact are areas where construction activity may take place but where restoration of the surface is possible. These areas include the work areas used to erect the towers, monopoles, or crossing structures; pull sites; laydown areas for the monopoles; and the trenches for the optical cables under the 500-kV transmission line at the substation. In some places, areas of temporary disturbance will overlap.

Areas of temporary impact at each tower will include a work area around each tower that would include the area of excavation for the anchors. No laydown areas will be needed for the towers, since the tower sections will be delivered into the work area by helicopter after assembly in Mexico. Suspension towers will require a work area 52 feet by 52 feet, or 2,704 square feet, around each suspension tower. Subtracting the 16 square feet of permanent impact area from this total yields 2,688 square feet, or 0.06 acre, of temporary impact for the work area at each suspension tower. Twenty towers on each line will be suspension towers.

Five deflection or dead end towers would be needed in each of the new transmission lines at the end points of the lines and at each location where the line turns. The work area at each deflection or dead end tower would be 62 feet by 62 feet, or 3,844 square feet. Subtracting 16 feet of permanent impact area, the temporary impact for work area at each deflection or dead end tower would be 3,828 square feet.

In addition to the work area, 12 pull sites for each transmission line (a total of 24 for both lines) for the lattice towers would add to the area of temporary disturbance. The lattice tower pull sites would be 30 feet by 50 feet or 1,500 square feet, centered on the

crossarms beneath the towers. This is a conservative estimate, since there would be considerable overlap of work areas and pull sites.

It is reasonable to regard the entire corridor containing the BCP and relocated SDG&E and IID transmission lines in this location as a construction site rather than discrete areas of activity for the purpose of evaluating temporary impacts. (Discussion of potential impacts of the SER line in the area east and north of the IV Substation is provided below.) So regarded, the corridor is about 2,500 feet long and 120 feet wide along the east side of the substation and about 600 feet long and 190 feet wide along the north side of the substation, covering about 414,000 square feet or about 9.5 acres. It is likely that not all of this corridor will be disturbed, but for the reasons stated above, it is difficult to determine at this time precisely how much disturbance will occur, or where. This method for calculating impacts results in a conservative overestimation of the impacts in this area. The area should be considered an area of potential environmental effect within which impacts will occur to a smaller total area.

Since the SER line would be 400 to 500 feet east of the BCP line to clear the Southwest Power Link tower, it would not be included in the SDG&E/BCP corridor on the east side of the substation, so that evaluating discrete areas of temporary impact is more appropriate for the SER line along this area. At the southern dead end pole on this segment an area centered on the pole, 90 feet wide, and 50 feet long would include both pull sites and a work area. This would amount to 4,500 feet, or about 0.10 acre. At the northeastern corner pole an area centered on the pole and 90 feet square would include all four pull sites and a work area. This would amount to 8,100 square feet or about 0.19 acre. Three of the remaining SER suspension poles and the two pairs of A-frame structures work area around each pole will require a work area of about 25 feet in diameter per pole and about 25 feet by 135 feet for each pair of A-frames. The total work areas of these dimensions would be about 8,220 square feet or about 0.19 acre. Additional areas of temporary disturbance in this segment would result at laydown areas. A laydown area about 50 feet by 150 feet, or about 7,500 feet, would be needed at each pole location. For these seven locations along the SER line, the total work area is approximately 1.21 acres of temporary impact. The remaining two poles within the SER line (one suspension and one dead end) are located north of the substation adjacent to the BCP and SDG&E lines and are included in the larger work area described above.

At the Southwest Power Link crossings, the static optical cables for the SER and BCP lines would be brought down the monopole south of the 500-kV line crossing and placed underground in a trench to cross the 500-kV line to the monopole north of the 500-kV line, and there brought back up the monopole to the upper crossarm. The trench will be relatively shallow and will be dug by hand. In the BCP/SDG&E line area, the trench temporary impacts are included in the construction corridor described above. In the SER corridor, the area of temporary impact for trenching will be about 3 feet wide and 900 feet long, about 2,700 square feet or 0.06 acre.

B. Vegetation Communities

Table 5 presents the temporary and permanent impacts for each vegetation community within the proposed transmission line corridors. These numbers were calculated using the above-stated assumptions of impacts. Figure 5 illustrates the project impacts.

The proposed design will permanently impact approximately 3.10 acres of Sonoran creosote bush scrub and 0.28 acre of desert wash. Temporary impacts will be approximately 14.96 acres of Sonoran creosote bush scrub and 0.46 acre of desert wash. The temporary impact calculations for the Sonoran creosote bush scrub also includes the 9.5 acres calculated as the maximum work area for the BCP, SDG&E, and IID lines along the east and north of the Imperial Valley Substation. The actual area of impact will likely be smaller than this amount. In addition, the calculation of impacts for both vegetation communities includes the temporary impacts resulting from the 24 pull sites required for stinging the lines along the lattice towers. This acreage includes overlap with the projected work area at each tower location and represents a conservative estimate of impact acreage.

While neither of these communities is considered to be sensitive and impacts are generally considered less than significant; the project design may employ the use of water for air quality control measures during construction. This could encourage the invasion of non-native, invasive species which would be considered a impact.

C. Wildlife

Some impacts to general wildlife associated with the project may occur. Birds have a high mobility and will most likely move out of the way during construction. Small mammals and reptiles with low mobility may be inadvertently killed during construction of the project. After project completion, a minimal amount of habitat will have been lost for general wildlife species. Impacts on general wildlife are considered less than significant.

D. Sensitive Biological Resources

1. Sensitive Vegetation Communities

The proposed project will not impact any sensitive plant communities.

**TABLE 5
PROJECT IMPACTS
(acre)**

Resource	BCP Transmission Line (including SDG&E and IID)		SER Transmission Line		Total (Temporary/Permanent)
	Temporary Impacts	Permanent Impacts	Temporary Impacts	Permanent Impacts	
Sonoran Creosote Bush Scrub	11.38 ¹	1.82	3.58	1.28	18.06 ¹ (14.96/3.10)
Desert Wash	0.21	0.13	0.25	0.15	0.74 (0.46/0.28)
TOTAL	11.59	1.95	3.83	1.43	18.80 (15.42/3.38)
Jurisdictional Waters of the U.S.	0.06	0.04	0.07	0.04	0.21 (0.13/0.08)

¹ Acreage of temporary impact includes the construction corridor for work on the BCP, SDG&E, and IID lines which will temporarily impact a maximum of 9.5 acres.

2. Sensitive Plant Species

There are no federally or state listed candidate, proposed, threatened, or endangered plant species expected to occur within the survey area. There will be no impacts to any of these species.

The project will potentially disturb 23 plant species that are included on the CNPS Lists if they are located within any of the work areas. The project will permanently impact only 3.38 acres of potential habitat for sensitive plant within the entire six miles of transmission line corridors. Temporary impacts will potentially affect a maximum of 15.42 acres within these same corridors. The temporary impacts will have some flexibility in areas of exact impact. The project proponents have designed construction to include the presence of a biological monitor during all grading operations. This monitor can assist construction crews in avoiding any sensitive plants that may be present within the construction areas by directing work away from the resource within the temporary work areas. Given the small amount of impact to the proposed project and the proposed presence of a biological monitor during construction, the impacts to these species are expected to be less than significant.

3. Sensitive Wildlife

a. Flat-tailed Horned Lizard

The proposed project will temporarily impact approximately 15.42 acres and permanently impact approximately 3.38 acres of habitat known to be occupied by the flat-tailed horned lizard.

b. Western Burrowing Owl

There is a potential that the proposed project would impact active burrows of the western burrowing owl.

c. Prairie Falcon

The prairie falcon is not expected to nest on-site. No significant impacts will occur to this species.

d. Other Sensitive Species

There is a potential for several other sensitive wildlife species to occur within the survey area. None of these species are listed as a candidate, proposed, threatened, or endangered species by either the federal or state regulatory agencies. The proposed project is not expected to reduce any of these species to less than a self-sustaining level. Impacts would be less than significant.

E. Wildlife Movement Corridors

The survey corridor is not being used as a movement corridor by wildlife. There are no impacts to wildlife movement corridors.

F. Jurisdictional Areas

The proposed project is expected to impact a total of 0.21 acre of USACE non-wetland jurisdictional waters of the U.S., which includes both temporary and permanent impacts (see Table 5 and Figure 6). There will be no impacts to wetlands.

Any future project revisions should be designed to avoid increasing the amount of impact to non-wetland jurisdictional waters. Several of the work areas for the southern lattice towers, as currently placed, are within approximately 60 feet of non-wetland jurisdictional waters. An effort should be made in future redesigns to minimize all impacts to jurisdictional waters and maximize the distance of each tower from these areas.

G. Cumulative Impacts

In the project area, there is clear evidence of off-road vehicle activity connected to the access roads for the SDG&E transmission line. This may be due to both legal (Border Patrol) and illegal activity. The proposed project will not create any new access from SR-98, but will extend access road spurs eastward from the SDG&E access roads. These spurs could increase the disturbance of biological resources by creating new access routes into the desert. The amount of the additional disturbance is impossible to estimate, and given the large tracts of vacant desert surrounding the project area, is probably impossible to prevent.

Exotic, invasive species, such as tamarisk, are present in a few areas within the survey corridor. The proposed activities of this project, including the general disturbance of the soil surface and the use of water for dust control, may encourage the growth of these non-native invasive species. This could potentially impact the quality of the native biological resources.

Mitigation Measures

Permanent impacts will result from the clearing of vegetation without opportunity for restoration related to access roads and support structure footings. Temporary impacts in work areas due to the activities of workers and equipment may be suitable for mitigation by restoration.

Several features of the project, as proposed by the applicants and described below, will be effective in avoiding, minimizing, and mitigating impacts to biological resources. These include positioning the lattice towers and locating the access roads so that permanent disturbance can be minimized. In addition, moving the tower assemblies to their locations in the line by helicopter, instead of assembling them on-site, will greatly reduce the amount of disturbance at each tower site.

A. Vegetation Communities

To mitigate for the potential invasion of aggressive non-native plant species from the use of water for dust control, the following measures will be employed. Watering should only be employed when absolutely necessary to meet air quality standards and excessive watering should be avoided. In addition, all invasive vegetation along the east side of the Imperial Valley Substation, including a stand of tamarisk trees, shall be removed from this area and the area shall be restored as much as possible to its original, pre-disturbed state. A biological restoration plan will be prepared and shall include provisions for monitoring all areas used for construction and for the removal of invasive species, on a schedule acceptable to the BLM. The restoration plan must include a minimum of three years of control for tamarisk and other exotics following construction.

B. Sensitive Plant Species

As described above, the presence of a biological monitor during grading who can assist the construction crews in minimizing impact to any sensitive plant species that might be present within the temporary work areas will reduce impacts to sensitive plant species to less than significant. Impacts to sensitive plants would not require any further mitigation.

C. Sensitive Wildlife

1. Flat-tailed Horned Lizard

The applicants have agreed to follow the measures listed in the “Flat-Tailed Horned Lizard Rangelwide Management Strategy” to mitigate the effects of projects in the Yuha Desert Management Area, as well as other measures for the general protection of sensitive biological resources.

The applicants will attempt to schedule construction to occur as much as possible during the flat-tailed horned lizard’s dormant period, November 15 to February 15, and will employ all mitigation measures recommended by the management strategy. Construction is to be completed in as short a time as possible to minimize the length of time that habitat will be disturbed by activity. Some construction will probably be necessary during the lizard’s active period (before November 15 and after February 15), however, and if so,

the applicants will employ additional mitigation measures during that period. In addition, the applicants will employ mitigation measures intended to minimize and mitigate for general disturbance of biological resources, and assure restoration of disturbed areas.

Mitigation measures for these impacts are detailed in Appendix 3 of the Flat-tailed Horned Lizard Rangewide Management Strategy (Foreman 1997). These are summarized below. The mitigation measures shall be overseen by a project biologist who is familiar with the entire text and requirements of the mitigation measures outlined in Appendix 3 of the Management Strategy.

1. Construction will be scheduled to occur as much as possible during the flat-tailed horned lizard's dormant period, November 15 to February 15, and the construction schedule shall be approved by the BLM before construction begins.
2. A pre-construction worker education program will be developed and implemented. In addition, wallet-cards will be provided to all construction and maintenance personnel that includes information regarding the biology and status of the lizard; the protection measures that are being implemented; the function of the flagging around sensitive resources; reporting procedures if a lizard is found within the construction area; and methods of reducing impacts during commuting to and from construction areas.
3. A Field Contact Representative (FCR) shall be designated prior to the start of construction and approved by the BLM. The FCR will be responsible to ensure compliance with protective measures for the flat-tailed horned lizard and other sensitive biological resources and will act as the primary resource agency contact. The FCR shall have the authority to halt construction activities if the project is not in compliance with mitigation required by this EA.
4. The FCR shall coordinate with the construction manager to assure that all surface-disturbing activities are located as much as possible in areas that have been previously disturbed or where habitat quality is lower, and where disturbance to biological resources can be minimized.
5. All work areas will be clearly flagged or otherwise marked and all work will be restricted to these areas. All construction workers shall restrict their activities and vehicles to areas which have been flagged or to clearly recognizable areas such as access roads that have been identified as "safe" areas by the FCR.
6. A biological monitor shall be present in each area of active construction throughout the work day from initial clearing through habitat restoration, except where the project is completely fenced and cleared of horned lizards by a biologist (see measure 12 below). The biologist must have sufficient education and field

training with the flat-tailed horned lizard. This biologist will ensure that the project complies with these mitigation measures and will have the authority to halt activities if they are not in compliance. The biologist will inspect the construction areas periodically for the presence of flat-tailed horned lizards and will inspect any open trenches or pits prior to backfilling. The biologist will also work with the construction supervisor to take steps to avoid disturbance to the lizards and their habitat. If a lizard is discovered within an affected area, the lizard will be captured and relocated. The monitor will also excavate all potential flat-tailed horned lizard burrows within the construction areas and relocate any flat-tailed horned lizards encountered.

7. Only biologists authorized by the BLM may handle flat-tailed horned lizards. Any workers who discover flat-tailed horned lizards shall avoid disturbing the animals and shall immediately notify their construction supervisor and the biological monitor.
8. If a flat-tailed horned lizard is detected within an affected area, it should be relocated according to the measures detailed in Measure No. 9 of the Mitigation Measures section (Appendix 3) of the Management Strategy. Any relocation must be conducted by a biologist authorized by the BLM to handle the lizards.
9. The area of vegetation and soil disturbance shall be restricted to the smallest extent possible. When possible, equipment and vehicles should use existing surfaces or previously disturbed areas. When excavation or grading is necessary, the topsoil should be stockpiled and restored following completion of the work.
10. Existing roads shall be used to the greatest extent possible for travel and staging areas.
11. If desired by the BLM, newly created access roads shall be restricted by the construction of barriers, erecting fences with locked gates, and/or by posting signs. Maintenance access control facilities shall be the responsibility of the applicant for the life of the project (construction and operation).
12. Sites where prolonged construction activity, lasting several hours or more, will occur, and in which lizard mortality could occur, shall be enclosed with 0.5-inch wire mesh fencing to exclude the lizards from the site. This barrier fencing must be at least 12 inches above and below the ground surface and all entry gates should be constructed to prevent lizard entry. Once a fenced site has been cleared of flat-tailed horned lizards and fenced in this manner, an on-site monitor is no longer required.

13. For all areas disturbed by construction, a habitat restoration plan shall be developed by a qualified biologist, approved by the BLM, and implemented by the applicant. The restoration plan must address all of the items included in Measure No. 14 in Appendix 3 and in the Overview for Techniques for Rehabilitation of Lands in Appendix 8 of the Rangewide Management Strategy (Foreman 1997). The restoration plan shall include a schedule for monitoring and assuring the success of restoration, including the removal of invasive species, acceptable to the BLM. The restoration plan must include a minimum of three years of tamarisk (and other exotics) control following construction.
14. The FCR shall keep a record of the extent of all areas permanently and temporarily disturbed by construction. This record shall be the basis for determining a monetary compensation to be paid by the applicants to the BLM upon the completion of construction as required by Appendix 4 (Compensation Formula) of the Management Strategy. The BLM may require, prior to the beginning of construction, a reasonable deposit based on the extent of anticipated disturbance, with the final compensation to be determined according to the FCR's final record and the Compensation Formula in the Management Strategy.

For any construction occurring during the flat-tailed horned lizard's active period, before November 15 or after February 15, all of the measures listed above that are applicable shall be implemented. In addition, the following measures shall be required:

1. The FCR shall coordinate with the construction manager for the applicants to assure that vehicular traffic is kept to a minimum consistent with the practical requirements of construction.
2. Work crews shall not drive to the work site in the Management Area in individual vehicles. The applicant shall arrange for workers to park on State Route 98 or some other facility outside the Management Area and be driven together to the work site in a single vehicle (multiple trips for this collection vehicle are permitted). This limitation shall apply to the members of a work crew (two or more persons) who will be working together throughout the shift, except for emergencies.
3. All motor vehicles in the work area shall be accompanied by a biological monitor trained to recognize the flat-tailed horned lizard and approved by the BLM to walk in front of the vehicle when it is moving from place to place on access roads in order to remove lizards that may be in the path of the vehicle.

The FCR and biological monitors will keep a record of all sightings of flat-tailed horned lizards and fresh flat-tailed horned lizard scat. Sightings will be reported in writing to the BLM on a schedule established by the BLM.

Mitigation will also include contribution to a compensation fund that will be used to acquire lands and enhance habitat within flat-tailed horned lizard management areas (Foreman 1997). The mitigation ratio is calculated using the compensation formula provided in Appendix 4 of the Rangewide Management Strategy (Foreman 1997). A multiplying factor is calculated and applied to the number of affected acres to determine the level of mitigation required. For impacts to lands within a Management Area the multiplier ranges from three to six calculated based on other factors that include the extent of impact to adjacent lands, growth inducing factors of the project, and duration of the project effect.

Based on discussions with BLM staff, the mitigation multiplying factor will be 4.5. This breaks down as follows: 3 for the impact occurring within a designated flat-tailed horned lizard management area, 0.5 for the residual impacts to adjacent lands, and 1 for the fact that impacts will be long term (greater than 10 years). The current mitigation fee is \$230 per acre. Based on these factors, the expected compensation fee would be \$19,458 (18.80 acres of impact*\$230/acre*4.5 multiplying factor). This amount must be paid prior to the start of construction.

2. Western Burrowing Owl

There is a potential that the proposed project would impact active burrows of the western burrowing owl. The breeding season for burrowing owls is between February 1 and August 31. Burrows can be occupied and active during both the breeding and non-breeding seasons. Avoidance of all disturbances to occupied burrows is preferred. A non-disturbance buffer of 160 feet during the non-breeding season and 250 feet during the breeding season should be maintained around each occupied burrow, when possible. It is preferable that construction take place between September 1 and January 31, to avoid impacts to breeding burrowing owls (State of California 1995).

Unavoidable impacts to occupied burrows must be mitigated using passive relocation methods, as described below. Relocation should be implemented within the non-breeding season only. If construction is to begin during the non-breeding season, a pre-construction clearance survey should be conducted within the 30 days prior to construction to identify whether any burrowing owl territories are present within the project footprint. The proposed construction areas will need to be identified in the field by the project engineers prior to the commencement of the pre-construction clearance survey. The survey should follow the protocols provided in the Burrowing Owl Survey Protocol and Mitigation Guidelines by the California Burrowing Owl Consortium (2001). A focused survey should be conducted which includes pedestrian surveys over the entire project site and areas within a 500-foot area around the area of impact. If burrows or burrowing owls are located, a burrowing owl census should be conducted. This includes night surveys of the areas around the identified burrows or owl sightings on four separate days to determine the number and locations of owls using the site.

If active burrows are present within the project footprint, the following mitigation measures should be implemented. Passive relocation methods are to be used to move the owls out of the impact zone. Passive relocation should only be done in the non-breeding season. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow but will exclude any animals from re-entering the burrow. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. The burrows should then be excavated and filled in to prevent their reuse. An artificial burrow should be created beyond 160 feet from the impact area but contiguous with or adjacent to the occupied habitat.

The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts.

If construction is to begin during the breeding season, it is recommended that the above-described measures are implemented prior to February 1 to discourage the nesting of the burrowing owls within the area of impact. As construction continues, any area where owls are sighted should be subject to frequent surveys for burrows before the breeding season begins, so that owls can be relocated before nesting occurs.

Given the long, linear nature of this project, it is possible that these protocols will need to be repeated throughout the length of construction to ensure that additional burrowing owls have not moved within the areas of impact subsequent to the initial pre-construction clearance survey and relocation efforts. As the construction schedule and details are finalized, a qualified biologist should prepare a monitoring plan that will detail the methodology proposed to minimize and mitigate impacts to this species.

D. Jurisdictional Areas

Impacts to non-wetland jurisdictional waters of the U.S. should be mitigated at a ratio consistent with federal regulatory agencies, which is typically 1:1, for a total of 0.21 acre. Temporary impacts of 0.13 acre will be mitigated by returning the area to the pre-construction contour and condition. Given that the permanent impacts are so small, 0.08 acre, it is recommended that enhancement of the survey corridor through removal of the non-native invasive tamarisk be conducted. This should be conducted along the eastern edge of the Imperial Valley Substation which would account for an area of at least 0.10 acre in size. Additional tamarisk could be removed from the southern wetland area, if necessary. A restoration plan will be prepared detailing the proposed mitigation for impacts to jurisdictional waters. This plan will include a minimum of three years of control for tamarisk and other exotics following construction to ensure that these species are not allowed to establish within the impacted areas.

In addition, impacts to these waters will require a Section 404 permit from the USACE and a 401 certificate from the Regional Water Quality Control Board in accordance with the Clean Water Act. This project would be covered by Nationwide Permit (NWP) #12 which regulates all activities required for the construction of utility lines and associated facilities within waters of the U.S. This NWP covers all projects that do not exceed 0.5 acre of impact resulting from construction of the utility lines and associated access road. This project meets that threshold by impacting a maximum of 0.21 acre of jurisdictional waters.

E. Cumulative Impacts

The impacts from the potential proliferation of roads through the Yuha Desert from the creation of new spur roads is difficult, if not impossible to mitigate. Given the large tracts of vacant desert surrounding the project area, is probably impossible to prevent. Barriers on the roads might actually exacerbate the problem, for instance, by simply encouraging disturbance of the adjacent desert to bypass the barriers. Increased signage at the access road entrances off Highway 98 and at each of the spur roads to the towers may assist in reducing the illegal off-road-vehicle use, though it is unlikely to affect the use of the area by the Border Patrol and other law enforcement entities. These residual impacts would likely remain following completion of the project and implementation of the above-described mitigation measures. It is impossible to quantify the residual impacts because of the nature of the impacts. The mitigation fee, as calculated above for impacts to the flat-tailed horned lizard habitat, was set at a higher ratio (increased from 3.5 to 4.5) to account for residual impacts on adjacent lands and was calculated for the entire project impact area. This additional fee will provide some offset for the impacts.

A biological restoration plan will be prepared to provide appropriate mitigation for the potential proliferation of exotic invasive species. This plan will include a minimum of three years of control for tamarisk and other exotics following construction to ensure that these species are not allowed to establish within the impacted areas.

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ATTACHMENTS

ATTACHMENT 1

**ATTACHMENT 1
PLANT SPECIES OBSERVED**

Scientific Name	Common Name	Habitat	Origin
<i>Abronia villosa</i> var. <i>villosa</i> S. Watson	Verbena	DW	N
<i>Acacia greggii</i> A. Gray	Catclaw acacia	CS, DW	N
<i>Ambrosia dumosa</i>	Burro-weed	CS	N
<i>Aristida purpurea</i> Nutt.	Purple three-awn	DW	N
<i>Atriplex canescens</i> ssp. <i>linearis</i> (Parsh) Nutt.	Fourwing saltbush	DW	N
<i>Atriplex polycarpa</i> (Torrey) S. Watson	Saltbush	DW	N
<i>Bebbia juncea</i> (Benth.) E. Greene	Sweetbush	DW	N
<i>Bouteloua barbata</i> Lag.	Six-weeks grama	DW	N
<i>Chamaesyce</i> sp.	Prostrate spurge	CS	N
<i>Croton californicus</i> Muell.-Arg.	California croton	DW	N
<i>Datura</i> sp. Regel	Jimson weed	DW	N
<i>Encelia farinosa</i> Torrey & A. Gray	Brittlebush	CS	N
<i>Encelia frutescens</i> (A. Gray) A. Gray	Encelia	DW	N
<i>Ephedra californica</i> Wats.	Desert tea	CS	N
<i>Eriogonum inflatum</i> Torrey & Fremont	Desert trumpet	DW	N
<i>Hymenoclea salsola</i> A. Gray	Burrobrush	DW	N
<i>Isocoma acradenia</i> (E. Greene) var. <i>eremophila</i> (E. Greene) G. Nesom	Alkali goldenbush	DW	N
<i>Larrea tridentata</i> (DC.) Cov.	Creosote bush	CS	N
<i>Opuntia acanthocarpa</i> Engelm. & Bigel. var. <i>coloradensis</i> L. Benson	Buckhorn cholla	CS	N
<i>Oenothera deltoides</i> Torr and Frem.	Primrose	CS	I
<i>Olneya tesota</i> A. Gray	Ironwood	CS, DW	N
<i>Palafoxia arida</i> B. Turner & M. Morris	Spanish needle	CS	N
<i>Pectis papposa</i> Harvey & A. Gray var. <i>papposa</i>	Chinchweed	CS	N
<i>Petalonyx thurberi</i> A. Gray ssp. <i>thurberi</i>	Sandpaper plant	DW	N
<i>Phoradendron californicum</i> Nutt	Desert mistletoe	CS	N
<i>Plantago ovata</i> Forsskal	Wooly plantain	CS	I
<i>Pleuraphis rigida</i> Thurber	Big galleta	DW	N
<i>Prosopis velutina</i> Wooton	Velvet mesquite	CS, DW	N
<i>Psilostrophe cooperi</i> (A. Gray) Greene	Paper flower	DW	N
<i>Psoralea arguta</i> (A. Gray) Barneby	Smoke tree	DW	N
<i>Psoralea arguta</i> (A. Gray) Rydb.	White dalea	DW	N
<i>Stephanomeria pauciflora</i> (Nutt) Nelson	Wire lettuce	CS	N
<i>Tamarix</i> sp.	Tamarisk	DW	I
<i>Tiquilia plicata</i> (Torrey) A. Richardson	Tiquilia	CS	N

HABITATS

CS = Sonoran creosote bush scrub
DW = Desert wash

OTHER TERMS

N = Native to locality
I = Introduced species from outside locality

ATTACHMENT 2

ATTACHMENT 2
WILDLIFE SPECIES OBSERVED/DETECTED

Common Name	Scientific Name	Occupied Habitat	Status	Evidence of Occurrence
<u>Invertebrates</u> (Nomenclature from Mattoni 1990 and Opler and Wright 1999)				
Alfalfa butterfly	<i>Colias eurytheme</i>	CS, DW		O
Monarch	<i>Danaus plexippus</i>	DW		O
Painted lady	<i>Vanessa cardui</i>	CS		O
Pigmy blue	<i>Brephidium exilis</i>	CS		O
<u>Reptiles</u> (Nomenclature from Collins 1997)				
Desert iguana	<i>Dipsosaurus dorsalis</i>	CS, DW		O
Flat-tailed horned lizard	<i>Phrynosoma mcallii</i>		CSC, BLM	O
<u>Birds</u> (Nomenclature from American Ornithologists' Union)				
Red-tailed hawk	<i>Buteo jamaicensis</i>	F		O
Prairie falcon	<i>Falco mexicanus</i>	CS	CSC	O
Western burrowing owl	<i>Speotyto cunicularia hypugaea</i>	DW	CSC	O
Northern flicker	<i>Colaptes auratus</i>	CS		O
Common raven	<i>Corvus corax clarionensis</i>	CS		O
Phainopepla	<i>Phainopepla nitens</i>	CS		O
Rock wren	<i>Salpinctes obsoletus obsoletus</i>	CS		O
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	CS		O
Black-tailed gnatcatcher	<i>Polioptila melanura</i>	CS		O
Yellow-rumped warbler	<i>Dendroica coronata</i>	CS, DW		O
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	CS		O
<u>Mammals</u> (Nomenclature from Jones et al. 1982)				
Round-tailed ground squirrel	<i>Spermophilus tereticaudus</i> <i>tereticaudus</i>	CS		V
Desert black-tailed jackrabbit	<i>Lepus californicus deserticola</i>	CS		O
Cottontail rabbit	<i>Sylvilagus audubonii</i>	CS		O
Coyote	<i>Canis latrans</i>	CS		D, S
Desert kit fox	<i>Vulpes macrotis</i>	CS		S

Habitats

CS = Sonoran creosote bush scrub
 DW = Desert wash
 F = Flying overhead

Status

BLM= Bureau of Land Management
 CSC = California Department of Fish and Game
 species of special concern

Evidence of Occurrence

V = Vocalization
 O = Observed
 S = Scat
 D = Den site